MEMORANDUM

To: Jon McWhorter

From: Achilles Malisos, Alex Pohlman, Kimley-Horn

Date: July 8, 2021

Subject: Orangecrest Community Church Updated Noise Memorandum

Purpose

The purpose of this memorandum is to identify the noise impacts associated with construction, operational noise that would occur from the proposed Orangecrest Community Church. The analysis also includes an assessment of outdoor amplified sound relative to compliance with the City's Noise Ordinance.

Project Description

The Project proposes the construction and operation of a community church. The Project site is 5.27 acres in size and abuts Alessandro Boulevard to the south, Glenhaven Avenue to the east, a natural slope on the west, and single-family residential to the north, south, and east. The Project site's former use was a swim and tennis club. The pool was previously filled in. Two existing buildings that remain onsite from previous use will be renovated and expanded. The Project will also include the construction of three new buildings.

Project construction would occur in four phases, as shown below and in Table 1, *Proposed Project Structures and Other Components*:

Phase 1: Includes the renovation in place of existing Buildings A and B. Building A will be utilized as accessory office/meeting space and Building B would be utilized as religious meeting hall. For the location of Buildings, A and B, refer to **Exhibit 3a:** *Phase 1 Site Plan*. During Phase 1, a small outdoor gathering space will be provided just north of Building A and south of the existing tennis court and the existing 6-foot perimeter wall further north. This outdoor space will be utilized for gatherings which will occasionally use amplified sound, as necessary. All amplified sound will be directed toward Building A which will act as a sound buffer.

Phase 2: Includes the construction of Building C, which will be the main worship building. Phase 2 includes the removal of the tennis courts to make way for the construction of the northernmost driveway (Driveway No. 1) and the internal drive aisles. The southern driveway (Driveway No. 2) would also be constructed during this phase, along the associated vehicle parking areas which compose most of the western and southern portions of the property. Additionally, an outdoor events lawn (EL) would be constructed on the southwest corner of the site. The EL would occasionally be utilized for religious related festivities that are appropriate to be hosted outdoors, depending on weather conditions and bookings.

The EL will be equipped with an amplified sound system. The sound system will be directed directly to the north facing the congregation. Noise from the amplified sound system would meet the City of Riverside Noise Ordinance Title 7 of the City's Municipal Code. Title 7 sets interior and exterior noise standards for specific land uses and zoning (refer to Section 7.25.010

and 7.30.015); refer to **Exhibit 2**, *Phase 2 Event Noise Contours* and **Exhibit 3**, *Phase 3, Event Noise Contours*. As shown in Exhibits 2 and 3, the sound system will be located within the polygon boundaries. No sound system/speakers will be located outside of the depicted polygons.

The EL will be shielded to the north by a vehicle parking area, tress, and natural elevated topography. Elevations on site range from 1,080 feet above mean sea level (AMSL) at the lowest point of the Project site which is the EL would be situated and the highest point of the Project site is at 1,098 feet AMSL at the northernmost property line; that is an 18'-foot difference.

The EL would be set back approximately 25' feet from the tree-lined southern property line and Alessandro Boulevard further to the south. Additionally, the EL would be shielded on the west by a naturally occurring knoll/cliff with steep ledges. To the east, the EL would be surrounded by large trees, vehicle parking, and Buildings A, B, and C.

Phase 3: Includes the construction of Building D which would serve as the Nursery and will be utilized to care for young children while adults and older children are in worship typically for children ages 0-5 years old. Additionally, existing Buildings A and B will be expanded during this phase. The expansion is identified in the site plans as A1 and B1. Other construction activities include landscape, hardscape, and other associated amenities. Building A1 will be utilized as a café which will be available before and after worship service and may also be used during other occasional church-related activities, for congregants only. The café will not be open to the public. Building B1 entails the expansion of the existing children's ministry building, typically used for children in Kindergarten through 6th grade. Building D will be available for children to meet during typical church service hours; refer to Exhibit 3c, Phase 3 Site Plan.

Phase 4: Includes the construction of Building E which will primarily serve as the youth ministry building, typically for kids in 7th through 12th grades. Building E will be available for the youth ministry to meet during typical church service hours as well as typically one weeknight per week.

A breakdown of the proposed buildings is provided below in Table 1.

Table 1: Proposed Project Structures and Other Components

Building	Purpose	Building Height	Building Area (SF)
Existing			
"Building A"	*Locker Room*	15'-6"	2,488.89
"Building B"	*Snack Bar*	20'-6"	1,583.09
		Existing Building SF Total	4,071.98
Phase 1			
Building A	*Renovate in Place* *Administration Building*	15'-6"	N/A
Building B	*Renovate in Place* *Children's ministry building/Religious Meeting Hall*	20'-6"	N/A
Phases 2 and 3			
Building C	Worship Building	32'-6" with 40'-0" Tower	8,394.46
Building D	*Nursery*	20'-0"	3,687.83

Building	Purpose	Building Height	Building Area (SF)
Existing			
Building A1	*Expansion* – Admin/Café	15'-6"	729.79
Building B1	*Expansion - Children's Ministry Building/Religious Meeting Hall*	20'-6"	1,587.38
Phase 4			
Building E	Youth Ministry Building	16'-0"	1,473.81
		Total (Existing + Proposed) Building SF	**19,945.25**
Note: Typical uses provide a better understanding of normal church operations at Orangecrest Community Church. All uses listed in the Anticipated Schedule and Activities tables shall not prescribe limits to other similar church uses, religious functions, days, or times.			

Operations

The Project anticipates retaining six full-time employees and seven part-time employees. The administration/office operating hours would typically be Mon-Fri from 8 am – 5 pm. Initially, two (2) worship services will be held for Sunday morning service activities which will typically be held from 9 am to 10:30 am. Eventually, primary worship services will occur three (3) times on Sunday mornings from approximately 8 am to 1 pm. Midweek gatherings and events are anticipated to occur as follows:

- Small gatherings (i.e., typically 5 - 20 people) most weeknights (M-F), approximately 7 pm to 9 pm.
- Occasionally, the property will be utilized for monthly special events of larger gatherings (larger than 20 people), on a Friday or Saturday evening, approximately from 6 pm to 9 pm.

Additionally, youth and children's ministries would have a weekly gathering (i.e., Wednesday) from approximately 6:30 pm to 8:30 pm.

Typical church uses during the week include Bible study gatherings, stage-of-life group meetings, prayer gatherings, staff and leadership meetings, as well as various fellowship, outreach and community-building gatherings.

The property will be utilized consistently at each phase. Specifically, after the completion of phase one, the church will utilize the existing and new improvements for typical church uses. Some gatherings of various sizes (refer to Tables 2 through 5 of the Project Description) will occur outdoors before the large indoor spaces are built (attendance would be similar to that for an indoor worship service). Outdoor use will also include the use of existing recreational tennis courts. Typical church uses will occur, as described above, after the completion of each phase.

All activities would comply with the City's municipal code including limitations on noise, lighting and parking. The Project and associated activities are those associated with a place of worship and does not include formal "school classrooms" or similar weekday daily school uses that would generate weekday traffic.

All activities would comply with the City's municipal code including limitations on noise, lighting and parking. The Project and associated activities are those associated with a place of worship and does not include "school classrooms" or similar weekday daily school uses that would generate weekday traffic.

