

NOISE STUDY

**PROPOSED WINERY
ELLA'S VINEYARD
8790 HIGHWAY 41**

CRESTON, SAN LUIS OBISPO COUNTY, CALIFORNIA

Project No. 2002-5551

**Prepared for:
Ella's Vineyard
8790 East Highway 41
Creston, California, 93432**

**Prepared by:
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SEPTEMBER 2020

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1.0 INTRODUCTION

This Noise Study has been prepared by Padre Associates, Inc. (Padre) for Ella's Vineyard for the proposed use of exterior amplified music between 2:00 PM and 8:00 PM, located at Assessor's Parcel Number 035-111-022, 8790 East Highway 41, Creston, San Luis Obispo County, California (Project Site) (Figures 1-1 and 1-2).

1.1 PROPOSED PROJECT DESCRIPTION

Ella's Vineyard proposes to construct a winery that will consist of a prefabricated metal single story structure with wooden cladding, non-paved vehicle parking areas¹, loading area, minor landscaping, a wooden trellis, non-paved foot paths and exterior recreation areas. The proposed winery operations would consist of wine production, storage, wine tasting and the hosting of private events. The private events are proposed to include amplified live or recorded music primarily within the structure and to a limited extent outside the northern side of the structure. The private events are proposed to take place year-round Friday through Sunday between the hours of 2:00 PM and 10 PM. Speakers similar to the JBL EON615 1000-Watt Portable PA Speakers are proposed to be used for the interior and exterior music². During the proposed private events, two speakers would be setup within the structure for dancing and one speaker would be setup outside the northern side of the structure for speeches and lower volume background music. The music may consist of recorded music playback and/or live music. The proposed schedule for use of amplified music is:

- Interior amplified music between the hours of 2:00 PM and 10:00 PM, and
- Exterior amplified music between the hours of 2:00 PM and 8:00 PM.

1.2 PURPOSE

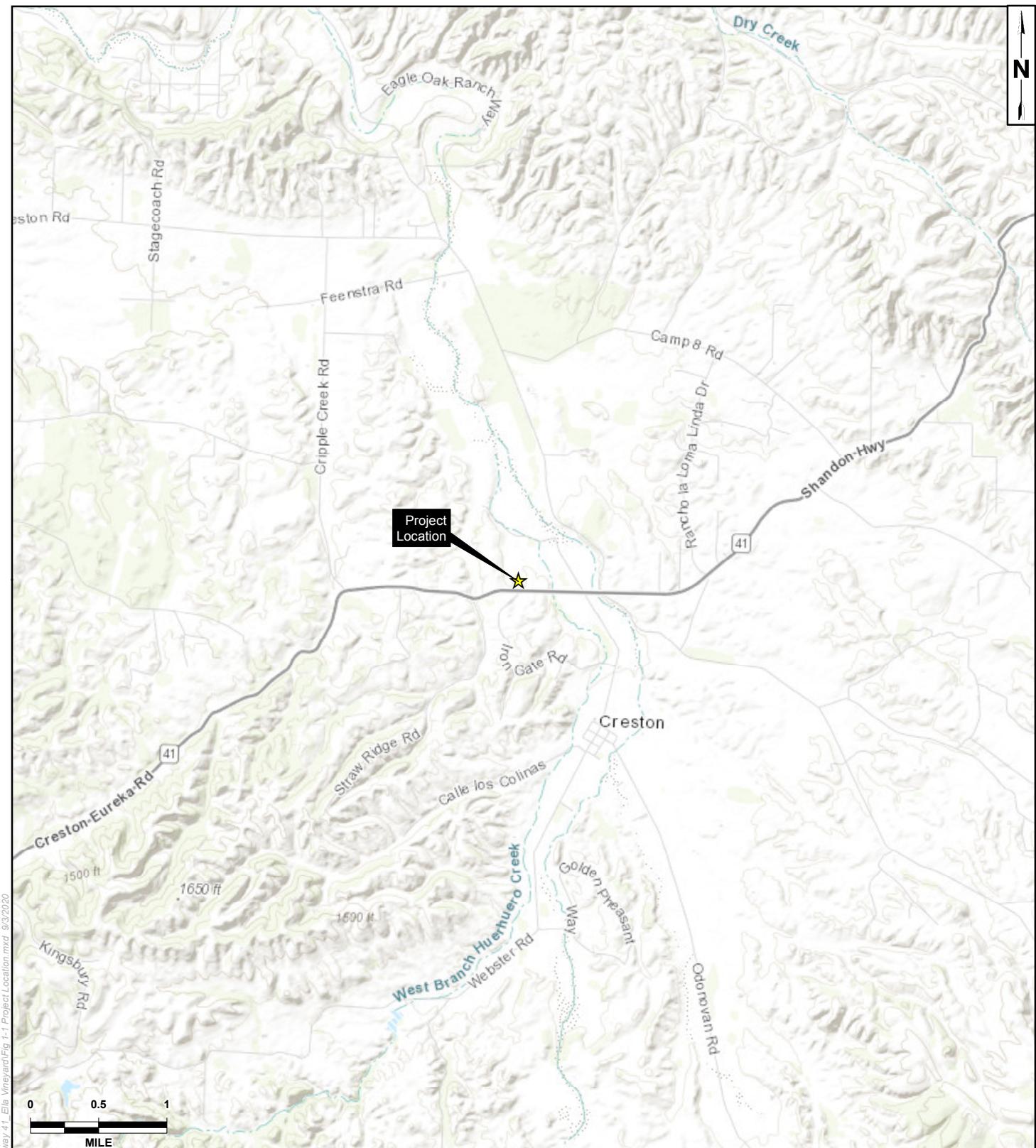
The purpose of the Noise Study is to determine the existing baseline/ambient noise impacts at the Project Site and to model potential noise levels associated with exterior music at the proposed private events as requested by the County of San Luis Obispo (County). In addition, the Noise Study provides an analysis of the County Ordinance noise standards in comparison to the potential noise impact of the proposed exterior music.

1.3 SITE DESCRIPTION

The Project Site is an agricultural/residential property within San Luis Obispo County near the town of Creston. The property currently contains a single-family residential building, storage buildings and vineyards. The Project site is bordered by the State Highway 41 (HWY 41) to the south and agricultural land to north, east, and west. The closest residence to the area of the Proposed Project is located approximately 980 feet to the southwest (Refer to Plate 1-2).

¹ Maximum of 150 vehicle parking capacity.

² Speakers typically provided by DJs or event clients.



LEGEND:

★ Project Location

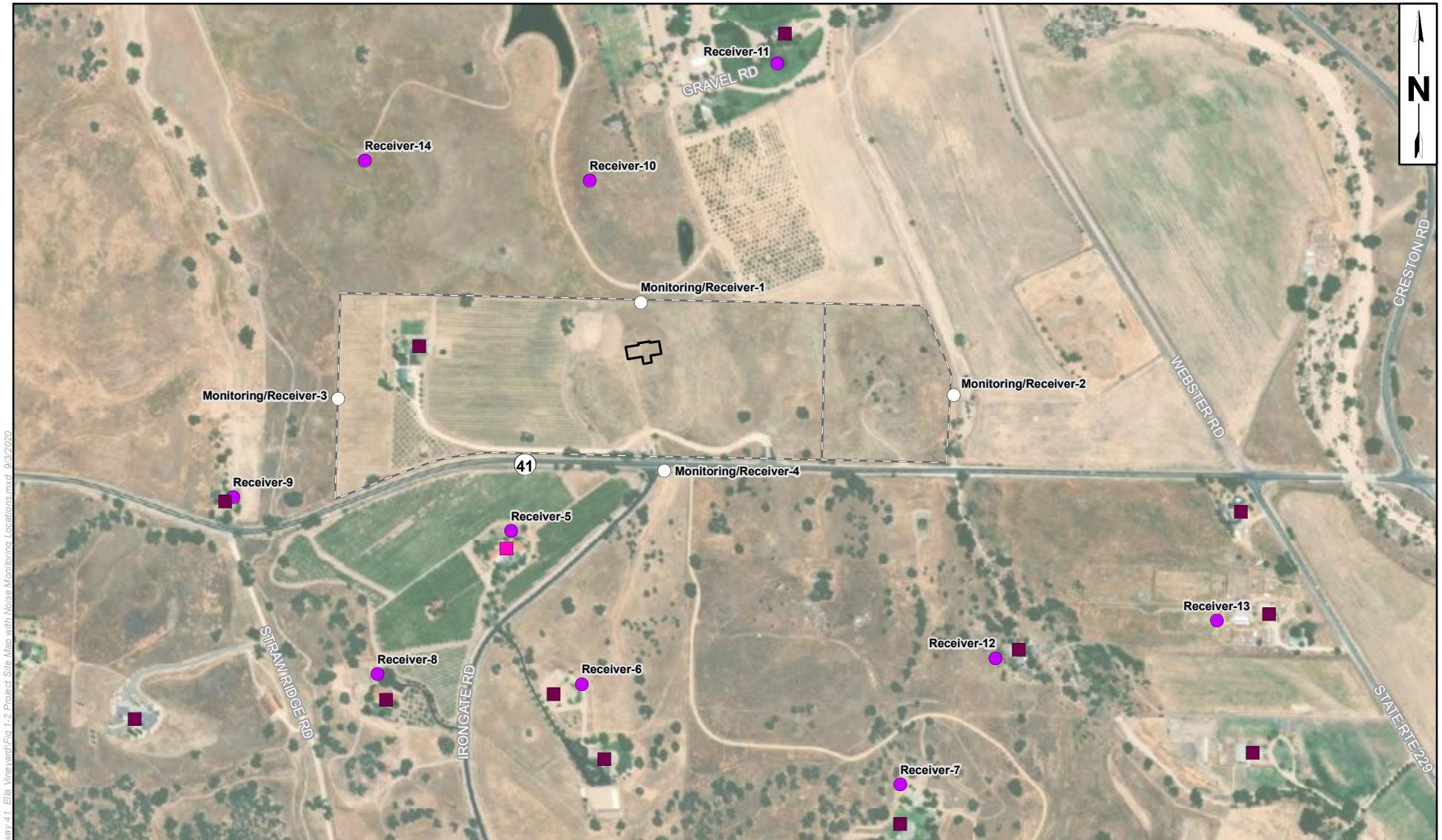
MAP EXTENT:



ZIGIS Projects/GIS Maps/Map Project/8790 E Highway 41, Ella's Vineyard/FIG 1-1 Project Location.mxd 9/3/2020

Source: Esri Online Topo Basemap

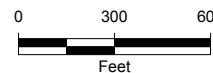
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
This map was created for informational and display purposes only.



LEGEND:

- Closest Residential Receptor
- Receiver Location
- Residential Receptor Location
- Receiver and Noise Monitoring Location
- Proposed Winery Production and Wine Tasting Facility
- Assessor Parcel Boundary

Source: Data Sources
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
 Notes: This map was created for informational and display purposes only.



PROJECT NAME: NOISE STUDY
PROPOSED WINERY, ELLA'S VINEYARD
 SAN LUIS OBISPO COUNTY, CA
 PROJECT NUMBER: 2002-5551 DATE: September 2020

**PROJECT SITE MAP WITH
 NOISE MONITORING LOCATIONS AND
 NEARBY RESIDENTIAL RECEPATORS**

**FIGURE
 1-2**

2.0 NOISE

Noise is generally defined as unwanted or objectionable sound. The definition of sound is a variation of pressure in the air that can be detected by the human ear. When these pressure variations or pressure waves occur at frequencies between approximately 20 Hertz (Hz) - 20 Kilohertz (kHz) they can be detected by the human ear. When related to a reference pressure on an arithmetic scale this wide range of sound pressures produce numbers of awkward size, therefore sound pressure levels are expressed on a (1, 10, 100...) ratio logarithmic scale in decibels (dB). The quietest sound within the 20 Hz to 20 kHz frequency range that an average human ear can detect has a pressure of approximately 20 micro Pascals (μPa), this pressure is commonly used as the reference pressure, therefore this sound level is assigned the value of 0 dB. Higher intensity sound is perceived by the human ear as louder. Sound intensity is commonly measured on a weighted scale to correct for the relative frequency response of the human ear. The "A-weighted" noise level de-emphasizes low and very high frequencies of sound in a manner similar to the human ear's de-emphasis of these frequencies. Table 2-1 includes common sound levels/sources and subjective human responses.

Table 2-1. Common Sound Levels/Sources and Subjective Human Responses

Sound Level (dBA)	Typical Outdoor Noise Source	Typical Indoor Noise Sources	Typical Human Response/Effects
140	Carrier Jet takeoff (50 ft [15.2 m])	--	--Threshold for Pain-
130	Siren (100 ft [30.5 m]) Live Rock Band	--	---Hearing Damage--
120	Jet takeoff (200 ft [61.0 m]) Auto horn (3 ft [0.9 m])	--	--
110	Chain Saw Snow Mobile	--	---Deafening---
100	Lawn Mower (3 ft [0.9 m]) Motorcycle (50 ft [15.2 m])	--	--
90	Heavy Duty Truck (50 ft [15.2 m])	Food Blender (3 ft [0.9 m])	---Very Loud---
80	Busy Urban Street, Daytime	Garbage Disposal (3 ft [0.9 m])	
70	Automobile (50 ft [15.2 m])	Vacuum Cleaner (9 ft [2.7 m])	---Loud---
60	Small plane at 0.75 mi (1.2 km)	Conversation (3 ft [0.9 m]) Dishwasher Rinse (10 ft [3.0 m])	
50	Quiet Residential Daytime		---Moderate---
40	Quiet Residential Nighttime	Quiet Home Indoors	---Quiet---
30	Slight Rustling of Leaves	Soft Whisper (15 ft [4.6 m])	---Very Quiet---
20	--	Broadcasting Studio	
10	--	Breathing	--Barely Audible--
0	--	--	--Threshold of Hearing--

Source: American Industrial Hygiene Association (AIHG), 2003

When considering how noise could affect nearby sensitive receptors (residential dwellings, transient lodging, hospitals and other long-term care facilities, public or private educational facilities, libraries, churches, and places of public assembly), it is important to understand how sound level diminishes as distance from the source increases. For a “point” source (such as music from an outdoor concert) of sound in free space, the rate at which the sound attenuates is inversely proportional to the square of the distance from the source. This means the sound level would drop 6 dB each time the distance from the source is doubled.

