

# **CP20051 NEW RESERVOIR 5B-2 NOISE STUDY**

City of Rancho Cucamonga

July 8, 2022



Traffic Engineering • Transportation Planning • Parking • Noise & Vibration  
Air Quality • Global Climate Change • Health Risk Assessment

# CP20051 NEW RESERVOIR 5B-2 NOISE STUDY

City of Rancho Cucamonga

July 8, 2022

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Project No. 19491

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## EXECUTIVE SUMMARY

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The purpose of this report is to provide an assessment of the noise impacts associated with construction of the proposed CP20051 New Reservoir 5B-2 project and to identify mitigation measures that may be necessary to reduce those impacts. The noise issues related to the proposed land use and development have been evaluated in light of applicable federal, state and local policies, including those of the City of Rancho Cucamonga.

Although this is a technical report, effort has been made to write the report clearly and concisely. A list of acronyms and glossary are provided in Appendix A and Appendix B of this report to assist the reader with technical terms related to noise analysis.

### *Proposed Project*

The CP20051 Reservoir is located west of Mayberry Street between Hidden Farm Road and Carrari Street in the City of Rancho Cucamonga, California.

The Cucamonga Valley Water District's (CVWD) New Reservoir 5B-2 Construction project is the construction of Reservoir 5B-2, which will be a 3.4 million gallon (MG) welded steel tank. The new Reservoir 5B-2 will be built adjacent to the existing Reservoir 5B-1, a 1.0 MG welded steel tank constructed in 1975.

### *Construction Impacts*

Construction noise sources are regulated within the City of Rancho Cucamonga under Section 17.66.050(D) of the City's Municipal Code which exempts noise associated with construction activities provided the following:

- When adjacent to a residential land use, school, church or similar type of use, the noise generating activity does not take place between the hours of 8:00 PM and 7:00 AM on weekdays, including Saturday, or at any time on Sunday or a national holiday, and provided noise levels created do not exceed the noise standard of 65 dBA when measured at the adjacent property line.
- When adjacent to a commercial or industrial use, the noise generating activity does not take place between the hours of 10:00 PM and 6:00 AM on weekdays, including Saturday and Sunday, and provided noise levels created do not exceed the noise standards of 70 dBA when measured at the adjacent property line.

The proposed project will have a significant impact if it occurs outside of the permitted daytime hours and does not meet the applicable standards outlined above (Section 17.66.050(D) of the Rancho Cucamonga City Code).

Noise associated with project construction noise could reach up to 75.5 dBA  $L_{eq}$  at the nearest residential property line to the north, 75.3 dBA  $L_{eq}$  at the nearest residential property line to the west, 66 dBA  $L_{eq}$  at the nearest residential property line to the south, 75.5 dBA  $L_{eq}$  at the nearest residential property line to the southeast, and up to 67.1 dBA  $L_{eq}$  at the nearest residential property line to the east of the construction work area. BMPs proposed as part of the project will reduce construction equipment noise levels so they will not exceed 65 dBA  $L_{eq}$  at surrounding existing residential property lines. The project will be consistent with City Code Section 17.66.050(D) and impacts would be less than significant. No mitigation is required.

# 1. INTRODUCTION

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## PURPOSE AND OBJECTIVES

The purpose of this study is to describe the existing environmental noise setting within the CP20051 New Reservoir 5B-2 and the surrounding area. The noise setting has been discussed in light of applicable federal, state, and local policies, including those of the City of Rancho Cucamonga.

Although this is a technical report, effort has been made to write the report clearly and concisely. A list of acronyms and glossary are provided in Appendix A and Appendix B of this report to assist the reader with technical terms related to noise analysis.

## PROJECT LOCATION

The CP20051 Reservoir is located west of Mayberry Street between Hidden Farm Road and Carrari Street in the City of Rancho Cucamonga, California. A vicinity map showing the project location is provided on Figure 1.

## PROJECT DESCRIPTION

The Cucamonga Valley Water District's (CVWD) New Reservoir 5B-2 Construction project is the construction of Reservoir 5B-2, which will be a 3.4 million gallon (MG) welded steel tank. The new Reservoir 5B-2 will be built adjacent to the existing Reservoir 5B-1, a 1.0 MG welded steel tank constructed in 1975. The proposed site plan is shown in Figure 2.