Noise Analysis Considerations

The proposed buildings would be constructed in phases. Gatherings could occur in the central portion of the site prior to construction of the new buildings. This noise analysis evaluates noise from three separate scenarios:

1. An initial scenario analyzes where gatherings would occur in the central portion of the site, accounts for the presence of Buildings A and B and the existing tennis courts are still used for recreation during this initial scenario;
2. The second scenario would have Building C, the new worship building, and accounts for gatherings that would occur in the central portion of the site as well as in the southwest portion (outdoor event lawn (EL)) of the site and;
3. The third scenario addresses Phases 3 and 4, and would account for the construction of Building D which would be utilized as the Nursery, including for the expansions identified as Buildings A1 and B1, and the construction of Building E, the Youth Ministry Building. For this third scenario, gatherings are anticipated to occur at the same locations as in the second scenario.

All activities would be required comply with the City's municipal code including limitations on noise. The Project and associated activities are those associated with a place of worship and do not include "school classrooms" or similar weekday daily school uses that would generate weekday traffic or noise.

Noise Background

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Since the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

Noise, on the other hand, is typically defined as unwanted sound. A typical noise environment consists of a base of steady ambient noise that is the sum of various distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These can vary from an occasional aircraft or train passing by to virtually continuous noise from traffic on a major highway.

Several rating scales have been developed to analyze the adverse effect of community noise on people. Since environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise as well as the time of day when the noise occurs. For example, the equivalent continuous sound level (L_{eq}) is the average acoustic energy content of noise for a stated period of time; thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. The Day-Night Sound level (L_{dn}) is a 24-hour average L_{eq} with a 10 dBA "weighting" added to noise during the hours of 10:00 pm to 7:00 am to account for noise sensitivity in the nighttime. The Community Noise Equivalent Level (CNEL) is a 24-hour average L_{eq} with a 10 dBA weighting added to noise during the hours of 10:00 pm to 7:00 am and an additional 5 dBA weighting during the hours of 7:00 pm to 10:00 pm to account for noise sensitivity in the evening and nighttime.

Noise Standards

City of Riverside Municipal Code

The City's Noise Ordinance is codified in Title 7 of the City's Municipal Code. Title 7 sets interior and exterior noise standards for specific land uses and zoning (refer to Sections 7.25.010 and 7.30.015). Section 7.35.010 also incorporates several general noise regulations to regulate construction-related noise and other sources of unnecessary, excessive, and/or annoying noises. The City's interior and exterior noise standards are presented in **Table 2: Riverside Municipal Code Title 7 Interior and Exterior Noise Standards**.

Table 2: Riverside Municipal Code Title 7 Interior and Exterior Noise Standards

Land Use	Interior	Exterior
Residential	35 dBA (10 p.m. to 7 a.m.)	45 dBA (10 p.m. to 7 a.m.)
	45 dBA (7 am to 10 pm)	55 dBA (7 am to 10 pm)
Office/Commercial	N/A	65 dBA (any time)
Industrial	N/A	70 dBA (any time)
Community Support	N/A	60 dBA (any time)
Public Recreation Facility	N/A	65 dBA (any time)
Non-Urban	N/A	70 dBA (any time)
School	45 dBA (7 a.m. to 10 p.m. while school is in session)	N/A
Hospital	45 dBA (any time)	N/A

Source: *City of Riverside Municipal Code Title 7, Noise Control*.

Methodology

The gatherings/special events were modeled with the SoundPLAN modeling software. SoundPLAN allows computer simulations of noise situations, and creates noise contour maps using reference noise levels, topography, point and area noise sources, mobile noise sources, and intervening structures. Noise levels from the live/amplified music and special event patrons are based on the SoundPLAN library sound power and reference spectrum data. SoundPLAN library data is based on a collection of reference noise levels and survey data. Inputs to the SoundPLAN model included ground topography and ground type, noise source locations and heights, receiver locations, and sound power level data.

SoundPLAN Modeled Noise Results

As described above, the primary noise associated with the events would be from event attendees and in some instances amplified live or recorded music from the following, but not limited to these events only: pickleball, dodgeball, or crafting, educational assembly, table games, wedding ceremony or reception for congregants, praise and worship services, and educational assemblies. Refer to Tables 2 through 5, for the schedule and events that are anticipated as part of the facility's operations.

These sources were modeled in SoundPLAN using conservative reference levels from the model library (i.e., sound power levels for attendees and live music is 95 dB). Additionally, recreational activities on the existing tennis courts were also modeled for the initial scenario, as these courts could potentially be used before the proposed structures are constructed. The tennis courts would be used for tennis matches, pickleball, or crafting. Amplified sound system is not anticipated to be utilized in the tennis courts. Elevations of the noise source and receivers as well as the surrounding buildings were also incorporated into the model. It should be noted that the Project site is at a lower elevation than the receptors to the north. Specifically, the gathering area in the central portion of the site is approximately 6 feet lower and

the gathering area on the west side of the Project site is approximately 14 feet lower than the receptors to the north. The SoundPLAN noise modeling is based on grading and site plans on file at the City of Riverside.

Noise levels were modeled for individual receptors that are adjacent to the northern property line as well as receptors to the south across Alessandro Boulevard. Modeled noise levels for all three scenarios are depicted graphically in **Exhibits 1-3: Event Noise Contours**, which shows how the noise levels would propagate from the Project during an event to the surrounding area. Noise is measured from the "noise sources" (represented by the blue polygons) to the nearest sensitive receptors (residential uses). The amplified noise analysis was conservative, in that *not only* was the outdoor amplification assumed at 95 dB, but the amplification was modeled as an "area source" covering the entire gathering area (shown as a polygon(s) in **Exhibits 1-3**).

- **Exhibit 1: Scenario 1 Even Noise Contours,** shows modeled noise levels for gatherings in the central area (shown in red) and tennis court recreational noise). The only buildings during this phase would be the existing buildings A and B. The modeling shows that the noise levels at the receptors would range from 35.2 dBA to 53.0 dBA.
- **Exhibit 2: Scenario 2 Event Noise Contours,** depicts noise contours for Building C (Worship Building) and gatherings in the central portion of the site and the southwest portion of the site in the EL. For Scenario 2, the noise levels at the receptors would range from 39.7 dBA to 53.3 dBA.
- **Exhibit 3: Scenario 3 Event Noise Contours,** depicts noise contours for Building D (Nursery), Building E (Youth Ministry Building), as well as the expanded Buildings A and B. Scenario 3 analyzes noise from the buildings noted above and gatherings in the central portion of the site and the southwest portion of the site from the EL. For the third scenario, the noise levels at the receptors would range from 40.7 dBA to 50.3 dBA. **Exhibit 3** shows that the new buildings analyzed in Scenario 3 would provide noise attenuation.

Threshold (a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

(Source: General Plan Figure N-1 – 2003 Roadway Noise, Figure N-5 – 2025 Roadway Noise, Figure N-10 – Noise/Land Use Noise Compatibility Criteria, FPEIR Table 5.11-I – Existing and Future Noise Contour Comparison, Table 5.11-E – Interior and Exterior Noise Standards, Appendix G – Noise Existing Conditions Report, Title 7 – Noise Code, Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual, Table 7-2, Page 179)

Less Than Significant Impact.