3.0 NOISE MONITORING ACTIVITIES

3.1 20-MINUTE AMBIENT NOISE LEVEL MONITORING AND TRAFFIC COUNTS

Ambient noise level monitoring was conducted by Padre at three onsite locations and one offsite location (refer to Figure 1-2). The definition of ambient noise for the purposes of this study is typical background noise at an exterior location. The three onsite monitoring locations Monitor-1, Monitor-2 and Monitor-3 were located at the northern, eastern, and western property lines, respectively. The offsite monitoring location Monitor-4 was located along HWY 41 near the adjacent property to the south of the Project Site. Noise level monitoring was conducted on August 13, 2020 at each of the four monitoring locations for approximate 20-minute intervals using a calibrated tripod mounted Larson Davis SoundTrack LxT Type 1 noise level meter set at a height of approximately five feet.

Padre conducted visual counts of vehicular traffic on HWY 41 during the 20-minute ambient noise level monitoring at monitoring locations Monitor-2, Monitor-3 and Monitor-4. HWY 41 was not visible from monitoring location Monitor-1, so traffic was not counted during the ambient noise level monitoring event at this location.

4.0 NOISE MONITORING RESULTS

4.1 20-MINUTE AMBIENT NOISE LEVEL MONITORING RESULTS

The results of the 20-minute ambient noise level monitoring are summarized in Table 4-1 by the noise level equivalent to the total sound energy measured over a stated period of time (L_{eq}) and the maximum, instantaneous noise level experienced during a given period of time (L_{max}). Copies of noise meter calibration and field monitoring forms are provided in Appendix A.

Table 4-1. Summary of 20-Minute Ambient Noise Level Monitoring Results

Monitoring Location	Date	Start Time	End Time	L_{eq} (dBA)	L_{max} (dBA)
Monitor-1	8/13/2020	13:15	13:35	41.0	58.4
Monitor-2	8/13/2020	13:50	14:10	39.2	55.0
Monitor-3	8/13/2020	14:40	15:00	40.5	58.3
Monitor-4*	8/13/2020	15:20	15:40	68.8	90.6
Daytime Onsite Average L_{eq}:				40.2	--

Notes: dBA – A-weighted decibels.

* – Offsite monitoring location located along HWY 41.

Weather conditions during the 20-minute ambient noise level monitoring were cloudy with temperatures ranging from 65 degrees Fahrenheit ($^{\circ}$ F) to 70 $^{\circ}$ F with light intermittent rain and light and variable winds. Noise sources observed during the course of ambient noise level monitoring at noise monitoring locations 1, 2, 3 and 4 included traffic on HWY 41, and airplanes flying overhead, and birds chirping. Traffic on HWY 41 appeared to be the primary noise source at monitoring location 2, 3 and 4, to a lesser extent at monitoring location 1.

4.2 TRAFFIC COUNTS

The results of the traffic counts are summarized in Table 4-2. It should be noted that the survey was conducted during the 2020 Corona Virus Pandemic; therefore, traffic volumes on HWY 41 and local surface streets may be lower than normal.

Table 4-2. Summary of Traffic Counts

Monitoring Location	Cars	Light Duty	Heavy Duty	Motorcycles	Total
Monitor-1	--	--	--	--	--
Monitor-2	49	--	2	--	51
Monitor-3	55	--	1	1	57
Monitor-4	51	--	--	--	51

4.3 SUMMARY OF NOISE MONITORING AND TRAFFIC COUNTS

The results of the ambient noise level monitoring event indicate that the average daytime ambient noise level at the property boundaries of the Project site is approximately 40.2 L_{eq} dBA and 57.2 L_{max} dBA. Day time ambient noise levels along HWY 41 were measured to be 68.9 L_{eq} dBA and 90.6 L_{max} dBA. The traffic levels indicated that at the time of the traffic count was approximately 160 vehicles passing the Project Site during each daytime hour. Based on these results traffic on HWY 41 appears to be the primary source of ambient noise at the Project Site and the average

ambient noise level indicated at the Project Site boundary is considered to be the typical daytime ambient noise levels at the Project Site.

5.0 SAN LUIS OBISPO COUNTY NOISE ORDINANCE ANALYSIS

5.1 SAN LUIS OBISPO COUNTY NOISE ORDINANCE

The County Ordinance Noise Standard and Agricultural Processing Uses Standards (Ordinance) establishes noise standards to control unnecessary, excessive and nuisance noise within the County's jurisdiction. The discussion below contains the portions of the Ordinance which are relevant to the Project:

5.1.1 Noise Standard 22.10.120 Subsection B - Exterior Noise Level Standards

Exterior noise level standards are applicable when a land use affected by noise is one of the following noise-sensitive uses: residential uses listed in Section 22.06.030 (Allowable Land Uses and Permit Requirements), except for residential accessory uses and temporary dwellings; health care services (hospitals and similar establishments only); hotels and motels; bed and breakfast facilities; schools (pre-school to secondary, college and university, specialized education and training); churches; libraries and museums; public assembly and entertainment; offices, and outdoor sports and recreation

1. No person shall create any noise or allow the creation of any noise at any location within the unincorporated areas of the county on property owned, leased, occupied or otherwise controlled by the person which causes the exterior noise level when measured at any of the preceding noise-sensitive land uses situated in either the incorporated or unincorporated areas to exceed the noise level standards in the Table 5-1. When the receiving noise-sensitive land use is outdoor sports and recreation, the following noise level standards shall be increased by 10 dB.

Table 5-1. Maximum Allowable Noise Exposure from Stationary Sources

	7 a.m. to 10 p.m.	10 p.m. to 7 a.m.
Hourly Leq, dB	50	45
Maximum level, dB	70	65

Source: County, 2020

2. In the event the measured ambient noise level exceeds the applicable exterior noise level standard in Table 5-1, the applicable standard shall be adjusted so as to equal the ambient noise level plus one dB;
3. Each of the exterior noise level standards specified in Table 5-1 shall be reduced by five dB for simple tone noises, noises consisting primarily of speech or music, or for recurring impulsive noises; and
4. If the intruding noise source is continuous and cannot reasonably be discontinued or stopped for a time period whereby the ambient noise level can be measured, the noise level measured while the source is in operation shall be compared directly to the exterior noise level standards.

5.1.2 Noise Standard 22.10.120 Subsection B - Noise Level Measurement

For the purpose of evaluating conformance with the standards of this Chapter, noise levels shall be measured as follows:

1. Use of a meter. Any noise measurement in compliance with this Section shall be made with a sound level meter using the A-weighted network (scale). Calibration of the measurement equipment utilizing an acoustical calibrator shall be performed immediately prior to recording any noise data.
2. Measuring exterior noise levels. Except as otherwise provided in this Section, exterior noise levels shall be measured at the property line of the affected noise-sensitive land use listed in Subsection B. Where practical, the microphone shall be positioned five feet above the ground and away from reflective surfaces.

5.1.3 Agricultural Processing Uses 22.30.070 Section D, Subsection 2 Wineries

This section establishes a standard for Special Events at Wineries. In this section Special Events are defined as the following:

1. As any of the following events when there is the possibility that 50 people or more individuals will attend: concerts (with or without amplified sound), weddings, advertised events (including fund raising, but not including industry-wide events), and advertised winemaker dinners open to the general public. The definition does not include normal patronage of the tasting room or non-advertised events.

The section states the that any special event proposing outdoor amplified music shall only be allowed from 10:00 a.m. to 5:00 p.m. No outside amplified sound shall occur before 10:00 a.m. or after 5:00 p.m. The standard relating to amplified music may only be waived or modified where a finding can be made by the Review Authority that the noise at the property line will not exceed 65 dB.

5.2 COUNTY REQUEST

In an email dated March 27, 2020 regarding the review of the Project application the County requested the following:

"Submit Noise Analysis to show noise contours for all locations of proposed outdoor amplified music. Show noise contours to all property lines and to the nearest off-site residences and the measured distances. Your application stated that you would like to participate in outdoor amplified music up to 8 PM. Ordinance states no outside amplified sound shall occur after 5 PM. The standard may be waived or modified where a finding can be made by the Review Authority that the noise at the property line will not exceed 65dB. This will require quantitative data to support the findings. Please submit a Noise Analysis."

6.0 TRAFFIC NOISE MODELING

Padre conducted a traffic related noise model using SoundPLANessential 5.0 (SPE-5). Padre obtained publicly available 2018 traffic data from traffic counts conducted by the California Department of Transportation (CalTrans) for HWY 41 in the area of the Project Site, aerial photographs, digital elevation data for the Project Site and surrounding area from Google Earth Pro, and local highway and street maps of the surrounding area from OpenStreetMap (OSM). Current building and proposed building locations for the Project Site were obtained from the client and current building locations for offsite structures in the area of the Project Site were obtained from OSM. The model was formatted to predict daytime and nighttime HWY 41 traffic noise levels at the Project Site and the surrounding area based on the traffic count data obtained from CalTrans and vehicle types observed during the traffic counts conducted by Padre. Four of the ambient noise level monitoring locations used during the ambient noise level monitoring activities and 10 additional offsite locations were used in the model as receiver locations. The results of the noise model at each receiver location are summarized in Table 6-1 below. Contour maps of the modeled daytime and nighttime traffic related noise levels and receiver locations are provided in Figures 6-1 and 6-2. Copies of the input and output data for the model are provided in Appendix B.

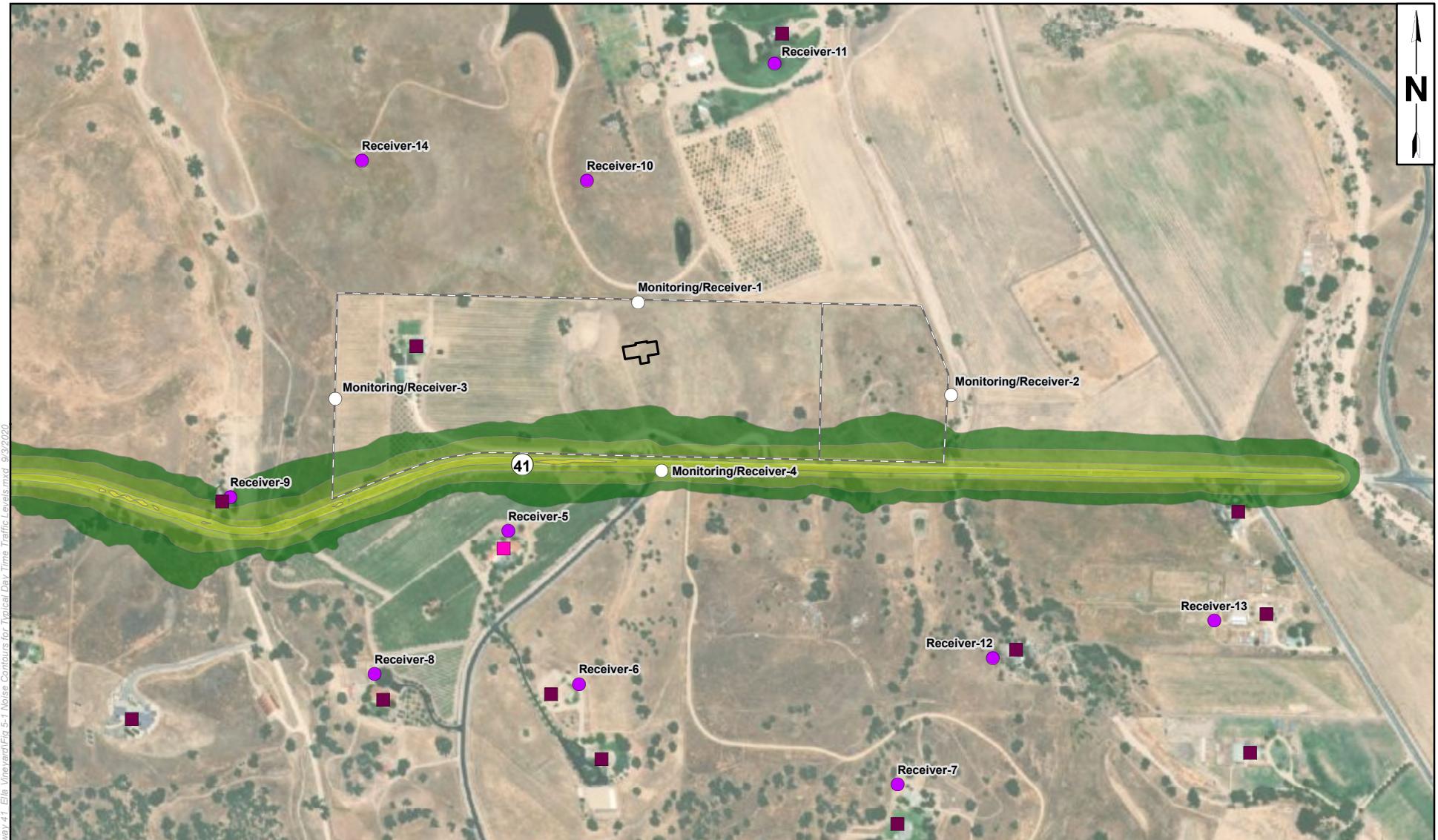
Table 6-1. Summary of Modeled Traffic Noise

Monitoring Location	Modeled Daytime Traffic Noise Levels (dBA)	Modeled Nighttime Traffic Noise Levels (dBA)
Monitor/Receiver-1	29.9	20.9
Monitor/Receiver-2	41.7	32.7
Monitor/Receiver-3	42.9	33.9
Monitor/Receiver-4	59.2	50.2
Receiver-5*	35.1	26.1
Receiver-6*	29.5	20.6
Receiver-7*	32.1	23.1
Receiver-8*	36.9	27.9
Receiver-9*	51.4	42.4
Receiver-10	36.8	27.8
Receiver-11*	29.5	20.5
Receiver-12	37.8	28.8
Receiver-13*	28.8	19.8
Receiver-14	22.6	13.7

Notes: * - Residential receptor locations.