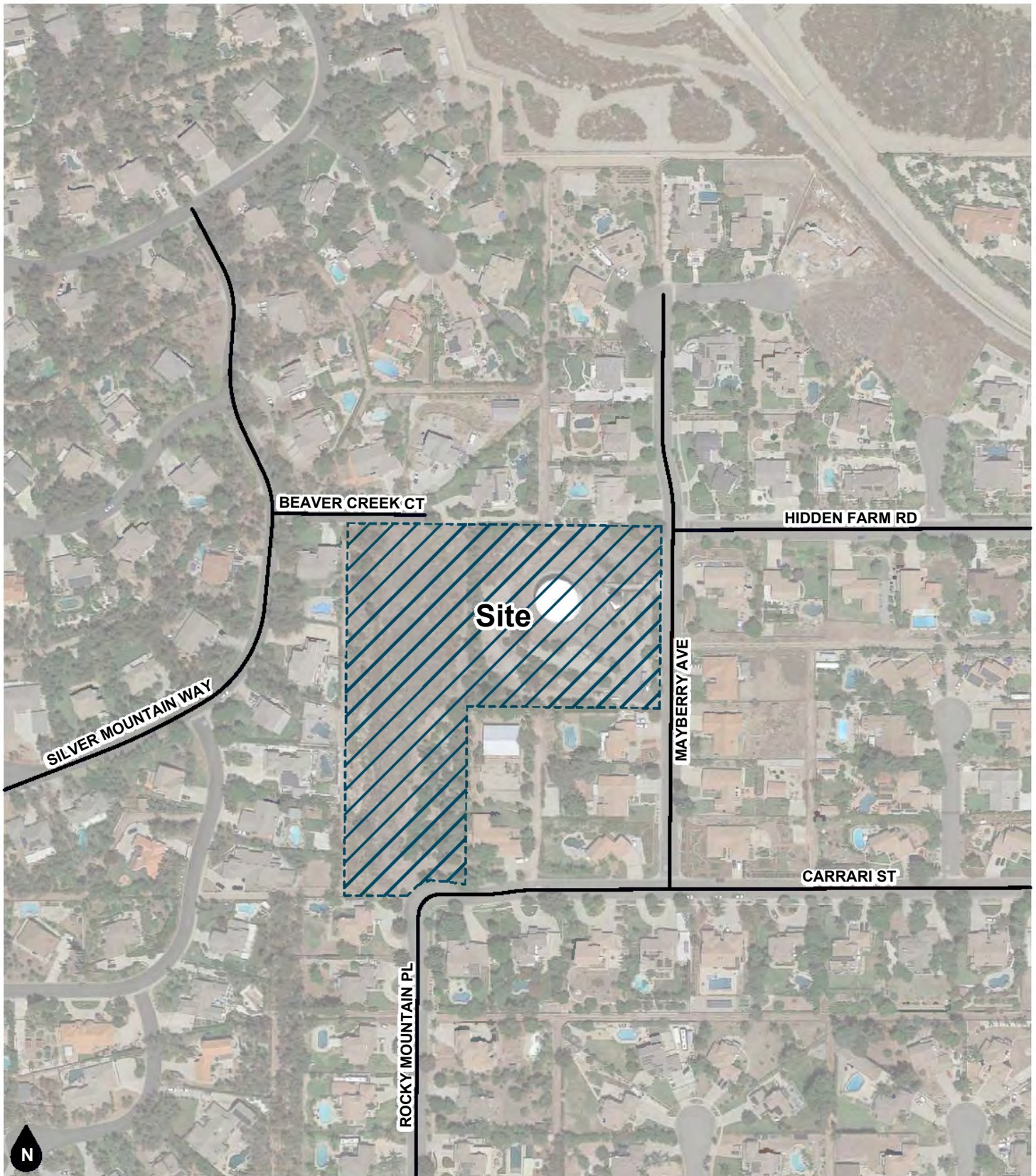
## Best Management Practices

The proposed project is located adjacent to existing residential land uses; therefore, per Section 17.66.050(D) of the City's Municipal Code, construction activities will occur only between the hours of 7:00 AM and 8:00 AM on weekdays and Saturdays. All proposed construction activity will only be conducted when the following BMPs are implemented to ensure that construction noise levels do not exceed 65 dBA at adjacent residential property lines. These BMPs will apply to construction, alteration or repair activities, staging in the staging area, and delivery of materials.