Construction

The project has the potential to expose persons to or generate of noise levels in excess of standards established in the General Plan 2025 and/or the Noise Code (Title 7). Construction would only occur during the permitted hours of 7:00 am and 7:00 pm on weekdays and between 8:00 am and 5:00 pm on Saturdays, no construction would occur on Sundays or Federal holidays. As such, construction noise is exempt from General Noise Regulations as described in §7.35.020-Exemptions in the City of Riverside Municipal Code. However, this analysis conservatively uses the Federal Transit Administration (FTA)'s

threshold of 80 dBA (8-hour L_{eq}) for residential uses and 85 dBA (8-hour L_{eq}) for non-residential uses to evaluate construction noise impacts.[1]

Following FTA's methodology for quantitative construction noise assessments, Federal Highway Administration's (FHWA's) Roadway Construction Noise Model (RCNM) was used to predict construction noise at the nearest sensitive receptors (i.e., residential uses to the north). **Table 3: Project Construction Noise Levels** shows the estimated exterior construction noise levels at the nearest sensitive receptors. Following FTA methodology, when calculating construction noise, all equipment is assumed to operate at the center of the project because equipment would operate throughout the project site and not at a fixed location for extended periods of time. Therefore, the distance used in the RCNM model was 200 feet for the nearest residential property. Additionally, the Project would comply with the City's permitted construction times and hours.

Table 3: Project Construction Noise Levels

Construction Phase	Modeled Exterior Construction Level at Nearest Sensitive Receptor (dBA L_{eq})	Noise Threshold (dBA L_{eq})	Exceed Threshold?
Demolition	74.4	80.0	No
Site Preparation	75.6	80.0	No
Grading	75.2	80.0	No
Construction/Paving/Painting	77.0	80.0	No
Source: Refer to Appendix A for construction noise modeling assumptions and results.			

As indicated in **Table 3**, project construction noise would not exceed the FTA noise threshold for residential uses. In addition, although construction noise levels may exceed the existing ambient levels in the area, construction would be temporary and would not result in a permanent increase in ambient noise levels in the area. Project construction would also be limited to daytime hours between 7:00 a.m. and 7:00 pm during weekdays, 8:00 am and 5:00 pm on Saturdays (and prohibited on Sundays and federal holidays) in compliance with Riverside City Code Section 7.35.020(G). Therefore, construction noise impacts would be less than significant.

Traffic Operational Noise

Traffic operational noise would not result in any significant impacts. In general, a 3-dBA increase in traffic noise is barely perceptible to people, while a 5-dBA increase is readily noticeable. Traffic volumes on Project area roadways would have to approximately double for the resulting traffic noise levels to generate a 3-dBA increase[2]. According to the Master Plan of Roadways (Figure CCM-4) of the Circulation Element, Alessandro Boulevard is a four-lane arterial roadway and Glenhaven Avenue is a 2-lane roadway. Since the Project would only generate a maximum of 138 daily trips, the increase is not enough to double existing traffic and traffic noise is not anticipated to increase ambient levels. Therefore, impacts are considered **less than significant** regarding the exposure of persons to or the generation of noise levels in excess of established City standards either directly, indirectly or cumulatively.

[1] Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, Table 7-2, Page 179, September 2018.

[2] According to the California Department of Transportation, *Technical Noise Supplement to Traffic Noise Analysis Protocol* (September 2013), it takes a doubling of traffic to create a noticeable (i.e. 3 dBA) noise increase.

Activities Operational Noise

As discussed above, and shown in **Exhibits 1 – 3**, noise levels from activities on the Project site would not exceed the City's 55 dBA residential daytime (7 am to 10 pm) noise standard. Additionally, the proposed Project does not include gatherings that would extend past 10 pm. The City's 45 dBA nighttime (10 pm to 7 am) noise standard would also not be exceeded, but it is worth noting that the nighttime noise threshold does not apply as the activities will end at 10:00 pm.

Additionally, the primary noise source in the Project area is from traffic noise along Alessandro Boulevard. According to the City of Riverside General Plan EIR, the Alessandro Boulevard 60 dB noise contour extends 664 feet from the roadway centerline, the 65 dB noise contour extends 308 feet from the roadway centerline, and the 70 dB noise contour extends 143 feet from the roadway centerline.[3] The residences north of the Project are approximately 450 feet from the Alessandro Boulevard centerline, and within the 60 dB contour (i.e., existing ambient traffic noise levels exceed 60 dBA). The residences to the south are approximately 100 feet of the Alessandro Boulevard centerline, and within the 70 dBA contour (i.e., existing ambient traffic noise levels exceed 70 dBA). Since completion of the General Plan EIR, noise levels have increased along Alessandro Boulevard due to increased traffic levels, resulting in the Alessandro Boulevard traffic noise having even a more dominant influence over local noise levels at the Project site.

Table 4: Ambient Noise Level Measurements, lists the ambient noise levels measured during the noise survey conducted for the proposed Project (these measurement locations were taken at nearby residential areas as shown in Appendix A).

Table 4: Ambient Noise Level Measurements

Location	Leq (dBA Leq)	LMax (dBA)
Site 1 - 5668 Glenhaven Ave, Riverside, CA 92506	58.5	73.3
Site 2 - 5717 Royal Hill Dr, Riverside, CA 92506	51.0	63.0
Site 3 - 5462 Brittany Ave, Riverside, CA 92506	55.4	62.3
Source: Refer to Appendix A for ambient noise results.		

According to the noise measurement data within Appendix G (Noise Existing Conditions Report) of the General Plan EIR, ambient noise levels in the vicinity of the Project are approximately 60.5 dBA.[4] The General Plan EIR's closest measurement location to the Project site is approximately 1,800 feet south of the Project site and approximately 200 feet west of Alessandro Boulevard and surrounded by residential land uses. Therefore, noise levels at this location are representative of the Project's ambient conditions. Data from the General Plan EIR indicates that existing ambient noise levels already exceed the City's 55 dBA exterior standard in the Municipal Code. Also, the City's land use compatibility standard (General Plan Figure N-10) sets 60 dBA as normally acceptable for residential uses.

Based on the SoundPLAN noise modeling summarized above (for occasional outdoor amplified noise), the Project noise would have less than a 3.0 dB increase over ambient noise in the worst-case situation (a 3 dB increase is considered barely noticeable). This is based on comparing the lowest ambient noise levels from Table 3 with the highest projected amplified sound levels, and does not account for the fact that background noise from Alessandro Boulevard traffic would usually be higher than the recorded ambient levels noted in Table 3. For detailed information on ambient noise levels gathered from the three locations

[3] City of Riverside, *General Plan and Supporting Documents EIR*, Table 5.11-H, 2007.

[4] Measurement location 14 (2161 Buckskin Rear Yard) from the City of Riverside, *General Plan and Supporting Documents EIR Appendix G (Noise Existing Conditions Report),* updated 2007.

around the Project site during the Noise survey, please refer to Appendix A, Noise Measurements and Noise Data.

Therefore, the Project's construction and operational activities are not anticipated to exceed City noise standards. The SoundPLAN modeling summarized above demonstrates that the Project operations are below standards during all three scenarios and will not exceed City noise standards. No additional mitigation or Project Design Features are required, other than compliance with the City's noise ordinance.

Threshold (b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

(Source: Federal Transit Administration - Transit Noise and Vibration Impact Assessment Manual, FPEIR Table 5.11-G – Vibration Source Levels For Construction Equipment).

Less Than Significant Impact. Construction related activities although short term, are the most common source of groundborne noise and vibration that could affect occupants of neighboring uses. The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations. In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 in/sec) appears to be conservative. The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Ordinary buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. In addition, not all buildings respond similarly to vibration generated by construction equipment. For example, for a building that is constructed with reinforced concrete with no plaster, the FTA guidelines show that a vibration level of up to 0.20 in/sec is considered safe and would not result in any construction vibration damage.

Table 5, Typical Construction Equipment Vibration Levels, lists vibration levels for typical construction equipment at 25 feet and at 110 feet (the distance to the nearest receptor). Using the calculation shown in the table below, at 110 feet the vibration velocities from construction equipment would not exceed 0.0228 in/sec PPV, which is below the FTA's 0.20 PPV threshold. It is also acknowledged that construction activities would occur throughout the Project site and would not be concentrated at the point closest to the nearest residential structure. Therefore, vibration impacts associated with the proposed Project would be less than significant directly, indirectly and cumulatively.