According to the traffic noise model results traffic related noise levels were predicted to attenuate to below approximately 40 dbA approximately 160 feet to 170 feet north of HWY 41 and 60 feet to 120 feet to the south of HWY 41 during the daytime (7:00 AM to 6:00 PM). Nighttime (6:00 PM to 7:00 AM) traffic noise levels were predicted to attenuated to below approximately 40 dbA approximately 20 feet to 25 feet to the north and south of HWY 41. The results of the model predicted that the traffic noise at the receiver locations (Monitor/Receiver-2 through Monitor/Receiver-4) were similar to the noise levels measured at the Project Site during the course of the noise monitoring event. The predicted noise level results were lower than the noise levels measured at Receiver-1, however it should be noted that the traffic noise model only predicted noise

levels generated from vehicle traffic on HWY 41. Receiver-1 is located along the northern property boundary at the base of a hill that slopes up to the south. There is no direct line of sight between Monitor/Receiver-1 and HWY 41. Due to steep slope between Receiver-1 and HWY 41 traffic related noise is partially blocked from Monitor/Receiver-1. The noise sources observed at Monitor/Receiver-1 during the course of the noise monitoring event were primarily from airplanes and birds, with some traffic related noise observed. Based on a comparison of the predicted daytime noise levels and the noise levels measured during the course of noise monitoring event, noise levels predicted in the modeled appear to accurately predict traffic noise levels at the Project Site. Traffic noise levels at the residential receptor receivers indicated in Table 6-1 were not indicated at noise levels above 40 dbA, with the exception of Reciever-9 which is located immediately adjacent to HWY 41.

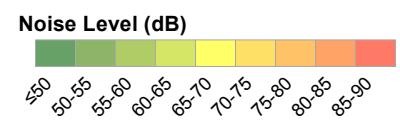


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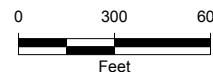
- Closest Residential Receptor
- Residential Receptor Location

- Receiver Location
- Receiver and Noise Monitoring Location

- Proposed Winery Production and Wine Tasting Facility
- Assessor Parcel Boundary



Source: Esri Online Imagery Basemap
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
Notes: This map was created for informational and display purposes only.

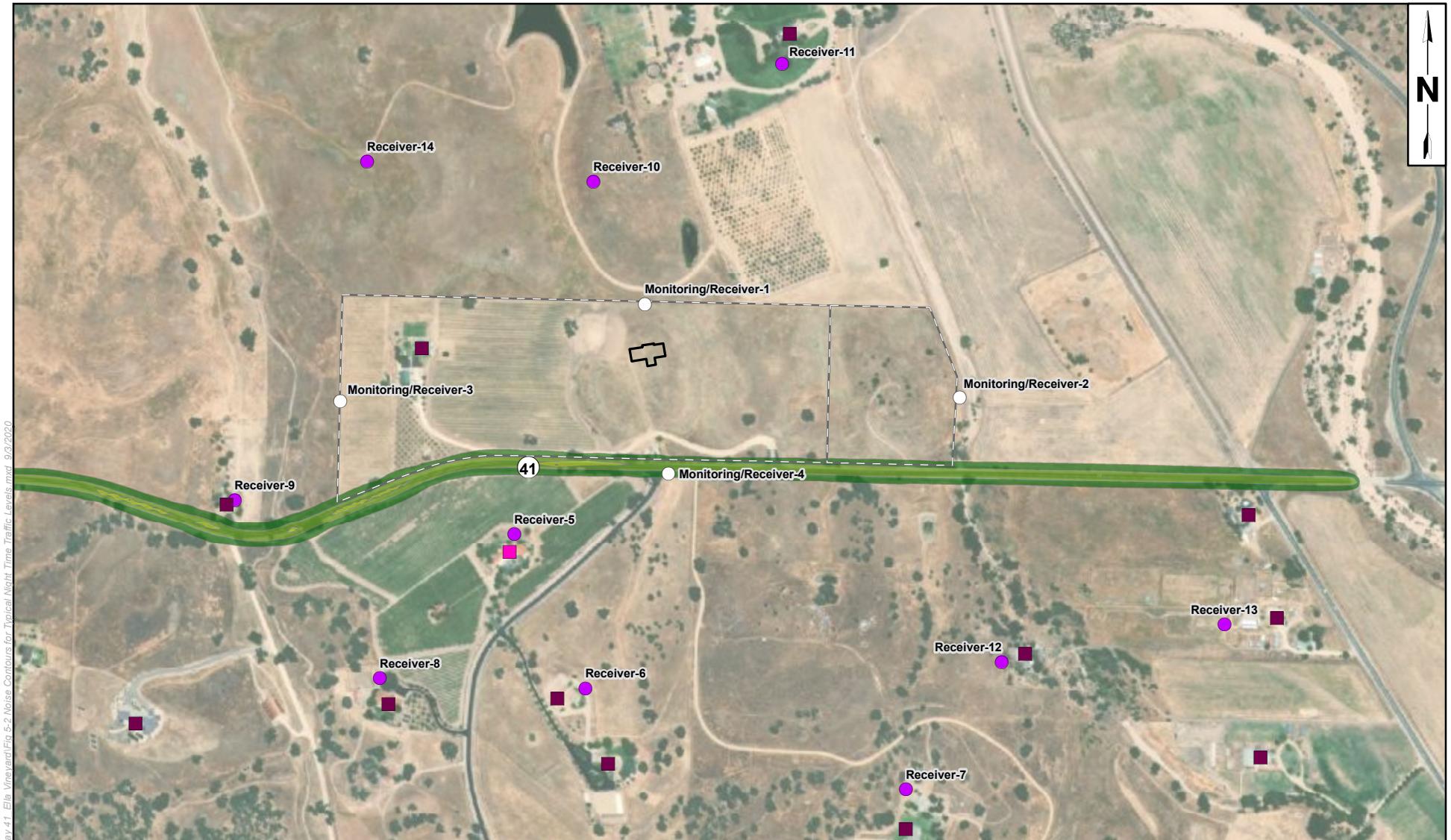


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SAN LUIS OBISPO COUNTY, CA
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NOISE CONTOURS FOR TYPICAL
DAY TIME TRAFFIC LEVELS

FIGURE
6-1

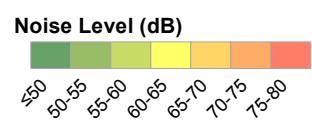


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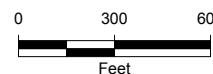
- Closest Residential Receptor
- Residential Receptor Location

- Receiver Location
- Receiver and Noise Monitoring Location

- Proposed Winery Production and Wine Tasting Facility
- Assessor Parcel Boundary



Source: Esri Online Imagery Basemap
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PROPOSED WINERY, ELLA'S VINEYARD
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NOISE CONTOURS FOR TYPICAL
NIGHT TIME TRAFFIC LEVELS

FIGURE
6-2

7.0 PROPOSED SPEAKER NOISE MODELING

Padre conducted a noise model for the proposed exterior speaker using SPE-5. Aerial photographs and digital elevation data for the project site and surrounding area were obtained from Google Earth Pro and proposed speaker specifications were obtained from the manufacturer. Current building and proposed building locations for the Project Site were obtained from the client and current building locations for offsite structures in the area of the Project Site were obtained from OSM. The model was formatted to predict exterior speaker noise levels at the Project Site and the surrounding area using the following formula:

Sound Pressure Level

$$L_p = L_w - 10 \times \log_{10} (A)$$

Where: L_p = Sound Pressure Level

L_w = Sound Power Level

A = The surface area at a given distance from the source from source.

The speaker proposed for exterior use has a maximum sound power level of approximately 130 dB³. Padre ran three models for the exterior use of the speaker at three different sound power levels. The first model used the maximum sound power of the speaker of approximately 130 db, the second used a sound power of approximately 120 db and the third model utilized a sound power of 110 db. For the purposes of the model the speaker was located on the northern central side of the proposed structure (refer to Figures 7-1, 7-2 and 7-3). Contour maps of the modeled noise levels and onsite receiver locations are provided in Table 7-1 and Figures 7-1, 7-2 and 7-3. Copies of the input and output data for the model are provided in Appendix B. Copies of the proposed speaker specifications are provided in Appendix C.

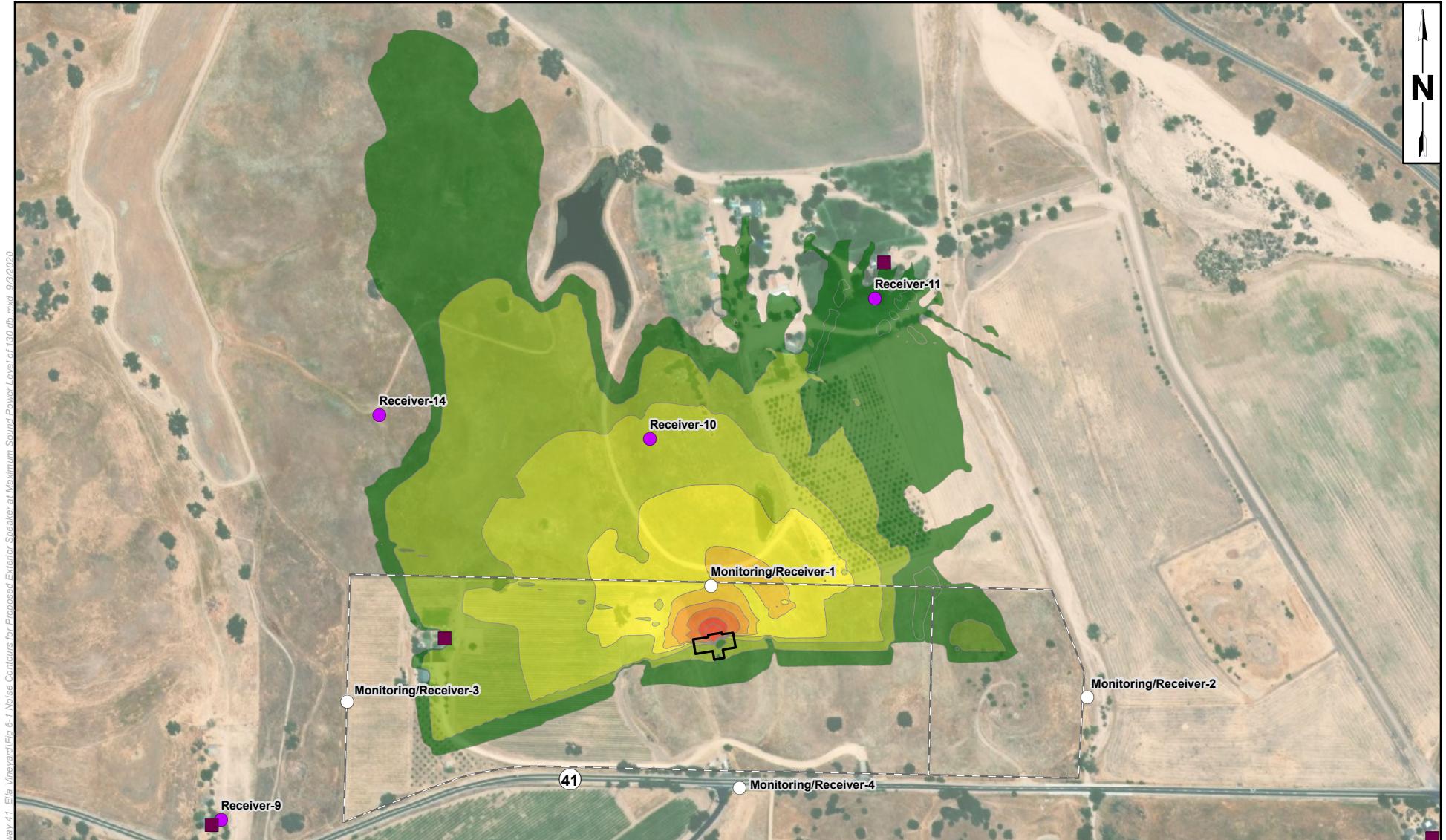
Table 7-1. Summary of Modeled Speaker Noise Levels

Monitoring Location	Modeled Noise Levels for Maximum Speaker Sound Power Level (dBA)	Modeled Noise Levels for Speaker Sound Power Level of 120 db (dBA)	Modeled Noise Levels for Speaker Sound Power Level of 110 db (dBA)
Monitor/Receiver-1	69.6	59.6	49.6
Monitor/Receiver-2	31.7	21.7	11.7
Monitor/Receiver-3	32.8	22.8	12.8
Monitor/Receiver-4	39.8	29.8	19.8
Receiver-5*	39.0	29.0	19.0
Receiver-6*	32.5	22.5	12.5
Receiver-7*	27.8	17.8	7.8
Receiver-8*	23.7	13.7	3.7
Receiver-9*	32.8	22.8	12.8
Receiver-10	62.1	52.1	42.1
Receiver-11*	52.7	42.7	32.7
Receiver-12	24.6	14.6	4.6
Receiver-13*	27.2	17.2	7.2
Receiver-14	38.5	28.5	18.5

Notes: * - Residential receptor locations

³ Proposed speaker specifications indicated a maximum sound power level of 127 db, for the purposes of the model the power level was round up to 130 db.