1. Project BMPs include but not limited to use of alternative equipment, muffled equipment, and temporary barriers as provided below:
  - While in use, construction equipment will either be substituted with quieter equipment, surrounded by a solid barrier, or use mufflers that provide at least 11 dB of sound reduction over the assumed noise source levels provided in Table 6. These measures can be combined/modified to achieve the needed sound reduction and equipment enclosures can also be utilized to achieve the desired reduction.
  - Solid sound barriers and/ or blankets that are to be used to reduce noise levels will not have any holes or cracks with the exception of openings for access, which will be placed in a manner that does not interrupt the solid barrier between the noise source and the affected sensitive receptor(s).
2. All construction equipment, fixed or mobile, will have properly operating and maintained mufflers.
3. All stationary construction equipment will be oriented in such a manner so that emitted noise is directed away from the noise sensitive receptors nearest the project site.

4. High noise-producing activities between will be scheduled between the hours of 7:00 AM and 8:00 PM Monday through Friday and Saturdays.
5. Equipment will be shut off and not left to idle when not in use.
6. The contractor will locate equipment staging in areas that will create the greatest distance between construction-related noise sources and sensitive receptors nearest the project site during all project construction.
7. Jackhammers, pneumatic equipment and all other portable stationary noise sources will be shielded using acoustic enclosures/or acoustical tents with required reductions.
8. The construction contractor will prohibit the use of music or sound amplification on the project site during construction.
9. The construction contractor will limit haul truck deliveries to the same hours specified for construction equipment.
10. For the duration of construction activities, the construction manager will serve as the contact person should noise levels cause annoyance to local residents. A sign will be posted at the project site with the contact phone number.





**Figure 1**  
**Project Location Map**



CP 20051 New Reservoir 5B-2  
Noise Impact Analysis  
19491



## 2. NOISE FUNDAMENTALS

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### NOISE FUNDAMENTALS

Sound is a pressure wave created by a moving or vibrating source that travels through an elastic medium such as air. Noise is defined as unwanted or objectionable sound. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and in extreme circumstances, hearing impairment.

Commonly used noise terms are presented in Appendix B. The unit of measurement used to describe a noise level is the decibel (dB). The human ear is not equally sensitive to all frequencies within the sound spectrum. Therefore, the “A-weighted” noise scale, which weights the frequencies to which humans are sensitive, is used for measurements. Noise levels using A-weighted measurements are written dB(A) or dBA.