Table 5: Typical Construction Equipment Vibration Levels

Equipment	Peak Particle Velocity at 25 Feet (in/sec)	Peak Particle Velocity at 110 Feet (in/sec)[1]
Large Bulldozer	0.089	0.0096
Loaded Trucks	0.076	0.0082
Small Bulldozer/Tractors	0.003	0.0003
Vibratory Roller	0.210	0.0228
Jackhammer	0.035	0.0038

[1] Calculated using the following formula: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

where: PPV_{equip} = the peak particle velocity in in/sec of the equipment adjusted for the distance
PPV_{ref} = the reference vibration level in in/sec from Table 7-4 of the Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.
D = the distance from the equipment to the receiver

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, 2018.

Threshold (c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

(Source: General Plan 2025 Figure N-8 – Riverside and Flabob Airport Noise Contours, Figure N-9 – March ARB Noise Contour).

No Impact. The proposed project is not located within an airport land use plan or within two miles of a public airport or public use airport and as such will have **no impact** on people residing or working in the project area to excessive noise levels either directly, indirectly or cumulatively. In addition, per the GP 2025 Program FPEIR, there are no private airstrips within the City that would expose people working or residing in the City to excessive noise levels. Because the proposed project is not located within proximity of a private airstrip, and does not propose a private airstrip, the project will not expose people residing or working in the City to excessive noise levels related to a private airstrip and would have **no impact** directly, indirectly or cumulatively.

Exhibit 1: Scenario 1 Event Noise Contours

Exhibit 2: Scenario 2 Event Noise Contours

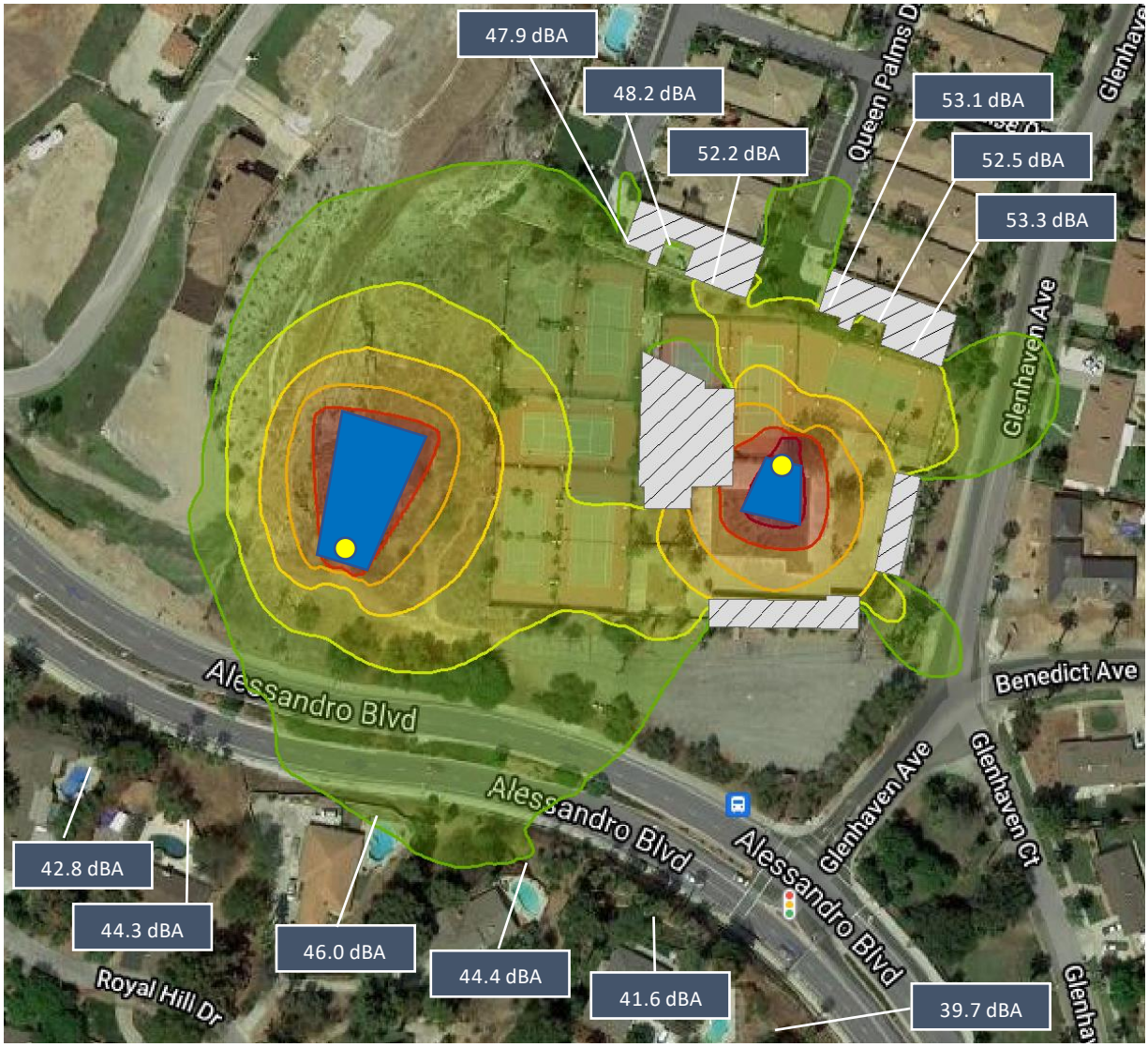
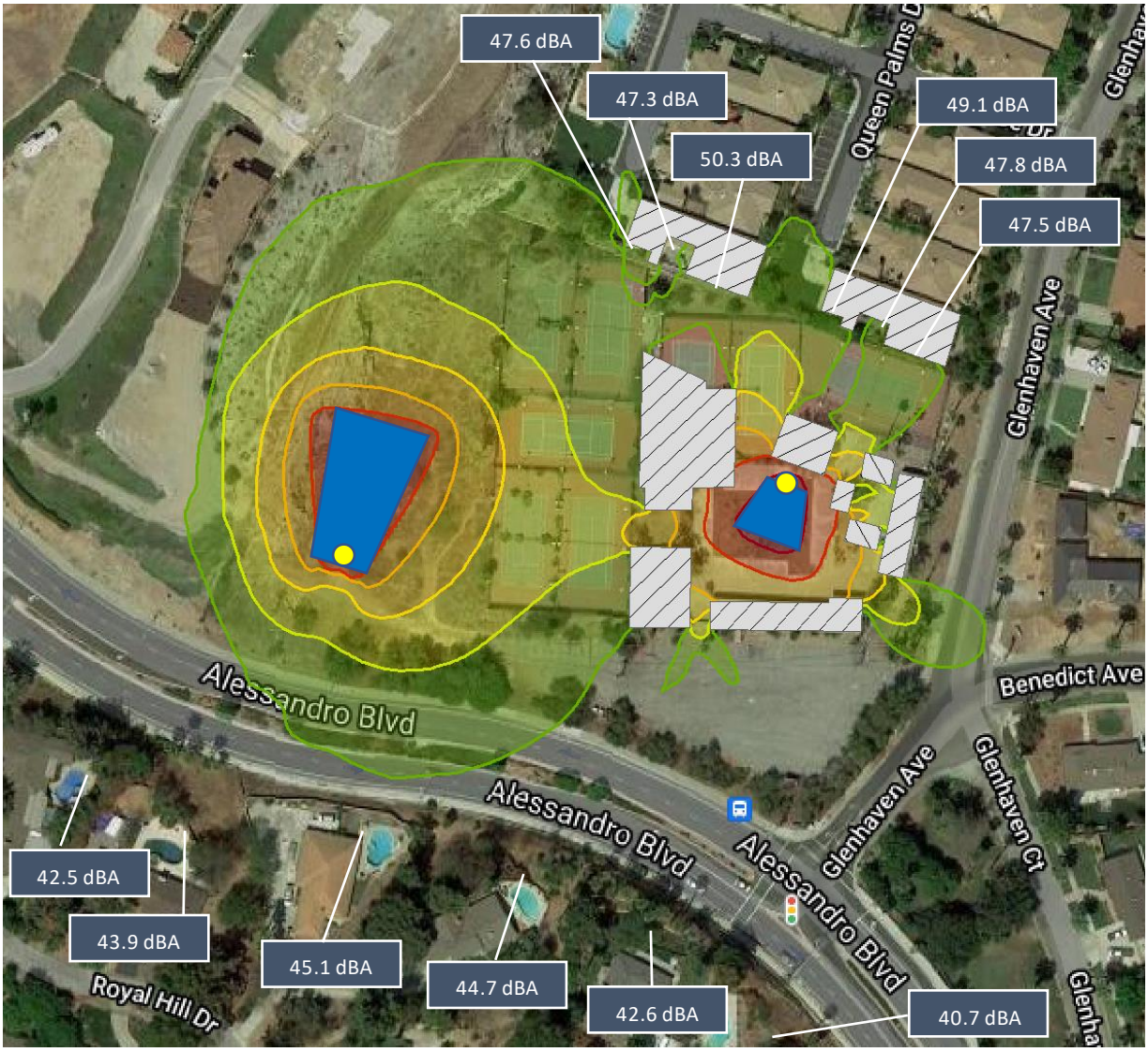