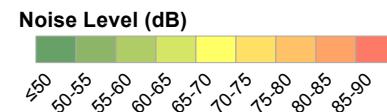
The results of the three noise models predicted that the maximum speaker related noise levels at the property boundary would occur at the northern property boundary (Monitor/Receiver -1) approximately 160 feet north of the modeled speaker location. Using the maximum speaker sound power level, noise levels at the northern boundary would be approximately 69.6 dbA, which exceeds the maximum allowable noise level of 65 dbA for amplified music after 5:00 PM. Using the speaker at lower sound power levels of 120 db and 110 db noise levels at the northern boundary would range from 59.6 dbA to 49.6 dbA, which would not exceed the maximum allowable noise level of 65 dbA for amplified music after 5:00 PM. Noise levels during use of the speaker at the maximum sound power level attenuate to below 65 dbA approximately 320 feet north of the property boundary. Utilization of the speaker at lower sound power levels between 120 db and 110 db indicate significantly lower noise levels beyond the northern property boundary and offsite residential receptors would receive noise levels above 40 dbA, which is the typical ambient noise level at the Project Site boundary.



LEGEND:

- Residential Receptor Location
- Receiver Location
- Receiver and Noise Monitoring Location

□ Proposed Winery Production and Wine Tasting Facility
□ Assessor Parcel Boundary



Source: Esri Online Imagery Basemap
Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
Notes: This map was created for informational and display purposes only.

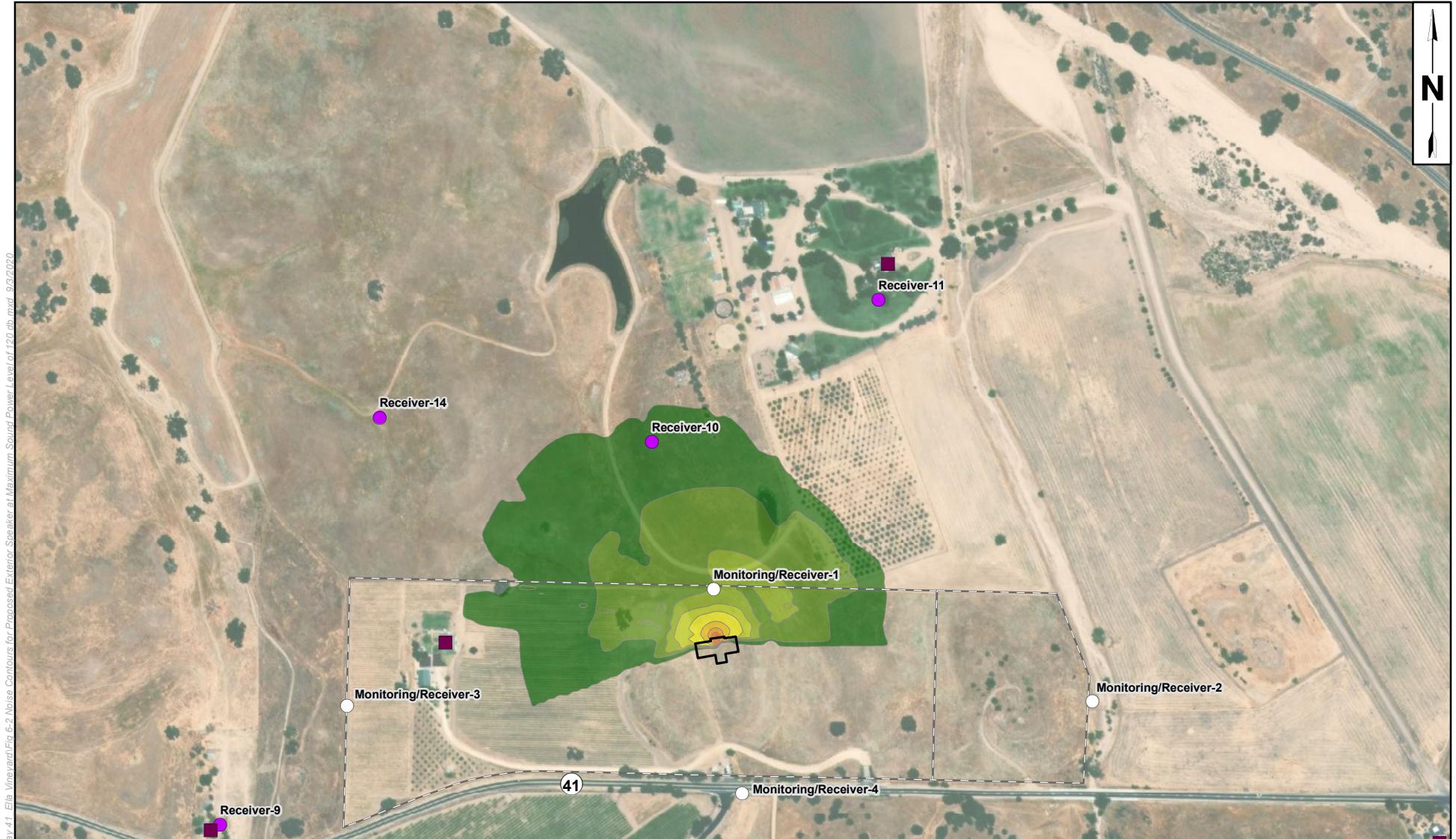
0 250 500
Feet

padre
associates, inc.
ENGINEERS, GEOLOGISTS &
ENVIRONMENTAL SCIENTISTS

PROJECT NAME: NOISE STUDY
PROPOSED WINERY, ELLA'S VINEYARD
SAN LUIS OBISPO COUNTY, CA
PROJECT NUMBER: 2002-5551 DATE: September 2020

NOISE CONTOURS FOR PROPOSED EXTERIOR SPEAKER AT MAXIMUM SOUND POWER LEVEL OF 130 DB

FIGURE
7-1



LEGEND:

- Residential Receptor Location
- Receiver Location
- Receiver and Noise Monitoring Location

Proposed Winery Production and Wine Tasting Facility
 Assessor Parcel Boundary

Noise Level (dB)



Source: Esri Online Imagery Basemap
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
 Notes: This map was created for informational and display purposes only.

0 250 500

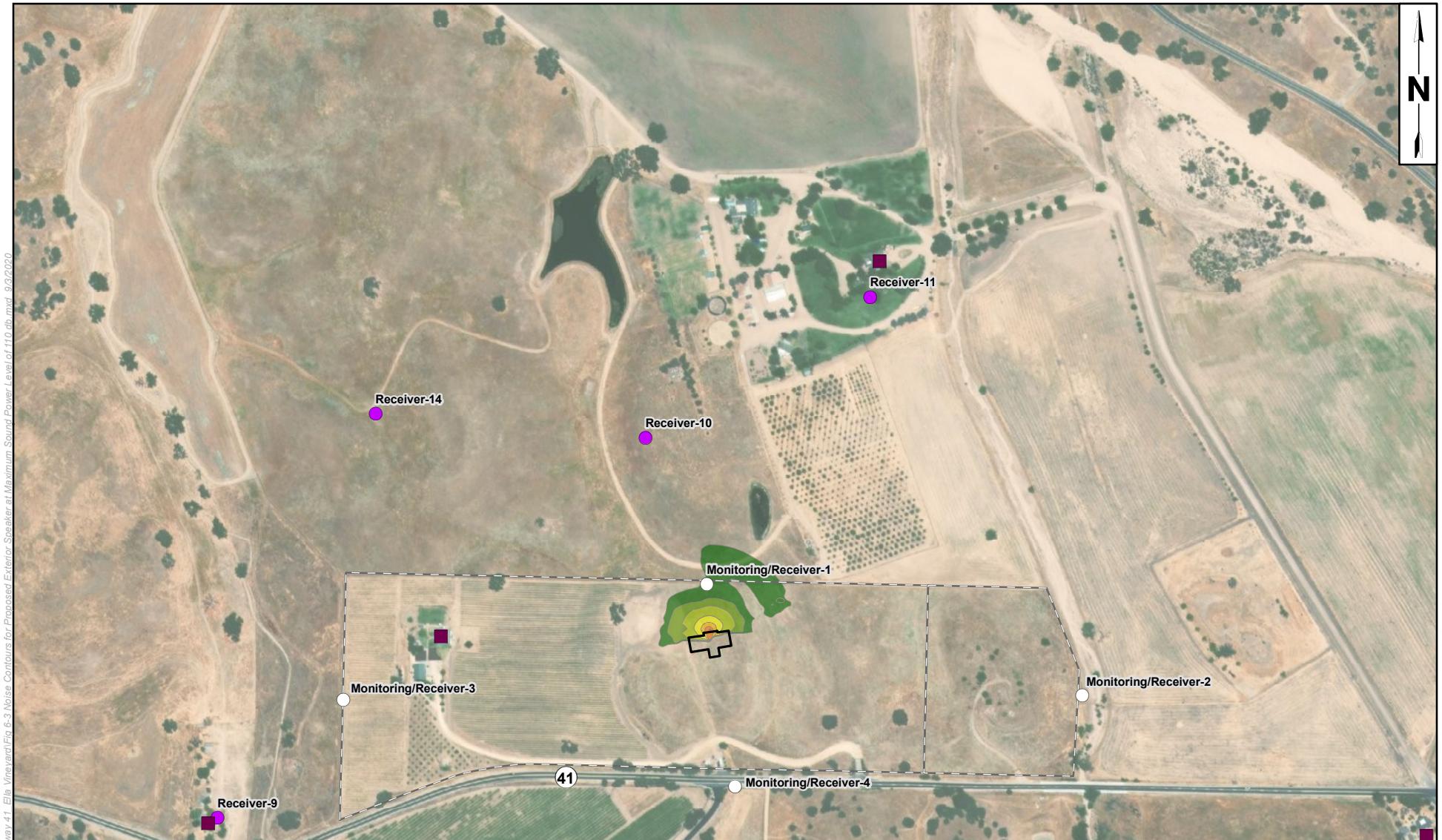
 Feet

padre
associates, inc.
ENGINEERS, GEOLOGISTS &
ENVIRONMENTAL SCIENTISTS

PROJECT NAME: NOISE STUDY
 PROPOSED WINERY, ELLA'S VINEYARD
 SAN LUIS OBISPO COUNTY, CA
 PROJECT NUMBER: 2002-5551 DATE: September 2020

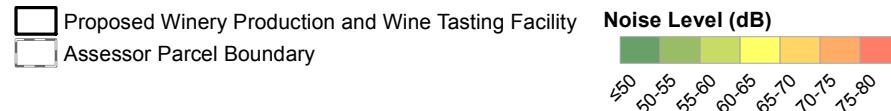
NOISE CONTOURS FOR PROPOSED EXTERIOR SPEAKER AT MAXIMUM SOUND POWER LEVEL OF 120 DB

FIGURE
7-2

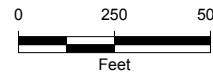


LEGEND:

- Residential Receptor Location
- Receiver Location
- Receiver and Noise Monitoring Location



Source: Esri Online Imagery Basemap
 Coordinate System: NAD 1983 StatePlane California V FIPS 0405 Feet
 Notes: This map was created for informational and display purposes only.



PROJECT NAME: NOISE STUDY
PROPOSED WINERY, ELLA'S VINEYARD
 SAN LUIS OBISPO COUNTY, CA
 PROJECT NUMBER: 2002-5551 DATE: September 2020

NOISE CONTOURS FOR PROPOSED EXTERIOR SPEAKER AT MAXIMUM SOUND POWER LEVEL OF 110 DB

FIGURE
7-3

8.0 SUMMARY, CONCLUSIONS AND RECOMENDATIONS

8.1 SUMMARY

At the request of Ella's Vineyard, Padre completed ambient noise level monitoring activities at three onsite locations and one offsite location, traffic noise level modeling and noise level modeling of future amplified music at the proposed winery. Based on the results of the above referenced activities, Padre provides the following summary, and makes the conclusions presented below.