Exhibit 3: Scenario 3 Event Noise Contours



Appendix A

Noise Measurements and Noise Data

Note: Typical uses provide a better understanding of normal church operations at Orangecrest Community Church. All uses listed in the Anticipated Schedule and Activities tables shall not prescribe limits to other similar church uses, religious functions, days, or times.

Noise Measurement Field Data

Project:	Orangecrest Community Church	**Job Number:**	195272001
Site No.:	1	**Date:**	10/28/2020
Analyst:	Alex Howard	**Time:**	2:09 PM - 2:19 PM
Location:	5668 Glenhaven Ave, Riverside, CA 92506		
Noise Sources:	Cars and trucks driving along road		
Comments:	none		

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
58.5	48.6	73.3	98.8

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	90
Wind (mph):	5.6 mph
Sky:	Clear
Bar. Pressure:	28.92 Hg
Humidity:	12%

Photo:

Kimley»Horn

Summary

File Name on Meter	NOI.016
File Name on PC	SLM_0005586_NOI_016.00.ldbin
Serial Number	0005586
Model	SoundExpert® LxT
Firmware Version	2.402
User	Alex Howard
Location	Riverside, CA
Job Description	Orangecrest Community Church
Note	

Measurement

Description	
Start	2020-10-15 14:29:10
Stop	2020-10-15 14:39:10
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre Calibration	2020-10-15 07:45:08
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	Z Weighting
OBA Max Spectrum	At LMax
Overload	122.1 dB

	A	**C**
Under Range Peak	78.6	75.6
Under Range Limit	**24.1**	25.1
Noise Floor	15.0	15.9

Results

LA$_{eq}$	51.0		
LAE	78.8		
EA	8.479	µPa²h	
LZ$_{peak\ (max)}$	2020-10-15 14:29:23		94.8
LAS$_{max}$	2020-10-15 14:33:15		63.0
LAS$_{min}$	2020-10-15 14:37:47		40.6
SEA	-99.9	dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	0		0.0
LAS > 115.0 dB (Exceedance Counts / Duration)	0		0.0
LZ$_{peak}$ > 135.0 dB (Exceedance Counts / Duration)	0		0.0
LZ$_{peak}$ > 137.0 dB (Exceedance Counts / Duration)	0		0.0
LZ$_{peak}$ > 140.0 dB (Exceedance Counts / Duration)	0		0.0

Community Noise	Ldn	LDay 07:00-22:00
	51.0	51.0

LCeq	66.0	dB
LAeq	51.0	dB
LCeq - LAeq	15.0	dB
LAIeq	52.0	dB
LAeq	51.0	dB
LAIeq - LAeq	0.9	dB

	A	
	dB	**Time Stamp**
Leq	51.0	
LS(max)	63.0	2020/10/15 14:33:15
LS(min)	40.6	2020/10/15 14:37:47
LPeak(max)		

# Overloads	0	
Overload Duration	0.0	s
# OBA Overloads	0	
OBA Overload Duration	0.0	s

Statistics

LAI5.00	54.7	dB
LAI10.00	53.4	dB
LAI33.30	51.0	dB
LAI50.00	50.1	dB
LAI66.60	48.9	dB
LAI90.00	45.8	dB

Calibration History

Preamp	Date	dB re. 1V/Pa
Direct	2019-10-29 12:18:45	-28.4
PRMLxT1L	2020-10-15 07:45:08	-28.3
PRMLxT1L	2020-10-07 08:35:41	-28.4
PRMLxT1L	2020-07-09 10:17:20	-28.3
PRMLxT1L	2020-06-30 09:09:02	-28.4
PRMLxT1L	2020-02-25 09:42:24	-28.4
PRMLxT1L	2020-02-25 08:43:16	-28.3
PRMLxT1L	2020-02-20 08:30:09	-28.3

Noise Measurement Field Data

Project:	Orangecrest Community Church	**Job Number:**	195272001
Site No.:	2	**Date:**	10/28/2020
Analyst:	Alex Howard	**Time:**	2:29 - 2:39 PM
Location:	5717 Royal Hill Dr, Riverside, CA 92506		
Noise Sources:	Cars driving along road		
Comments:	none		

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
51	40.6	63	94.8

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	90
Wind (mph):	5.6 mph
Sky:	Clear
Bar. Pressure:	28.92 Hg
Humidity:	12%

Photo:

Kimley»Horn

Summary

File Name on Meter	NOI.016
File Name on PC	SLM_0005586_NOI_016.00.ldbin
Serial Number	0005586
Model	SoundExpert® LxT
Firmware Version	2.402
User	Alex Howard
Location	Riverside, CA
Job Description	Orangecrest Community Church
Note	

Measurement

Description	
Start	2020-10-15 14:29:10
Stop	2020-10-15 14:39:10
Duration	00:10:00.0
Run Time	00:10:00.0
Pause	00:00:00.0
Pre Calibration	2020-10-15 07:45:08
Post Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	Z Weighting
Detector	Slow
Preamp	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Freq. Weighting	Z Weighting
OBA Max Spectrum	At LMax
Overload	122.1 dB

	A	**C**
Under Range Peak	78.6	75.6
Under Range Limit	**24.1**	25.1
Noise Floor	15.0	15.9

Results

LA_{eq}	51.0	
LAE	78.8	
EA	8.479 µPa²h	
$LZ_{peak\ (max)}$	2020-10-15 14:29:23	94.8
LAS_{max}	2020-10-15 14:33:15	63.0
LAS_{min}	2020-10-15 14:37:47	40.6
SEA	-99.9 dB	

LAS > 85.0 dB (Exceedance Counts / Duration)	0	0.0
LAS > 115.0 dB (Exceedance Counts / Duration)	0	0.0