- The results of the noise monitoring indicate that the average ambient noise level at the property boundaries of the Project site is approximately $40.2 L_{eq}$ dbA and $57.2 L_{max}$ dbA. Ambient noise levels along HWY 41 were measured to be $68.9 L_{eq}$ dbA and $90.6 L_{max}$ dbA. According to the traffic counts approximately 160 vehicles passed by the Project per hour during the course of the ambient noise level monitoring. Traffic on HWY 41 appears to be the primary source of noise at the Project Site and surrounding area.
- According to the traffic noise model results traffic related noise levels were predicted to attenuate to below approximately 40 dbA approximately 160 feet to 170 feet north of HWY 41 and 60 feet to 120 feet to the south of HYW 41 during the daytime. Nighttime traffic noise levels were predicted to attenuate to below approximately 40 dbA approximately 20 feet to 25 feet to the north and south of HWY 41. Traffic noise levels at residential receptors were not indicated at noise levels above 40 dbA, with the exception of Reciever-9 which is located immediately adjacent to HWY 41.
- The results of the three noise models predicted that the maximum noise levels at the property boundary would occur at the northern property boundary (Monitor/Receiver -1). Utilization of the proposed speaker at the maximum sound power level of 130 db was predicted by the model to generate noise levels at approximately 69.6 dbA at the northern property, which would exceed the maximum allowable noise level of 65 dbA for amplified music after 5:00 PM. Utilization of the proposed speaker at lower sound power levels of 120 db and 110 db noise levels at the northern boundary would range from 59.6 dbA to 49.6 dbA, which would not exceed the maximum allowable noise level of 65 dbA for amplified music after 5:00 PM. The first model indicated that noise levels during utilization of the proposed speaker at the maximum sound power level would attenuate to below 65 dbA approximately 150 feet north of the property boundary. The second and third model indicated that utilization of the speaker at lower sound power levels between 120 db and 110 db would result in significantly lower noise levels beyond the northern property boundary. Additionally, all offsite residential receptors would receive speaker related noise levels below 40 dbA, which is the typical ambient noise level at the residential receptors.

8.2 CONCLUSIONS

Padre concludes that based on the results indicated above, utilization of the proposed external speaker at the maximum sound power level would result in noise levels at the northern property boundary that would exceed the exceed the maximum allowable noise level of 65 dbA for amplified music after 5:00 PM. However, utilization of the proposed external speaker at lower sound power levels would not result in noise levels exceeding 65 dbA at the northern property boundary.

Additionally, while utilizing lower speaker sound power levels nearby residential receptors would not receive noise levels that exceeded typical ambient noise levels.

8.3 RECOMENDATIONS

Implementation of the following recommendations for exterior utilization of the proposed speaker would reduce noise levels at the northern property boundary to less than the County's maximum allowable noise level of 65 db.

- Utilize the proposed speaker at sound power levels below 120 db;
- Designate a location for placement of an exterior speaker as close to the proposed structure as possible,
- Verify that the speakers utilized by special event vendors are similar to the proposed speaker specifications.

Additionally, Padre recommends periodic monitoring of noise levels at the northern property boundary during the proposed speaker use to document speaker noise levels at the property boundary⁴.

⁴ If a professional noise meter is not readily available there are noise monitoring applications available for smart phones. OpenNoise is an open source noise monitoring application that is freely available. It should be noted that these applications are typically not intended for professional use.

9.0 REFERENCES

- American Industrial Hygiene Association. 2003. The Noise Manual, Fifth Addition.
- California Department of Transportation (Caltrans). 2018. 2018-truck-aadt -a11y.xlsx. Accessed on August 17, 2020 at: <https://dot.ca.gov/-/media/dot-media/programs/traffic-operations/documents /census/aadt/2018-truck-aadt-a11y.xlsx>.
- Google Earth. 2020. Digital Elevation Model of Area Surrounding Creston, San Luis Obispo, California. Accessed on August 17, 2020 from Google Earth Pro.
- Open Street Map. 2020. Open Street Map Data, Accessed on August 17, 2020 at: <https://www.openstreetmap.org/export#map=15/35.5312/-120.5060>.
- San Luis Obispo County. 2020a. San Luis Obispo County Code. 22.10.120 - Noise Standards. Accessed on August 14, 2020 at: https://library.municode.com/ca/san_luis_obispo_county/codes/county_code?nodeId=TIT22LAUSOR_ART3SIPLRDEST_CH22.10GEPRDEOPS_T_22.10.120NOST
- _____. 2020b. San Luis Obispo County Code. 22.30.070 - Agricultural Processing Uses. Accessed on August 14, 2020 at: https://library.municode.com/ca/san_luis_obispo_county/codes/county_code?nodeId=TIT22LAUSOR_ART4STSPLAUS_CH22.30STSPLAUS_22.30.070AGPRUS
- U.S. Department of Transportation Federal Highway Administration (FHWA). 2020. The Audible Landscape: A Manual for Highway Noise and Land Use. Accessed on July 1, 2020 at: https://www.fhwa.dot.gov/ENVIronment/noise/noise_compatible_planning/federal_approach/audible_landscape/al04.cfm#:~:text=These%20can%20include%3A,source%20or%20the%20highway%3B%20and

APPENDIX A

NOISE METER CALIBRATION AND MONITORING FORMS

AMBIENT NOISE MEASUREMENT DATA SHEET



Padre Associates, Inc.
369 Pacific Street
San Luis Obispo, CA 93404

(805) 786-2651

(805) 786-2651 fax

www.padreinc.com

Project Number:		Date: <i>8/13/2020</i>
Project Name: <i>Ellis Vineyard</i>		Time:
Site Location: #1 Northern Fence Line		Operator:
Noise Meter: Lassen Davis Lxt		
Calibrated At: <i>8/13/2020 10:00 am</i>		
Weather Conditions: <i>Cloudy, light rain at times</i>		
Measurement Location #	#1	
Measurement Location:		
Distance from Primary Source (in feet)		
Noise Sources:	<i>- Birds - Plane</i>	
Begin Time:	<i>1:15</i>	
Ending Time:	<i>1:35</i>	
Leq (A):	<i>41.0</i>	
LA Max (peak):	<i>78.6</i>	
LAS (max):	<i>58.4</i>	
LAS (min):	<i>26.0</i>	
Details:		

Signed By: *M*

AMBIENT NOISE MEASUREMENT DATA SHEET



Padre Associates, Inc.
369 Pacific Street
San Luis Obispo, CA 93404

(805) 786-2651

(805) 786-2651 fax

www.padreinc.com

Project Number:	Date: 8/13/2020
Project Name: Ellis Vineyard	Time:
Site Location: #2 East Fence Line	Operator: JV
Noise Meter: Larson Dav. LXT	
Calibrated At: 8/13/2020 10:00 am	
Weather Conditions: cloudy light rain at times	
Measurement Location #	
Measurement Location:	
Distance from Primary Source (in feet)	
Noise Sources:	Planes Traffic on Hwy 41 Bird Noise
Begin Time:	1:50
Ending Time:	2:10
Leq (A):	39.2
LA Max (peak):	78.1
LAS (max):	55.0
LAS (min):	26.5

Details: Traffic 49 cars
2 min.

Signed By:

A handwritten graph at the top of the page shows a series of vertical tick marks forming a waveform. The text "1 min. cycle" is written above the first few marks, and "15 min T" is written below the last few marks, indicating a 15-minute time period for one minute of measurement.

AMBIENT NOISE MEASUREMENT DATA SHEET



Padre Associates, Inc.
 369 Pacific Street
 San Luis Obispo, CA 93404

(805) 786-2651

(805) 786-2651 fax

www.padreinc.com

Project Number:	Date: 8/13/2020
Project Name: Ella's Vineyard	Time:
Site Location: #3 West Fence line	Operator: RW
Noise Meter: Larson Dav 8 Cxt	
Calibrated At: 8/13/2020 10:00am	
Weather Conditions: Cloudy no rain dr., #3	
Measurement Location #	#3
Measurement Location:	
Distance from Primary Source (in feet)	
Noise Sources:	Traffic on 41 Birds singing Plane at 7 min
Begin Time:	2:40
Ending Time:	3:00
Leq (A):	40.5
LA Max (peak):	77.6
LAS (max):	58.3
LAS (min):	26.4
Details: Traffic: 55 cars 1 semi 1 motorcycle	

Signed By:

A handwritten signature, appearing to be "RW", is written over a horizontal line next to the "Signed By:" label.

AMBIENT NOISE MEASUREMENT DATA SHEET



Padre Associates, Inc.
369 Pacific Street
San Luis Obispo, CA 93404

(805) 786-2651
(805) 786-2651 fax
www.padreinc.com

Project Number:	Date: <i>8/13/2020</i>
Project Name: <i>Ella's Vineyard</i>	Time:
Site Location: <i>along Hwy 41 - off site #4</i>	Operator: <i>RV</i>
Noise Meter: <i>Larson Davis Lyt</i>	
Calibrated At: <i>8/13/2020 10:00 am</i>	
Weather Conditions: <i>Cloudy, no rain</i>	
Measurement Location #	<i># off st</i>
Measurement Location:	
Distance from Primary Source (in feet)	
Noise Sources:	<i>Traffic on 41</i>
Begin Time:	<i>3:20</i>
Ending Time:	<i>3:40</i>
Leq (A):	<i>68.8</i>
LA Max (peak):	<i>107.8</i>
LAS (max):	<i>90.6</i>
LAS (min):	<i>28.4</i>
Details:	<i>Traffic: 51 cars</i>

Signed By: *MH*

Calibration Certificate

Certificate Number 2019003864

Customer:

Padre Associates
1861 Knoll Drive
Ventura, CA 93003, United States

Model Number	377C20	Procedure Number	D0001.8387
Serial Number	310410	Technician	Abraham Ortega
Test Results	Pass	Calibration Date	27 Mar 2019
Initial Condition	As Manufactured	Calibration Due	27 Mar 2021
Description	1/2 inch Microphone - RI - 0V	Temperature	24.0 °C ± 0.01 °C
		Humidity	31.2 %RH ± 0.5 %RH
		Static Pressure	101.69 kPa ± 0.03 kPa

Evaluation Method Tested electrically using an electrostatic actuator.

Compliance Standards Compliant to Manufacturer Specifications.

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2005. Test points marked with a \ddagger do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2015.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma ($k=2$) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
Larson Davis Model 2900 Real Time Analyzer	07/02/2018	07/02/2019	001230
Microphone Calibration System	08/28/2018	08/28/2019	001233
1/2" Preamplifier	12/17/2018	12/17/2019	001274
Agilent 34401A DMM	12/07/2018	12/07/2019	001329
Larson Davis CAL250 Acoustic Calibrator	01/04/2019	01/04/2020	003030
1/2" Preamplifier	04/12/2018	04/12/2019	006506
Larson Davis 1/2" Preamplifier 7-pin LEMO	08/22/2018	08/22/2019	006507
1/2 inch Microphone - RI - 200V	05/10/2018	05/10/2019	006510
1/2 inch Microphone - RI - 200V	08/09/2018	08/09/2019	006519
Larson Davis 1/2" Preamplifier 7-pin LEMO	08/22/2018	08/22/2019	006530
Larson Davis 1/2" Preamplifier 7-pin LEMO	08/13/2018	08/11/2019	006531

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1681 West 820 North
Provo, UT 84601, United States
716-684-0001



LARSON DAVIS
A PCB PIEZOTRONICS DIV.

Sensitivity

Measurement	Test Result [mV/Pa]	Lower limit [mV/Pa]	Upper limit [mV/Pa]	Expanded Uncertainty [mV/Pa]	Result
Open Circuit Sensitivity	49.99	42.17	59.57	1.20	Pass

-- End of measurement results--

Capacitance

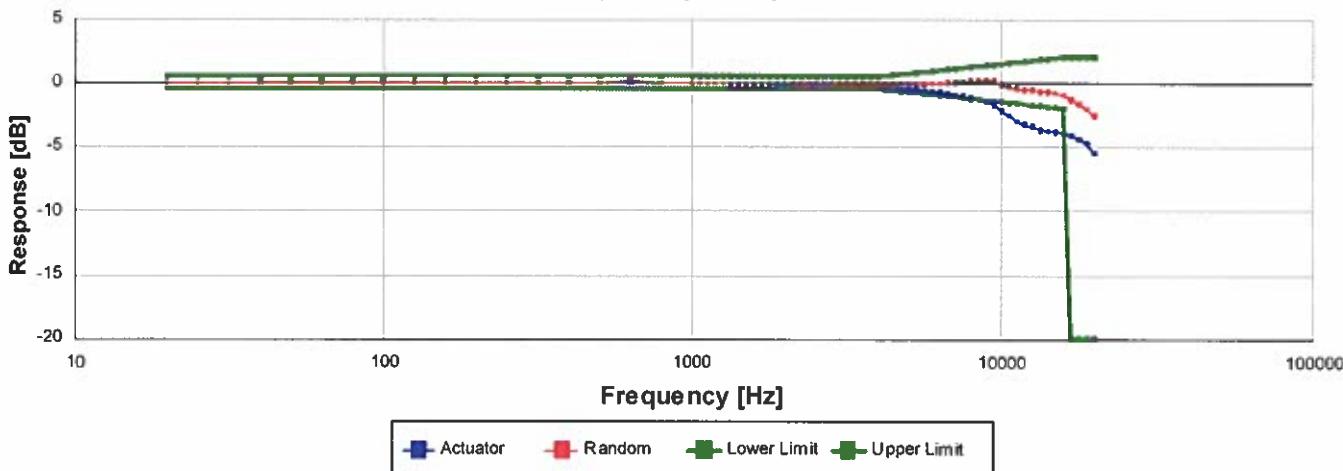
Measurement	Test Result [pF]	
Capacitance	13.00	‡

-- End of measurement results--

Lower Limiting Frequency

Measurement	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Result
3 dB Frequency	1.11	1.00	2.40	Pass ‡

-- End of measurement results--

Frequency Response

Data is normalized for 0 dB @ 251.19 Hz.

Frequency [Hz]	Actuator [dB]	Random [dB]	Lower limit [dB]	Upper limit [dB]	Result
19.95	-0.06	-0.06	-0.50	0.50	Pass ‡
25.12	-0.03	-0.03	-0.50	0.50	Pass ‡
31.62	0.00	0.00	-0.50	0.50	Pass ‡
39.81	0.01	0.01	-0.50	0.50	Pass ‡
50.12	0.02	0.02	-0.50	0.50	Pass ‡
63.10	0.01	0.01	-0.50	0.50	Pass ‡
79.43	0.01	0.01	-0.50	0.50	Pass ‡
100.00	0.01	0.01	-0.50	0.50	Pass ‡
125.89	0.01	0.01	-0.50	0.50	Pass ‡
158.49	0.01	0.01	-0.50	0.50	Pass ‡
199.53	0.00	0.00	-0.50	0.50	Pass ‡

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716-684-0001



LARSON DAVIS
A PCB PIEZOTRONICS DIV.

Certificate Number 2019003864

Frequency [Hz]	Actuator [dB]	Random [dB]	Lower limit [dB]	Upper limit [dB]	Result
14,962.36	-3.84	-0.77	-1.93	1.93	Pass ±
15,848.93	-3.95	-0.94	-2.00	2.00	Pass ±
16,788.04	-4.09	-1.31		2.00	Pass ±
17,782.80	-4.40	-1.62		2.00	Pass ±
18,836.49	-4.71	-1.98		2.00	Pass ±
19,952.62	-5.45	-2.55		2.00	Pass ±

-- End of measurement results--

Signatory: Abraham Ortega

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 1681 West 820 North
 Provo, UT 84601, United States
 716-684-0001



 **LARSON DAVIS**
 A PCB PIEZOTRONICS DIV.

APPENDIX B

NOISE MODEL INPUT AND OUTPUT DATA

No.	Receiver n	Building side	Floor	Limit		Level						Conflict			
				Day dB(A)	Evening	Night	Lden	Day dB(A)	Evening	Night	Lden	Day dB	Evening	Night	Lden
1	1 -	GF		70	65	65	67.5	29.9	29.9	20.9	31.3	-	-	-	-
2	2 -	GF		70	65	65	67.5	41.7	41.7	32.7	43.1	-	-	-	-
3	3 -	GF		70	65	65	67.5	42.9	42.9	33.9	44.3	-	-	-	-
4	4 -	GF		70	65	65	67.5	59.2	59.2	50.2	60.6	-	-	-	-
5	5 -	GF		70	65	65	67.5	35.1	35.1	26.1	36.5	-	-	-	-
6	6 -	GF		70	65	65	67.5	29.5	29.5	20.6	30.9	-	-	-	-
7	7 -	GF		70	65	65	67.5	32.1	32.1	23.1	33.5	-	-	-	-
8	8 -	GF		70	65	65	67.5	36.9	36.9	27.9	38.3	-	-	-	-
9	9 -	GF		70	65	65	67.7	51.4	51.4	42.4	52.8	-	-	-	-
10	10 -	GF		70	65	65	67.5	36.8	36.8	27.8	38.2	-	-	-	-
11	11 -	GF		70	65	65	67.5	29.5	29.5	20.5	30.9	-	-	-	-
12	12 -	GF		70	65	65	67.7	37.8	37.8	28.8	39.2	-	-	-	-
13	13 -	GF		70	65	65	67.7	28.8	28.8	19.8	30.2	-	-	-	-
14	14 -	GF		70	65	65	67.7	22.6	22.6	13.7	24	-	-	-	-
15	15 -	GF		70	65	65	67.7	16.7	16.7	7.8	18.1	-	-	-	-

Source	name	Traffic dB(A)	Lane	Level			Lden
				Day	Evening	Night	
	1 GF		29.9	29.9	20.9	31.3	
1 R		26.5	26.5	17.5	27.9		
1 L		27.2	27.2	18.2	28.6		
	2 GF		41.7	41.7	32.7	43.1	
1 R		38.3	38.3	29.3	39.7		
1 L		39.1	39.1	30.1	40.5		
	3 GF		42.9	42.9	33.9	44.3	
1 R		39.9	39.9	30.9	41.3		
1 L		39.9	39.9	30.9	41.2		
	4 GF		59.2	59.2	50.2	60.6	
1 R		56.9	56.9	47.9	58.3		
1 L		55.4	55.4	46.4	56.8		
	5 GF		35.1	35.1	26.1	36.5	
1 R		31.9	31.9	22.9	33.3		
1 L		32.3	32.3	23.3	33.7		
	6 GF		29.5	29.5	20.6	30.9	
1 R		26	26	17	27.4		
1 L		27	27	18	28.4		
	7 GF		32.1	32.1	23.1	33.5	
1 R		28.9	28.9	19.9	30.3		
1 L		29.4	29.4	20.4	30.7		
	8 GF		36.9	36.9	27.9	38.3	
1 R		33.7	33.7	24.7	35.1		
1 L		34.2	34.2	25.2	35.6		
	9 GF		51.4	51.4	42.4	52.8	
1 R		48.1	48.1	39.1	49.5		
1 L		48.6	48.6	39.6	50		
	10 GF		36.8	36.8	27.8	38.2	
1 R		33.5	33.5	24.5	34.9		
1 L		34.1	34.1	25.1	35.5		
	11 GF		29.5	29.5	20.5	30.9	
1 R		26.5	26.5	17.5	27.9		
1 L		26.5	26.5	17.5	27.9		
	12 GF		37.8	37.8	28.8	39.2	
1 R		34.9	34.9	25.9	36.3		
1 L		34.7	34.7	25.7	36.1		
	13 GF		28.8	28.8	19.8	30.2	
1 R		25.6	25.6	16.7	27		
1 L		26	26	17	27.4		
	14 GF		22.6	22.6	13.7	24	
1 R		19.4	19.4	10.4	20.8		
1 L		19.9	19.9	10.9	21.3		
	15 GF		16.7	16.7	7.8	18.1	
1 R		13.6	13.6	4.6	15		
1 L		13.9	13.9	4.9	15.3		

Emissions-road

9	9 GF	Evening	23.8	29.7	37.2	43.6	48.6	44.9	36.4	21
9	9 GF	Night	14.8	20.7	28.2	34.6	39.6	35.9	27.4	12
9	9 GF	Lden	25.2	31.1	38.6	45	50	46.3	37.8	22.4
10	10 GF	Day	10	15.9	23.6	29	34.4	29.8	14.1	-27.2
10	10 GF	Evening	10	15.9	23.6	29	34.4	29.8	14.1	-27.2
10	10 GF	Night	1	6.9	14.6	20	25.4	20.8	5.1	-36.1
10	10 GF	Lden	11.4	17.3	25	30.4	35.8	31.2	15.5	-25.8
11	11 GF	Day	8.7	14.7	21	20.9	25.5	23.9	2.1	-59.4
11	11 GF	Evening	8.7	14.7	21	20.9	25.5	23.9	2.1	-59.4
11	11 GF	Night	-0.3	5.7	12	12	16.6	14.9	-6.8	-68.4
11	11 GF	Lden	10.1	16.1	22.4	22.3	26.9	25.3	3.5	-58
12	12 GF	Day	9.8	16.4	20.6	23.9	35.7	32.5	18.9	-13.4
12	12 GF	Evening	9.8	16.4	20.6	23.9	35.7	32.5	18.9	-13.4
12	12 GF	Night	0.8	7.4	11.7	14.9	26.8	23.5	9.9	-22.4
12	12 GF	Lden	11.2	17.8	22	25.3	37.1	33.9	20.3	-12
13	13 GF	Day	10.9	17.6	23.8	18.9	22.8	22	13.8	-10.8
13	13 GF	Evening	10.9	17.6	23.8	18.9	22.8	22	13.8	-10.8
13	13 GF	Night	1.9	8.6	14.8	9.9	13.8	13	4.8	-19.8
13	13 GF	Lden	12.3	19	25.2	20.3	24.2	23.4	15.2	-9.4
14	14 GF	Day	6	10	15	17.9	18.5	8.2	-14.6	-62.4
14	14 GF	Evening	6	10	15	17.9	18.5	8.2	-14.6	-62.4
14	14 GF	Night	-3	1	6.1	8.9	9.5	-0.8	-23.6	-71.4
14	14 GF	Lden	7.4	11.4	16.4	19.3	19.9	9.6	-13.2	-61
15	15 GF	Day	0.2	4.2	9.1	11.8	12.5	4.4	-15	-58
15	15 GF	Evening	0.2	4.2	9.1	11.8	12.5	4.4	-15	-58
15	15 GF	Night	-8.8	-4.8	0.1	2.8	3.5	-4.5	-24	-67
15	15 GF	Lden	1.6	5.6	10.5	13.2	13.9	5.8	-13.6	-56.7

Receiver(speaker-110)			Limit				Level				Conflict				
No.	Receiver n.	Building side	Floor	Day dB(A)	Evening	Night	Lden	Day dB(A)	Evening	Night	Lden	Day dB	Evening	Night	Lden
1	1 -	GF		70	65	65	67.5	69.6	69.6	69.6	76.6 -		4.6	4.6	9.1
2	2 -	GF		70	65	65	67.5	31.7	31.7	31.7	38.7 -	-	-	-	
3	3 -	GF		70	65	65	67.5	32.8	32.8	32.8	39.8 -	-	-	-	
4	4 -	GF		70	65	65	67.5	39.8	39.8	39.8	46.8 -	-	-	-	
5	5 -	GF		70	65	65	67.5	39	39	39	46 -	-	-	-	
6	6 -	GF		70	65	65	67.5	32.5	32.5	32.5	39.5 -	-	-	-	
7	7 -	GF		70	65	65	67.5	27.8	27.8	27.8	34.8 -	-	-	-	
8	8 -	GF		70	65	65	67.5	23.7	23.7	23.7	30.7 -	-	-	-	
9	9 -	GF		70	65	65	67.5	32.8	32.8	32.8	39.8 -	-	-	-	
10	10 -	GF		70	65	65	67.5	62.1	62.1	62.1	69.1 -	-	-	-	1.6
11	11 -	GF		70	65	65	67.5	52.7	52.7	52.7	59.7 -	-	-	-	
12	12 -	GF		70	65	65	67.5	24.6	24.6	24.6	31.6 -	-	-	-	
13	13 -	GF		70	65	65	67.5	27.2	27.2	27.2	34.2 -	-	-	-	
14	14 -	GF		70	65	65	67.5	38.5	38.5	38.5	45.5 -	-	-	-	

Receiver(speaker-110)			Limit				Level				Conflict				
No.	Receiver n.	Building side	Floor	Day dB(A)	Evening	Night	Lden	Day dB(A)	Evening	Night	Lden	Day dB	Evening	Night	Lden
1	1 -	GF		70	65	65	67.5	49.6	49.6	49.6	56.6	-	-	-	-
2	2 -	GF		70	65	65	67.5	11.7	11.7	11.7	18.7	-	-	-	-
3	3 -	GF		70	65	65	67.5	12.8	12.8	12.8	19.8	-	-	-	-
4	4 -	GF		70	65	65	67.5	19.8	19.8	19.8	26.8	-	-	-	-
5	5 -	GF		70	65	65	67.5	19	19	19	26	-	-	-	-
6	6 -	GF		70	65	65	67.5	12.5	12.5	12.5	19.5	-	-	-	-
7	7 -	GF		70	65	65	67.5	7.8	7.8	7.8	14.8	-	-	-	-
8	8 -	GF		70	65	65	67.5	3.7	3.7	3.7	10.7	-	-	-	-
9	9 -	GF		70	65	65	67.5	12.8	12.8	12.8	19.8	-	-	-	-
10	10 -	GF		70	65	65	67.5	42.1	42.1	42.1	49.1	-	-	-	-
11	11 -	GF		70	65	65	67.5	32.7	32.7	32.7	39.7	-	-	-	-
12	12 -	GF		70	65	65	67.5	4.6	4.6	4.6	11.6	-	-	-	-
13	13 -	GF		70	65	65	67.5	7.2	7.2	7.2	14.2	-	-	-	-
14	14 -	GF		70	65	65	67.5	18.5	18.5	18.5	25.5	-	-	-	-

Receiver(speaker-120)			Limit				Level				Conflict				
No.	Receiver n.	Building side	Floor	Day dB(A)	Evening	Night	Lden	Day dB(A)	Evening	Night	Lden	Day dB	Evening	Night	Lden
1	1 -	GF		70	65	65	67.5	59.6	59.6	59.6	66.6	-	-	-	-
2	2 -	GF		70	65	65	67.5	21.7	21.7	21.7	28.7	-	-	-	-
3	3 -	GF		70	65	65	67.5	22.8	22.8	22.8	29.8	-	-	-	-
4	4 -	GF		70	65	65	67.5	29.8	29.8	29.8	36.8	-	-	-	-
5	5 -	GF		70	65	65	67.5	29	29	29	36	-	-	-	-
6	6 -	GF		70	65	65	67.5	22.5	22.5	22.5	29.5	-	-	-	-
7	7 -	GF		70	65	65	67.5	17.8	17.8	17.8	24.8	-	-	-	-
8	8 -	GF		70	65	65	67.5	13.7	13.7	13.7	20.7	-	-	-	-
9	9 -	GF		70	65	65	67.5	22.8	22.8	22.8	29.8	-	-	-	-
10	10 -	GF		70	65	65	67.5	52.1	52.1	52.1	59.1	-	-	-	-
11	11 -	GF		70	65	65	67.5	42.7	42.7	42.7	49.7	-	-	-	-
12	12 -	GF		70	65	65	67.5	14.6	14.6	14.6	21.6	-	-	-	-
13	13 -	GF		70	65	65	67.5	17.2	17.2	17.2	24.2	-	-	-	-
14	14 -	GF		70	65	65	67.5	28.5	28.5	28.5	35.5	-	-	-	-