LZ_{peak} > 135.0 dB (Exceedance Counts / Duration)	0	0.0
LZ_{peak} > 137.0 dB (Exceedance Counts / Duration)	0	0.0
LZ_{peak} > 140.0 dB (Exceedance Counts / Duration)	0	0.0

Community Noise	**Ldn**	**LDay 07:00-22:00**
	51.0	51.0

LC_{eq}	66.0	dB
LA_{eq}	51.0	dB
LC_{eq} - LA_{eq}	15.0	dB
LAI_{eq}	52.0	dB
LA_{eq}	51.0	dB
LAI_{eq} - LA_{eq}	0.9	dB

	A	
	dB	**Time Stamp**
L_{eq}	51.0	
$L_{S(max)}$	63.0	2020/10/15 14:33:15
$L_{S(min)}$	40.6	2020/10/15 14:37:47
$L_{Peak(max)}$		

# Overloads	0	
Overload Duration	0.0	s
# OBA Overloads	0	
OBA Overload Duration	0.0	s

Statistics

LAI5.00	54.7	dB
LAI10.00	53.4	dB
LAI33.30	51.0	dB
LAI50.00	50.1	dB
LAI66.60	48.9	dB
LAI90.00	45.8	dB

Calibration History

Preamp	**Date**	**dB re. 1V/Pa**
Direct	2019-10-29 12:18:45	-28.4
PRMLxT1L	2020-10-15 07:45:08	-28.3
PRMLxT1L	2020-10-07 08:35:41	-28.4
PRMLxT1L	2020-07-09 10:17:20	-28.3
PRMLxT1L	2020-06-30 09:09:02	-28.4
PRMLxT1L	2020-02-25 09:42:24	-28.4
PRMLxT1L	2020-02-25 08:43:16	-28.3
PRMLxT1L	2020-02-20 08:30:09	-28.3
PRMLxT1L	2020-02-19 08:17:54	-28.4
PRMLxT1L	2020-02-12 11:29:25	-28.3
PRMLxT1L	2020-02-12 11:29:02	-28.4
PRMLxT1L	2020-01-14 08:26:18	-28.3

Noise Measurement Field Data

Project:	Orangecrest Community Church	**Job Number:**	195272001
Site No.:	3	**Date:**	10/28/2020
Analyst:	Alex Howard	**Time:**	2:49 - 2:59 PM
Location:	5462 Brittany Ave, Riverside, CA 92506		
Noise Sources:	Cars driving along road, residents using power tools in their garage		
Comments:	none		

Results (dBA):

Leq:	Lmin:	Lmax:	Peak:
55.4	52.8	62.3	96

Equipment	
Sound Level Meter:	LD SoundExpert LxT
Calibrator:	CAL200
Response Time:	Slow
Weighting:	A
Microphone Height:	5 feet

Weather	
Temp. (degrees F):	90
Wind (mph):	5.6 mph
Sky:	Clear
Bar. Pressure:	28.92 Hg
Humidity:	12%

Photo:

Kimley»Horn

Summary

File Name on Meter	NOI.016
File Name on PC	SLM_0005586_NOI_016.00.ldbin
Serial Number	0005586
Model	SoundExpert® LxT
Firmware Version	2.402
User	Alex Howard
Location	Riverside, CA
Job Description	Orangecrest Community Church
Note	

Measurement

Description		
Start	2020-10-15 14:29:10	
Stop	2020-10-15 14:39:10	
Duration	00:10:00.0	
Run Time	00:10:00.0	
Pause	00:00:00.0	
Pre Calibration	2020-10-15 07:45:08	
Post Calibration	None	
Calibration Deviation	---	

Overall Settings

RMS Weight	A Weighting	
Peak Weight	Z Weighting	
Detector	Slow	
Preamp	PRMLxT1L	
Microphone Correction	Off	
Integration Method	Linear	
OBA Range	Normal	
OBA Bandwidth	1/1 and 1/3	
OBA Freq. Weighting	Z Weighting	
OBA Max Spectrum	At LMax	
Overload	122.1 dB	
	A	**C**
Under Range Peak	78.6	75.6
Under Range Limit	**24.1**	25.1
Noise Floor	15.0	15.9

Results

LA_{eq}	51.0		
LAE	78.8		
EA	8.479	µPa²h	
$LZ_{peak\ (max)}$	2020-10-15 14:29:23		94.8
LAS_{max}	2020-10-15 14:33:15		63.0
LAS_{min}	2020-10-15 14:37:47		40.6
SEA	-99.9	dB	
LAS > 85.0 dB (Exceedance Counts / Duration)	0		0.0
LAS > 115.0 dB (Exceedance Counts / Duration)	0		0.0
LZ_{peak} > 135.0 dB (Exceedance Counts / Duration)	0		0.0
LZ_{peak} > 137.0 dB (Exceedance Counts / Duration)	0		0.0
LZ_{peak} > 140.0 dB (Exceedance Counts / Duration)	0		0.0

Community Noise	Ldn	LDay 07:00-22:00
	51.0	51.0

LCeq	66.0	dB
LAeq	51.0	dB
LCeq - LAeq	15.0	dB
LAIeq	52.0	dB
LAeq	51.0	dB
LAIeq - LAeq	0.9	dB

	A	
	dB	**Time Stamp**
Leq	51.0	
LS(max)	63.0	2020/10/15 14:33:15
LS(min)	40.6	2020/10/15 14:37:47
LPeak(max)		

# Overloads	0	
Overload Duration	0.0	s
# OBA Overloads	0	
OBA Overload Duration	0.0	s

Statistics

LAI5.00	54.7	dB
LAI10.00	53.4	dB
LAI33.30	51.0	dB
LAI50.00	50.1	dB
LAI66.60	48.9	dB
LAI90.00	45.8	dB

Calibration History

Preamp	Date	dB re. 1V/Pa
Direct	2019-10-29 12:18:45	-28.4
PRMLxT1L	2020-10-15 07:45:08	-28.3
PRMLxT1L	2020-10-07 08:35:41	-28.4
PRMLxT1L	2020-07-09 10:17:20	-28.3
PRMLxT1L	2020-06-30 09:09:02	-28.4
PRMLxT1L	2020-02-25 09:42:24	-28.4
PRMLxT1L	2020-02-25 08:43:16	-28.3
PRMLxT1L	2020-02-20 08:30:09	-28.3
PRMLxT1L	2020-02-19 08:17:54	-28.4
PRMLxT1L	2020-02-12 11:29:25	-28.3
PRMLxT1L	2020-02-12 11:29:02	-28.4

Report date: 1/27/2021
Case Description: Orangecrest Church Demo

		Baselines (dBA)		---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night
multi-family residential	Residential	1	1	1

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	200	0
Excavator	No	40		80.7	200	0
Excavator	No	40		80.7	200	0
Excavator	No	40		80.7	200	0
Dozer	No	40		81.7	200	0
Dozer	No	40		81.7	200	0

		Calculated (dBA)		Results	Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Concrete Saw		77.5	70.5	N/A	N/A	N/A	N/A
Excavator		68.7	64.7	N/A	N/A	N/A	N/A
Excavator		68.7	64.7	N/A	N/A	N/A	N/A
Excavator		68.7	64.7	N/A	N/A	N/A	N/A
Dozer		69.6	65.6	N/A	N/A	N/A	N/A
Dozer		69.6	65.6	N/A	N/A	N/A	N/A
	Total	77.5	74.4	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Report date: 1/27/2021
Case Description: Orangecrest Church Site Prep