Contributions-speaker full

Level

Source	name dB(A)	Traffic	lane	Day	Evening	Night	Lden
	1 GF		69.6	69.6	69.6	76.6	
1 -		69.6	69.6	69.6	76.6		
	2 GF		31.7	31.7	31.7	38.7	
1 -		31.7	31.7	31.7	38.7		
	3 GF		32.8	32.8	32.8	39.8	
1 -		32.8	32.8	32.8	39.8		
	4 GF		39.8	39.8	39.8	46.8	
1 -		39.8	39.8	39.8	46.8		
	5 GF		39	39	39	46	
1 -		39	39	39	46		
	6 GF		32.5	32.5	32.5	39.5	
1 -		32.5	32.5	32.5	39.5		
	7 GF		27.8	27.8	27.8	34.8	
1 -		27.8	27.8	27.8	34.8		
	8 GF		23.7	23.7	23.7	30.7	
1 -		23.7	23.7	23.7	30.7		
	9 GF		32.8	32.8	32.8	39.8	
1 -		32.8	32.8	32.8	39.8		
	10 GF		62.1	62.1	62.1	69.1	
1 -		62.1	62.1	62.1	69.1		
	11 GF		52.7	52.7	52.7	59.7	
1 -		52.7	52.7	52.7	59.7		
	12 GF		24.6	24.6	24.6	31.6	
1 -		24.6	24.6	24.6	31.6		
	13 GF		27.2	27.2	27.2	34.2	
1 -		27.2	27.2	27.2	34.2		
	14 GF		38.5	38.5	38.5	45.5	
1 -		38.5	38.5	38.5	45.5		

Contributions-speaker(110)

Level

Source	name dB(A)	Traffic	lane	Day	Evening	Night	Lden
	1 GF		49.6	49.6	49.6	56.6	
1 -		49.6	49.6	49.6	56.6		
	2 GF		11.7	11.7	11.7	18.7	
1 -		11.7	11.7	11.7	18.7		
	3 GF		12.8	12.8	12.8	19.8	
1 -		12.8	12.8	12.8	19.8		
	4 GF		19.8	19.8	19.8	26.8	
1 -		19.8	19.8	19.8	26.8		
	5 GF		19	19	19	26	
1 -		19	19	19	26		
	6 GF		12.5	12.5	12.5	19.5	
1 -		12.5	12.5	12.5	19.5		
	7 GF		7.8	7.8	7.8	14.8	
1 -		7.8	7.8	7.8	14.8		
	8 GF		3.7	3.7	3.7	10.7	
1 -		3.7	3.7	3.7	10.7		
	9 GF		12.8	12.8	12.8	19.8	
1 -		12.8	12.8	12.8	19.8		
	10 GF		42.1	42.1	42.1	49.1	
1 -		42.1	42.1	42.1	49.1		
	11 GF		32.7	32.7	32.7	39.7	
1 -		32.7	32.7	32.7	39.7		
	12 GF		4.6	4.6	4.6	11.6	
1 -		4.6	4.6	4.6	11.6		
	13 GF		7.2	7.2	7.2	14.2	
1 -		7.2	7.2	7.2	14.2		
	14 GF		18.5	18.5	18.5	25.5	
1 -		18.5	18.5	18.5	25.5		

Contribution(speaker120)

Level

Source	name dB(A)	Traffic	lane	Day	Evening	Night	Lden
	1 GF		59.6	59.6	59.6	66.6	
1 -		59.6	59.6	59.6	66.6		
	2 GF		21.7	21.7	21.7	28.7	
1 -		21.7	21.7	21.7	28.7		
	3 GF		22.8	22.8	22.8	29.8	
1 -		22.8	22.8	22.8	29.8		
	4 GF		29.8	29.8	29.8	36.8	
1 -		29.8	29.8	29.8	36.8		
	5 GF		29	29	29	36	
1 -		29	29	29	36		
	6 GF		22.5	22.5	22.5	29.5	
1 -		22.5	22.5	22.5	29.5		
	7 GF		17.8	17.8	17.8	24.8	
1 -		17.8	17.8	17.8	24.8		
	8 GF		13.7	13.7	13.7	20.7	
1 -		13.7	13.7	13.7	20.7		
	9 GF		22.8	22.8	22.8	29.8	
1 -		22.8	22.8	22.8	29.8		
	10 GF		52.1	52.1	52.1	59.1	
1 -		52.1	52.1	52.1	59.1		
	11 GF		42.7	42.7	42.7	49.7	
1 -		42.7	42.7	42.7	49.7		
	12 GF		14.6	14.6	14.6	21.6	
1 -		14.6	14.6	14.6	21.6		
	13 GF		17.2	17.2	17.2	24.2	
1 -		17.2	17.2	17.2	24.2		
	14 GF		28.5	28.5	28.5	35.5	
1 -		28.5	28.5	28.5	35.5		

Emissions-speaker

		Frequency spectrum [dB(A)]																					
Source name	Reference Level	31	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1	1.3	1.6	2	2.5	3.2	
		dB(A)	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz								
1 Lw/unit	Day	116.7	77.2	89	95.4	98.5	97.8	96.7	96.7	97.4	99.4	101.2	103.2	105	106.6	107.4	107.8	107.3	106.4	105.1	103.7	102.3	100.6
1	Evening	116.7	77.2	89	95.4	98.5	97.8	96.7	96.7	97.4	99.4	101.2	103.2	105	106.6	107.4	107.8	107.3	106.4	105.1	103.7	102.3	100.6
1	Night	116.7	77.2	89	95.4	98.5	97.8	96.7	96.7	97.4	99.4	101.2	103.2	105	106.6	107.4	107.8	107.3	106.4	105.1	103.7	102.3	100.6

Corrections										
4 kHz	5 kHz	6.3 kHz	8 kHz	10 kHz	12.5 kHz	16 kHz	20 kHz	Cwall dB	CI dB	CT dB
98.9	96.9	94.3	91.1	86.2	78.2	63.8	51.5	-	-	-
98.9	96.9	94.3	91.1	86.2	78.2	63.8	51.5	-	-	-
98.9	96.9	94.3	91.1	86.2	78.2	63.8	51.5	-	-	-

Emissions-speaker-110

Source nar	Reference	Level	Frequency spectrum [dB(A)]																		
			31	40	50	63	80	100	125	160	200	250	315	400	500	630	800	1	1.3	1.6	
			dB(A)	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz		
1	Lw/unit	Day	96.7	57.2	69	75.4	78.5	77.8	76.7	76.7	77.4	79.4	81.2	83.2	85	86.6	87.4	87.8	87.3	86.4	85.1
1		Evening	96.7	57.2	69	75.4	78.5	77.8	76.7	76.7	77.4	79.4	81.2	83.2	85	86.6	87.4	87.8	87.3	86.4	85.1
1		Night	96.7	57.2	69	75.4	78.5	77.8	76.7	76.7	77.4	79.4	81.2	83.2	85	86.6	87.4	87.8	87.3	86.4	85.1

Corrections													
2 kHz	2.5 kHz	3.2 kHz	4 kHz	5 kHz	6.3 kHz	8 kHz	10 kHz	12.5 kHz	16 kHz	20 kHz	Cwall dB	CI dB	CT dB
83.7	82.3	80.6	78.9	76.9	74.3	71.1	66.2	58.2	43.8	31.5	-	-	-
83.7	82.3	80.6	78.9	76.9	74.3	71.1	66.2	58.2	43.8	31.5	-	-	-
83.7	82.3	80.6	78.9	76.9	74.3	71.1	66.2	58.2	43.8	31.5	-	-	-

Emissions-speaker-120

Source nar	Reference	Level	Frequency spectrum [dB(A)]																																
			31		40		50		63		80		100		125		160		200		250		315		400		500		630		800		1	1.3	1.6
			dB(A)	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	Hz	kHz	kHz	kHz							
1	Lw/unit	Day	106.7	67.2	79	85.4	88.5	87.8	86.7	86.7	87.4	89.4	91.2	93.2	95	96.6	97.4	97.8	97.3	96.4	95.1														
1		Evening	106.7	67.2	79	85.4	88.5	87.8	86.7	86.7	87.4	89.4	91.2	93.2	95	96.6	97.4	97.8	97.3	96.4	95.1														
1		Night	106.7	67.2	79	85.4	88.5	87.8	86.7	86.7	87.4	89.4	91.2	93.2	95	96.6	97.4	97.8	97.3	96.4	95.1														

Corrections													
2 kHz	2.5 kHz	3.2 kHz	4 kHz	5 kHz	6.3 kHz	8 kHz	10 kHz	12.5 kHz	16 kHz	20 dB	Cwall dB	Cl dB	CT dB
93.7	92.3	90.6	88.9	86.9	84.3	81.1	76.2	68.2	53.8	41.5	-	-	-
93.7	92.3	90.6	88.9	86.9	84.3	81.1	76.2	68.2	53.8	41.5	-	-	-
93.7	92.3	90.6	88.9	86.9	84.3	81.1	76.2	68.2	53.8	41.5	-	-	-

13	13 GF	Day	2.3	13.2	18.8	20.8	19	16.6	15.4	14.4	11.3	7.2	4.6	6.1	9.7	13	13.5	13	11.7	8.4	4.3	-1.3	-9.4
13	13 GF	Evening	2.3	13.2	18.8	20.8	19	16.6	15.4	14.4	11.3	7.2	4.6	6.1	9.7	13	13.5	13	11.7	8.4	4.3	-1.3	-9.4
13	13 GF	Night	2.3	13.2	18.8	20.8	19	16.6	15.4	14.4	11.3	7.2	4.6	6.1	9.7	13	13.5	13	11.7	8.4	4.3	-1.3	-9.4
13	13 GF	Lden	9.3	20.2	25.8	27.8	26	23.6	22.4	21.4	18.3	14.2	11.6	13.1	16.7	20	20.6	20	18.7	15.5	11.3	5.7	-2.4
14	14 GF	Day	11.4	22.3	27.6	29.4	27.6	25.5	24.6	24.3	25.2	25.9	26.8	27.5	28	27.6	26.8	25	22.6	17.1	9.4	0.4	-9.9
14	14 GF	Evening	11.4	22.3	27.6	29.4	27.6	25.5	24.6	24.3	25.2	25.9	26.8	27.5	28	27.6	26.8	25	22.6	17.1	9.4	0.4	-9.9
14	14 GF	Night	11.4	22.3	27.6	29.4	27.6	25.5	24.6	24.3	25.2	25.9	26.8	27.5	28	27.6	26.8	25	22.6	17.1	9.4	0.4	-9.9
14	14 GF	Lden	18.4	29.3	34.6	36.4	34.6	32.5	31.6	31.3	32.2	32.9	33.8	34.5	35	34.7	33.8	32	29.6	24.1	16.4	7.4	-2.9

4 kHz	5 kHz	6 kHz	8 kHz	10 kHz	12 kHz	16 kHz	20 kHz
45.5	42	37.5	31.7	23.2	10.6	-9.7	-29.3
45.5	42	37.5	31.7	23.2	10.6	-9.7	-29.3
45.5	42	37.5	31.7	23.2	10.6	-9.7	-29.3
52.5	49	44.5	38.7	30.3	17.6	-2.7	-22.3
0	-9	-22.5	-41.9	-70.5	-111.6	0	0
0	-9	-22.5	-41.9	-70.5	-111.6	0	0
0	-9	-22.5	-41.9	-70.5	-111.6	0	0
7.1	-2	-15.5	-34.9	-63.5	-104.6	0	0
0.4	-8.5	-21.8	-40.9	-69.1	-109.6	0	0
0.4	-8.5	-21.8	-40.9	-69.1	-109.6	0	0
0.4	-8.5	-21.8	-40.9	-69.1	-109.6	0	0
7.4	-1.5	-14.8	-33.9	-62.1	-102.6	0	0
14.1	9.2	1.6	-8.4	-23.3	-45.6	-78.3	-113.7
14.1	9.2	1.6	-8.4	-23.3	-45.6	-78.3	-113.7
14.1	9.2	1.6	-8.4	-23.3	-45.6	-78.3	-113.7
21.1	16.2	8.6	-1.4	-16.3	-38.5	-71.3	-106.7
6.2	-1.1	-11.8	-27	-49.4	-81.7	0	0
6.2	-1.1	-11.8	-27	-49.4	-81.7	0	0
6.2	-1.1	-11.8	-27	-49.4	-81.7	0	0
13.2	5.9	-4.8	-20	-42.3	-74.7	0	0
-3.6	-13.5	-28.3	-49.5	-80.7	0	0	0
-3.6	-13.5	-28.3	-49.5	-80.7	0	0	0
-3.6	-13.5	-28.3	-49.5	-80.7	0	0	0
3.4	-6.5	-21.3	-42.5	-73.7	-118.5	0	0
-13.6	-27.1	-47.3	-76.9	0	0	0	0
-13.6	-27.1	-47.3	-76.9	0	0	0	0
-13.6	-27.1	-47.3	-76.9	0	0	0	0
-6.6	-20.1	-40.3	-69.9	-113.3	0	0	0
-10.8	-22.3	-40.3	-65.3	-102.2	0	0	0
-10.8	-22.3	-40.3	-65.3	-102.2	0	0	0
-10.8	-22.3	-40.3	-65.3	-102.2	0	0	0
-3.8	-15.3	-33.3	-58.3	-95.2	0	0	0
-7.4	-19.4	-37.6	-63.5	-101.4	0	0	0
-7.4	-19.4	-37.6	-63.5	-101.4	0	0	0
-7.4	-19.4	-37.6	-63.5	-101.4	0	0	0
-0.4	-12.4	-30.6	-56.4	-94.4	0	0	0
38.1	32.3	23.9	12	-5.7	-31.5	-69.4	-111.2
38.1	32.3	23.9	12	-5.7	-31.5	-69.4	-111.2
38.1	32.3	23.9	12	-5.7	-31.5	-69.4	-111.2
45.1	39.3	30.9	19	1.3	-24.5	-62.4	-104.2
23.6	14.5	-0.4	-19.6	-48	-90.2	0	0
23.6	14.5	-0.4	-19.6	-48	-90.2	0	0
23.6	14.5	-0.4	-19.6	-48	-90.2	0	0
30.6	21.6	6.6	-12.6	-41	-83.2	0	0
-21.7	-35	-54.6	-82.7	0	0	0	0
-21.7	-35	-54.6	-82.7	0	0	0	0
-21.7	-35	-54.6	-82.7	0	0	0	0
-14.7	-28	-47.6	-75.7	-116.7	0	0	0