		Baselines (dBA)			---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night	
multi-family residential	Residential	1	1	1	

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		200	0
Tractor	No	40	84		200	0
Tractor	No	40	84		200	0
Tractor	No	40	84		200	0
Dozer	No	40		81.7	200	0
Dozer	No	40		81.7	200	0
Dozer	No	40		81.7	200	0

		Calculated (dBA)		Results Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor		72	68	N/A	N/A	N/A	N/A
Tractor		72	68	N/A	N/A	N/A	N/A
Tractor		72	68	N/A	N/A	N/A	N/A
Tractor		72	68	N/A	N/A	N/A	N/A
Dozer		69.6	65.6	N/A	N/A	N/A	N/A
Dozer		69.6	65.6	N/A	N/A	N/A	N/A
Dozer		69.6	65.6	N/A	N/A	N/A	N/A
	Total	72	75.6	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Report date: 1/27/2021
Case Description: Orangecrest Church Grading

		Baselines (dBA)			---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night	
multi-family residential	Residential	1	1	1	

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		200	0
Tractor	No	40	84		200	0
Tractor	No	40	84		200	0
Excavator	No	40		80.7	200	0
Grader	No	40	85		200	0
Dozer	No	40		81.7	200	0

		Calculated (dBA)		Results Noise Limits (dBA)			
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor		72	68	N/A	N/A	N/A	N/A
Tractor		72	68	N/A	N/A	N/A	N/A
Tractor		72	68	N/A	N/A	N/A	N/A
Excavator		68.7	64.7	N/A	N/A	N/A	N/A
Grader		73	69	N/A	N/A	N/A	N/A
Dozer		69.6	65.6	N/A	N/A	N/A	N/A
	Total	73	75.2	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Report date: 1/27/2021
Case Description: Orangecrest Church Construction/Paving/Painting

		Baselines (dBA)			---- Receptor #1 ----
Description	Land Use	Daytime	Evening	Night	
multi-family residential	Residential	1	1	1	

Description	Impact Device	Usage(%)	Equipment Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Tractor	No	40	84		200	0
Tractor	No	40	84		200	0
Tractor	No	40	84		200	0
Tractor	No	40	84		200	0
Tractor	No	40	84		200	0
Tractor	No	40	84		200	0
Crane	No	16		80.6	200	0
Generator	No	50		80.6	200	0
Welder / Torch	No	40		74	200	0
Paver	No	50		77.2	200	0
Paver	No	50		77.2	200	0
Roller	No	20		80	200	0
Roller	No	20		80	200	0
Compressor (air)	No	40		77.7	200	0

		Calculated (dBA)		Results	Noise Limits (dBA)		
				Day		Evening	
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq
Tractor		72	68	N/A	N/A	N/A	N/A
Tractor		72	68	N/A	N/A	N/A	N/A
Tractor		72	68	N/A	N/A	N/A	N/A
Tractor		72	68	N/A	N/A	N/A	N/A
Tractor		72	68	N/A	N/A	N/A	N/A
Tractor		72	68	N/A	N/A	N/A	N/A
Crane		68.5	60.6	N/A	N/A	N/A	N/A
Generator		68.6	65.6	N/A	N/A	N/A	N/A
Welder / Torch		62	58	N/A	N/A	N/A	N/A
Paver		65.2	62.2	N/A	N/A	N/A	N/A
Paver		65.2	62.2	N/A	N/A	N/A	N/A
Roller		68	61	N/A	N/A	N/A	N/A
Roller		68	61	N/A	N/A	N/A	N/A
Compressor (air)		65.6	61.6	N/A	N/A	N/A	N/A
	Total	72	77	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Appendix B

SoundPLAN Data Results Table

Phase 1 Receiver list

No.	Receiver name	Coordinates X in meter	Coordinates Y in meter	Building side	Floor	Height abv.grd. m	Limit Day dB(A)	Limit Night dB(A)	Level Day dB(A)	Level Night dB(A)	Conflict Day dB	Conflict Night dB
1	1	11467059.4	3756659.03	-	GF	337.87	-	-	48.2	0.0	-	-
					1.Fl	340.67	-	-	49.3	0.0	-	-
					2.Fl	343.47	-	-	48.9	0.0	-	-
2	2	11467070.2	3756657.91	-	GF	337.71	-	-	46.2	0.0	-	-
					1.Fl	340.51	-	-	47.8	0.0	-	-
					2.Fl	343.31	-	-	48.9	0.0	-	-
3	3	11467080.0	3756649.14	-	GF	337.03	-	-	51.3	0.0	-	-
					1.Fl	339.83	-	-	52.3	0.0	-	-
					2.Fl	342.63	-	-	50.9	0.0	-	-
4	4	11467109.9	3756641.72	-	GF	336.65	-	-	51.7	0.0	-	-
					1.Fl	339.45	-	-	52.8	0.0	-	-
					2.Fl	342.25	-	-	51.5	0.0	-	-
5	5	11467121.1	3756640.40	-	GF	336.85	-	-	51.3	0.0	-	-
					1.Fl	339.65	-	-	52.3	0.0	-	-
					2.Fl	342.45	-	-	50.9	0.0	-	-
6	6	11467131.4	3756630.81	-	GF	336.64	-	-	52.3	0.0	-	-
					1.Fl	339.44	-	-	53.0	0.0	-	-
					2.Fl	342.24	-	-	51.4	0.0	-	-
7	7	11466848.4	3756562.65	-	GF	327.99	-	-	34.5	0.0	-	-
					1.Fl	330.79	-	-	34.8	0.0	-	-
					2.Fl	333.59	-	-	34.8	0.0	-	-
8	8	11466850.2	3756541.23	-	GF	329.38	-	-	34.8	0.0	-	-
					1.Fl	332.18	-	-	34.8	0.0	-	-
					2.Fl	334.98	-	-	34.9	0.0	-	-
9	9	11466911.3	3756523.82	-	GF	332.26	-	-	36.9	0.0	-	-
					1.Fl	335.06	-	-	37.0	0.0	-	-
					2.Fl	337.86	-	-	37.3	0.0	-	-
10	10	11466934.8	3756507.49	-	GF	333.74	-	-	37.6	0.0	-	-
					1.Fl	336.54	-	-	37.8	0.0	-	-
					2.Fl	339.34	-	-	38.3	0.0	-	-
11	11	11466987.6	3756505.89	-	GF	331.14	-	-	39.0	0.0	-	-
					1.Fl	333.94	-	-	39.4	0.0	-	-
					2.Fl	336.74	-	-	39.8	0.0	-	-
12	12	11467031.5	3756480.45	-	GF	342.77	-	-	39.9	0.0	-	-
					1.Fl	345.57	-	-	40.4	0.0	-	-
					2.Fl	348.37	-	-	40.9	0.0	-	-
13	13	11467071.5	3756467.42	-	GF	343.69	-	-	37.3	0.0	-	-
					1.Fl	346.49	-	-	37.9	0.0	-	-
					2.Fl	349.29	-	-	38.5	0.0	-	-
14	14	11467090.8	3756448.43	-	GF	343.44	-	-	33.9	0.0	-	-
					1.Fl	346.24	-	-	34.5	0.0	-	-
					2.Fl	349.04	-	-	35.2	0.0	-	-
15	15	11467118.8	3756403.64	-	GF	344.49	-	-	30.6	0.0	-	-
					1.Fl	347.29	-	-	31.1	0.0	-	-
					2.Fl	350.09	-	-	31.6	0.0	-	-

Phase 2 Receiver list

No.	Receiver name	Coordinates X in meter	Coordinates Y in meter	Building side	Floor	Height abv.grd. m	Limit Day dB(A)	Limit Night dB(A)	Level Day dB(A)	Level Night dB(A)	Conflict Day dB	Conflict Night dB
1	1	11467059.4	3756659.03	-	GF	337.87	-	-	46.6	0.0	-	-
					1.Fl	340.67	-	-	47.8	0.0	-	-
					2.Fl	343.47	-	-	47.9	0.0	-	-
2	2	11467070.2	3756657.91	-	GF	337.71	-	-	46.4	0.0	-	-
					1.Fl	340.51	-	-	47.7	0.0	-	-
					2.Fl	343.31	-	-	48.2	0.0	-	-
3	3	11467080.0	3756649.14	-	GF	337.03	-	-	51.2	0.0	-	-
					1.Fl	339.83	-	-	52.2	0.0	-	-
					2.Fl	342.63	-	-	50.9	0.0	-	-
4	4	11467109.9	3756641.72	-	GF	336.65	-	-	51.7	0.0	-	-
					1.Fl	339.45	-	-	53.1	0.0	-	-
					2.Fl	342.25	-	-	52.7	0.0	-	-
5	5	11467121.1	3756640.40	-	GF	336.85	-	-	51.2	0.0	-	-
					1.Fl	339.65	-	-	52.5	0.0	-	-
					2.Fl	342.45	-	-	52.1	0.0	-	-
6	6	11467131.4	3756630.81	-	GF	336.64	-	-	51.7	0.0	-	-
					1.Fl	339.44	-	-	53.3	0.0	-	-
					2.Fl	342.24	-	-	52.7	0.0	-	-
7	7	11466848.4	3756562.65	-	GF	327.99	-	-	33.1	0.0	-	-
					1.Fl	330.79	-	-	34.1	0.0	-	-
					2.Fl	333.59	-	-	34.8	0.0	-	-
8	8	11466850.2	3756541.23	-	GF	329.38	-	-	34.9	0.0	-	-
					1.Fl	332.18	-	-	35.7	0.0	-	-
					2.Fl	334.98	-	-	36.8	0.0	-	-
9	9	11466911.3	3756523.82	-	GF	332.26	-	-	41.8	0.0	-	-
					1.Fl	335.06	-	-	42.3	0.0	-	-
					2.Fl	337.86	-	-	42.8	0.0	-	-
10	10	11466934.8	3756507.49	-	GF	333.74	-	-	43.3	0.0	-	-
					1.Fl	336.54	-	-	43.7	0.0	-	-
					2.Fl	339.34	-	-	44.3	0.0	-	-
11	11	11466987.6	3756505.89	-	GF	331.14	-	-	44.9	0.0	-	-
					1.Fl	333.94	-	-	45.5	0.0	-	-
					2.Fl	336.74	-	-	46.0	0.0	-	-
12	12	11467031.5	3756480.45	-	GF	342.77	-	-	43.5	0.0	-	-
					1.Fl	345.57	-	-	44.0	0.0	-	-
					2.Fl	348.37	-	-	44.4	0.0	-	-
13	13	11467071.5	3756467.42	-	GF	343.69	-	-	40.6	0.0	-	-
					1.Fl	346.49	-	-	41.1	0.0	-	-
					2.Fl	349.29	-	-	41.6	0.0	-	-
14	14	11467090.8	3756448.43	-	GF	343.44	-	-	38.6	0.0	-	-
					1.Fl	346.24	-	-	39.2	0.0	-	-
					2.Fl	349.04	-	-	39.7	0.0	-	-
15	15	11467118.8	3756403.64	-	GF	344.49	-	-	35.7	0.0	-	-
					1.Fl	347.29	-	-	36.3	0.0	-	-
					2.Fl	350.09	-	-	36.8	0.0	-	-

Phase 3 Receiver list

No.	Receiver name	Coordinates X in meter	Coordinates Y in meter	Building side	Floor	Height abv.grd. m	Limit Day dB(A)	Limit Night dB(A)	Level Day dB(A)	Level Night dB(A)	Conflict Day dB	Conflict Night dB
1	1	11467059.4	3756659.03	-	GF	337.87	-	-	46.5	0.0	-	-
					1.Fl	340.67	-	-	47.6	0.0	-	-
					2.Fl	343.47	-	-	47.0	0.0	-	-
2	2	11467070.2	3756657.91	-	GF	337.71	-	-	45.4	0.0	-	-
					1.Fl	340.51	-	-	46.8	0.0	-	-
					2.Fl	343.31	-	-	47.3	0.0	-	-
3	3	11467080.0	3756649.14	-	GF	337.03	-	-	49.1	0.0	-	-
					1.Fl	339.83	-	-	50.3	0.0	-	-
					2.Fl	342.63	-	-	49.2	0.0	-	-
4	4	11467109.9	3756641.72	-	GF	336.65	-	-	46.9	0.0	-	-
					1.Fl	339.45	-	-	48.4	0.0	-	-
					2.Fl	342.25	-	-	49.1	0.0	-	-
5	5	11467121.1	3756640.40	-	GF	336.85	-	-	45.3	0.0	-	-
					1.Fl	339.65	-	-	47.2	0.0	-	-
					2.Fl	342.45	-	-	47.8	0.0	-	-
6	6	11467131.4	3756630.81	-	GF	336.64	-	-	45.2	0.0	-	-
					1.Fl	339.44	-	-	47.1	0.0	-	-
					2.Fl	342.24	-	-	47.5	0.0	-	-
7	7	11466848.4	3756562.65	-	GF	327.99	-	-	33.4	0.0	-	-
					1.Fl	330.79	-	-	34.3	0.0	-	-
					2.Fl	333.59	-	-	35.0	0.0	-	-
8	8	11466850.2	3756541.23	-	GF	329.38	-	-	34.5	0.0	-	-
					1.Fl	332.18	-	-	35.3	0.0	-	-
					2.Fl	334.98	-	-	36.5	0.0	-	-
9	9	11466911.3	3756523.82	-	GF	332.26	-	-	41.2	0.0	-	-
					1.Fl	335.06	-	-	41.9	0.0	-	-
					2.Fl	337.86	-	-	42.5	0.0	-	-
10	10	11466934.8	3756507.49	-	GF	333.74	-	-	42.5	0.0	-	-
					1.Fl	336.54	-	-	43.1	0.0	-	-
					2.Fl	339.34	-	-	43.9	0.0	-	-
11	11	11466987.6	3756505.89	-	GF	331.14	-	-	43.8	0.0	-	-
					1.Fl	333.94	-	-	44.4	0.0	-	-
					2.Fl	336.74	-	-	45.1	0.0	-	-
12	12	11467031.5	3756480.45	-	GF	342.77	-	-	43.7	0.0	-	-
					1.Fl	345.57	-	-	44.2	0.0	-	-
					2.Fl	348.37	-	-	44.7	0.0	-	-
13	13	11467071.5	3756467.42	-	GF	343.69	-	-	41.5	0.0	-	-
					1.Fl	346.49	-	-	42.1	0.0	-	-
					2.Fl	349.29	-	-	42.6	0.0	-	-
14	14	11467090.8	3756448.43	-	GF	343.44	-	-	39.5	0.0	-	-
					1.Fl	346.24	-	-	40.2	0.0	-	-
					2.Fl	349.04	-	-	40.7	0.0	-	-
15	15	11467118.8	3756403.64	-	GF	344.49	-	-	36.7	0.0	-	-
					1.Fl	347.29	-	-	37.3	0.0	-	-
					2.Fl	350.09	-	-	37.9	0.0	-	-