-20.6	-37.2	-62.4	-98.5	0	0	0	0
-20.6	-37.2	-62.4	-98.5	0	0	0	0
-20.6	-37.2	-62.4	-98.5	0	0	0	0
-13.6	-30.2	-55.4	-91.5	0	0	0	0
-19.3	-29.9	-44.8	-65.9	-96.3	0	0	0
-19.3	-29.9	-44.8	-65.9	-96.3	0	0	0
-19.3	-29.9	-44.8	-65.9	-96.3	0	0	0
-12.3	-22.9	-37.8	-58.8	-89.3	0	0	0

-3.6	-6.3	-9.3	-13.4	-19.3	-27.4	-39.4	-57.6	-83.5	0	0	0	0
-3.6	-6.3	-9.3	-13.4	-19.3	-27.4	-39.4	-57.6	-83.5	0	0	0	0
3.4	0.7	-2.3	-6.4	-12.3	-20.4	-32.4	-50.6	-76.4	-114	0	0	0
31.7	30	28	25.5	22.3	18.1	12.3	3.9	-8	-25.7	-51.5	-89.4	0
31.7	30	28	25.5	22.3	18.1	12.3	3.9	-8	-25.7	-51.5	-89.4	0
31.7	30	28	25.5	22.3	18.1	12.3	3.9	-8	-25.7	-51.5	-89.4	0
38.7	37	35	32.6	29.3	25.1	19.3	10.9	-1	-18.7	-44.5	-82.4	0
23.9	20.8	18.3	14.9	9.8	3.6	-5.5	-20.4	-39.6	-68	-110	0	0
23.9	20.8	18.3	14.9	9.8	3.6	-5.5	-20.4	-39.6	-68	-110	0	0
23.9	20.8	18.3	14.9	9.8	3.6	-5.5	-20.4	-39.6	-68	-110	0	0
30.9	27.8	25.3	22	16.8	10.6	1.6	-13.4	-32.6	-61	-103	0	0
-12.4	-16.3	-20.4	-25.5	-32.3	-41.7	-55	-74.6	-103	0	0	0	0
-12.4	-16.3	-20.4	-25.5	-32.3	-41.7	-55	-74.6	-103	0	0	0	0
-12.4	-16.3	-20.4	-25.5	-32.3	-41.7	-55	-74.6	-103	0	0	0	0
-5.4	-9.2	-13.3	-18.4	-25.3	-34.7	-48	-67.6	-95.7	0	0	0	0
-8.3	-11.6	-15.7	-21.3	-29.4	-40.6	-57.2	-82.4	-119	0	0	0	0
-8.3	-11.6	-15.7	-21.3	-29.4	-40.6	-57.2	-82.4	-119	0	0	0	0
-8.3	-11.6	-15.7	-21.3	-29.4	-40.6	-57.2	-82.4	-119	0	0	0	0
-1.3	-4.5	-8.7	-14.3	-22.4	-33.6	-50.2	-75.4	-112	0	0	0	0
2.6	-2.9	-10.6	-19.6	-29.9	-39.3	-49.9	-64.8	-85.9	-116	0	0	0
2.6	-2.9	-10.6	-19.6	-29.9	-39.3	-49.9	-64.8	-85.9	-116	0	0	0
2.6	-2.9	-10.6	-19.6	-29.9	-39.3	-49.9	-64.8	-85.9	-116	0	0	0
9.6	4.1	-3.6	-12.6	-22.9	-32.3	-42.9	-57.8	-78.8	-109	0	0	0

8	6.4	3.7	0.7	-3.4	-9.3	-17.4	-29.4	-47.6	-73.5	-111.4	0	0	0
8	6.4	3.7	0.7	-3.4	-9.3	-17.4	-29.4	-47.6	-73.5	-111.4	0	0	0
15	13.4	10.7	7.7	3.6	-2.3	-10.4	-22.4	-40.6	-66.4	-104.4	0	0	0
42.9	41.7	40	38	35.5	32.3	28.1	22.3	13.9	2	-15.7	-41.5	-79.4	0
42.9	41.7	40	38	35.5	32.3	28.1	22.3	13.9	2	-15.7	-41.5	-79.4	0
42.9	41.7	40	38	35.5	32.3	28.1	22.3	13.9	2	-15.7	-41.5	-79.4	0
49.9	48.7	47	45	42.6	39.3	35.1	29.3	20.9	9	-8.7	-34.5	-72.4	-114.2
32.2	33.9	30.8	28.3	24.9	19.8	13.6	4.5	-10.4	-29.6	-58	-100.2	0	0
32.2	33.9	30.8	28.3	24.9	19.8	13.6	4.5	-10.4	-29.6	-58	-100.2	0	0
32.2	33.9	30.8	28.3	24.9	19.8	13.6	4.5	-10.4	-29.6	-58	-100.2	0	0
39.2	40.9	37.8	35.3	32	26.8	20.6	11.6	-3.4	-22.6	-51	-93.2	0	0
0.8	-2.4	-6.3	-10.4	-15.5	-22.3	-31.7	-45	-64.6	-92.7	0	0	0	0
0.8	-2.4	-6.3	-10.4	-15.5	-22.3	-31.7	-45	-64.6	-92.7	0	0	0	0
0.8	-2.4	-6.3	-10.4	-15.5	-22.3	-31.7	-45	-64.6	-92.7	0	0	0	0
7.8	4.6	0.8	-3.3	-8.4	-15.3	-24.7	-38	-57.6	-85.7	0	0	0	0
3	1.7	-1.6	-5.7	-11.3	-19.4	-30.6	-47.2	-72.4	-108.5	0	0	0	0
3	1.7	-1.6	-5.7	-11.3	-19.4	-30.6	-47.2	-72.4	-108.5	0	0	0	0
3	1.7	-1.6	-5.7	-11.3	-19.4	-30.6	-47.2	-72.4	-108.5	0	0	0	0
10	8.7	5.5	1.3	-4.3	-12.4	-23.6	-40.2	-65.4	-101.5	0	0	0	0
15	12.6	7.1	-0.6	-9.6	-19.9	-29.3	-39.9	-54.8	-75.9	-106.3	0	0	0
15	12.6	7.1	-0.6	-9.6	-19.9	-29.3	-39.9	-54.8	-75.9	-106.3	0	0	0
15	12.6	7.1	-0.6	-9.6	-19.9	-29.3	-39.9	-54.8	-75.9	-106.3	0	0	0
22	19.6	14.1	6.4	-2.6	-12.9	-22.3	-32.9	-47.8	-68.8	-99.3	0	0	0

APPENDIX C

PROPOSED SPEAKER SPECIFICATIONS



JBL Dual EON615 Powered Speaker Pro Kit with Stands, Covers, Bag, and Cables

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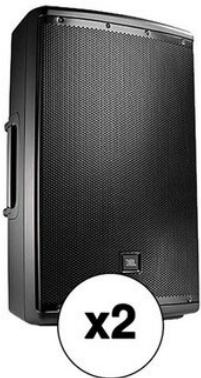
JBL Dual EON615 Powered Speaker Pro Kit with Stands, Covers, Bag, and Cables



BH #JBEON615K2 (B&H Kit)

5 reviews

| 5 Questions, 12 Answers

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Speaker Type | Driver Size

2-Way | 10"

2-Way | 12"

2-Way | 15"

Subwoofer | 18"

Configuration

Pair With Pro PA Kit

12 Month Promo Financing Available*On purchases of \$599 or more made with the
B&H financing credit card. [Learn More](#) >

Key Features

- Two JBL EON615 - 15" Powered Speakers
- Two Steel Speaker Stands
- Two Speaker Covers
- Speaker Stand Bag

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This B&H Kit combines a pair of JBL EON615 Two-Way 15" 1000W Powered Portable PA Speakers with two speaker stands, two speaker covers, two premium mic cables, and a speaker stand bag to create a complete portable PA solution with protection from on-the-go.

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JBL Dual EON615 Powered Speaker Pro Kit with Stands, Covers, Bag, and Cables

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JBL EON615 Two-Way 15" 1000W Powered Portable PA Speaker With Bluetooth Control Specs

PA Speaker

Configuration	Active 2-Way
Enclosure Type	Bass-Reflex Loudspeaker
Total Power Capacity	1000 W Peak 500 W Program
Amplifier Power Rating	LF: 700 W Peak 350 W Program HF: 300 W Peak 150 W Program
Amplifier Class	Class-D

Drivers

HF Driver	1 x 1" / 25.4 mm Horn-Loaded Polymer Compression Driver
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JBL Dual EON615 Powered Speaker Pro Kit with Stands, Covers, Bag, and Cables

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Magnet

HF:
Neodymium

Performance

Frequency Range 39 Hz to 20 kHz -10 dB

Frequency Response 50 Hz to 20 kHz ±3 dB

Maximum SPL 127 dB

Coverage Angle 90° H x 50° V

Max Input Level
Mic Input:
-4 dBu (Balanced)
Line Input:
+14 dBu (Balanced)**Gain Range**
Line Input:
0 to 26.8 dBu
Mic Input:
0 to 29 dBu**I/O Impedance**
Input:
20 Kilohms (Balanced)

Connectivity

Audio I/O
2 x Combo XLR-1/4" TRS Female
Balanced/Unbalanced Mic/Line Input
1 x XLR 3-Pin Male Balanced Line Thru

Wireless Connectivity Bluetooth

Signal Processing

Crossover 1.8 kHz

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JBL Dual EON615 Powered Speaker Pro Kit with Stands, Covers, Bag, and Cables

[Add to Cart](#)**1 x HF Speaker****Parametric EQ** Yes**Digital Signal Processing** Voicing Modes

Power

AC Input Power **Universal:**
100 to 240 VAC, 50 / 60 Hz**AC Power Connector** **1 x IEC****Current Consumption** **120 VAC:**
1.14 A (1/8 Power)
1.71 A (1/4 Power)
2.03 A (1/3 Power)

Physical

Mounting **1 x 1.38" / 35 mm Pole Socket (Bottom)**
3 x M10 Fly Point**Handles** 4**Construction Material** Perforated Metal Grille, Polypropylene**Dimensions** 27.8 x 17.3 x 14.4" / 70.6 x 43.9 x 36.6 cm**Weight** 39 lb / 17.7 kg

Packaging Info

Package Weight 46 lb**Box Dimensions (LxWxH)** 30.75 x 18.5 x 16"

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JBL Dual EON615 Powered Speaker Pro Kit with Stands, Covers, Bag, and Cables

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Auray Speaker Stand Specs

Type	Speaker Stand
Load Capacity	100 lb / 45.4 kg
Mount Size	1-3/8" 1-1/2"
Height Adjustment Range	47 to 78" / 120 to 198 cm
Material of Construction	Aluminum
Weight	5 lb / 2.3 kg

Packaging Info

Package Weight	4.9 lb
Box Dimensions (LxWxH)	42 x 5.3 x 5"

Auray Speaker Stand Bag 51" Interior (Black) Specs

Physical

Material	Nylon
Type of Closure	Zipper
Exterior Dimensions (H x W x D)	52 x 5 x 10.5" / 132.1 x 12.7 x 26.7 cm
Carrying/Transport Options	Dual carry handles with padded touch-fastener wrap
Weight	1.2 lb / 0.5 kg

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JBL Dual EON615 Powered Speaker Pro Kit with Stands, Covers, Bag, and Cables

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Package Weight 1.11 lb

Box Dimensions (LxWxH) 17.4 x 12.25 x 1.7"

Kopul Premium Performance 3000 Series XLR Male To XLR Female Microphone Cable (20', Black) Specs

Connector 1 3-Pin XLR Male

Connector 2 3-Pin XLR Female

Cable Length 20' / 6.1 m

Shielding 95% Spiral

Wire Gauge 24 AWG

Contact Plating Silver

Packaging Info

Package Weight 0.765 lb

Box Dimensions (LxWxH) 11.6 x 11.2 x 1.15"

JBL BAGS EON615-CVR 5 Mm Padding/Water Resistant/ Cover For EON615 (Black) Specs

Physical

Type Cover

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JBL Dual EON615 Powered Speaker Pro Kit with Stands, Covers, Bag, and Cables

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Package Weight	1.8 lb
Box Dimensions (LxWxH)	18.1 x 15.2 x 3.6"

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