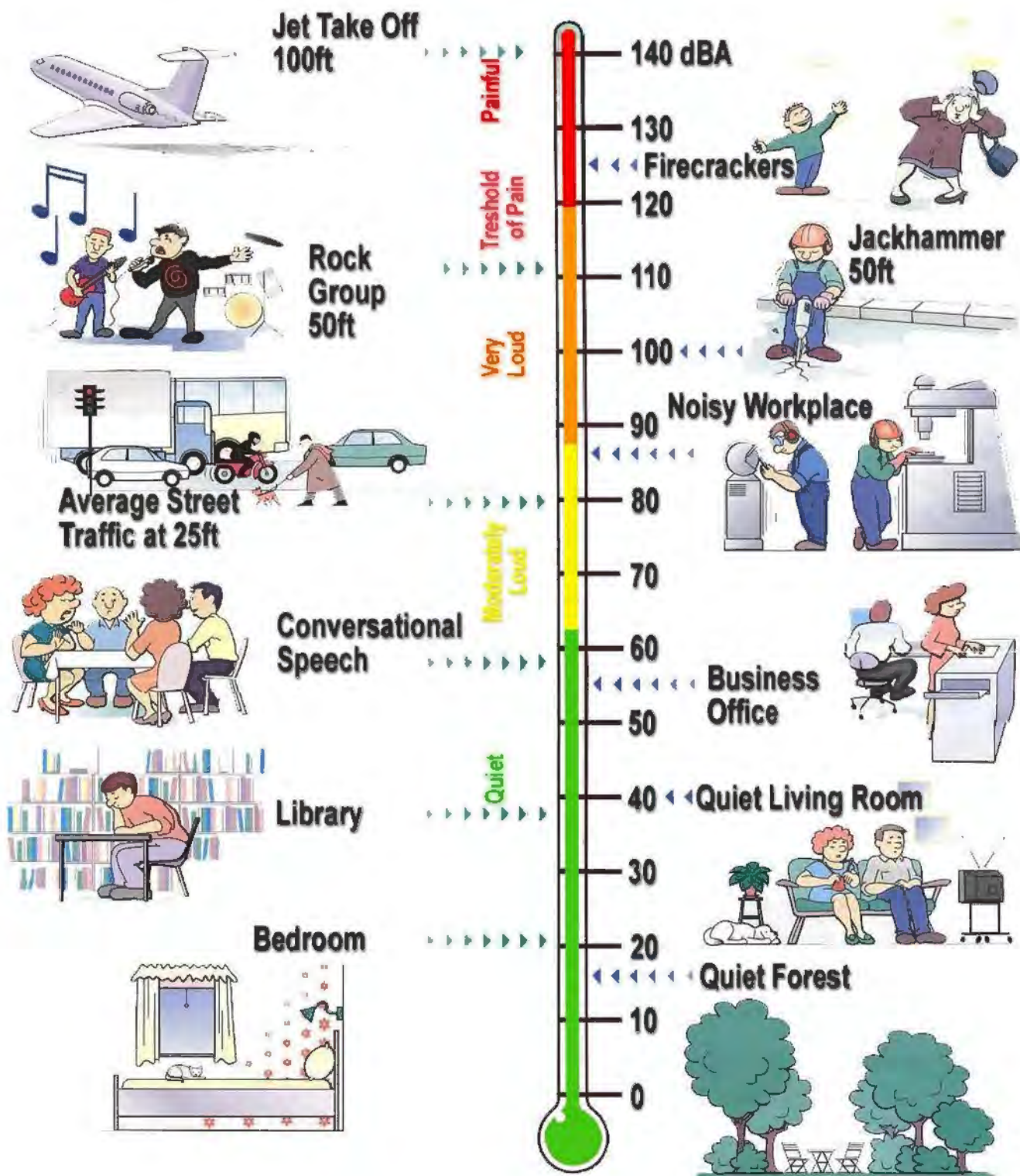
From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in noise as the distance from the source increases. The manner in which noise reduces with distance depends on whether the source is a point or line source as well as ground absorption, atmospheric effects and refraction, and shielding by natural and manmade features. Sound from point sources, such as air conditioning condensers, radiates uniformly outward as it travels away from the source in a spherical pattern. The noise drop-off rate associated with this geometric spreading is 6 dBA per each doubling of the distance (dBA/DD). Transportation noise sources such as roadways are typically analyzed as line sources, since at any given moment the receiver may be impacted by noise from multiple vehicles at various locations along the roadway. Because of the geometry of a line source, the noise drop-off rate associated with the geometric spreading of a line source is 3 dBA/DD.

Decibels are measured on a logarithmic scale, which quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as a doubled traffic volume, would increase the noise levels by 3 dBA; halving of the energy would result in a 3 dBA decrease. Figure 3 shows the relationship of various noise levels to commonly experienced noise events.

Average noise levels over a period of minutes or hours are usually expressed as dBA Leq, or the equivalent noise level for that period of time. For example,  $Leq_{(3-hr)}$  would represent a 3-hour average. When no period is specified, a one-hour average is assumed.

Noise standards for land use compatibility are stated in terms of the Community Noise Equivalent Level (CNEL) and the Day-Night Average Noise Level (DNL). CNEL is a 24-hour weighted average measure of community noise. CNEL is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours. DNL is a very similar 24-hour average measure that weights only the nighttime hours.

It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA; that a change of 5 dBA is readily perceptible, and that an increase (decrease) of 10 dBA sounds twice (half) as loud. This definition is recommended by the California Department of Transportation’s Technical Noise Supplement to the Traffic Noise Analysis Protocol (2013).



**Figure 3**  
**Weighted Sound Levels in Common Environments**

Source: Bruel & Kjaer 2001

### 3. EXISTING NOISE ENVIRONMENT

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The existing predominant source of noise in the City of Rancho Cucamonga is vehicular traffic. Roadways with the highest traffic volumes and speeds generally produce the highest noise levels, which, in the City of Rancho Cucamonga, include the Interstate-15 and State Route-210 freeways as well as Foothill Boulevard and Base Line Road. In addition, industrial land uses located near residential areas generate occasional noise impacts within the City. Other noise sources that affect sensitive receptors in the city include commercial land uses or those often associated with and/or secondary to residential development, including nightclubs, outdoor dining areas, gas stations, car washes, drive throughs, fire stations, air conditioning units, swimming pool pumps, school playgrounds, athletic and music events, and public parks. Other significant stationary noise sources in the City include construction activities, aircrafts, and rail lines. Most of the noise impacts from these stationary sources are temporary and intermittent.<sup>1</sup>

#### EXISTING LAND USES AND SENSITIVE RECEPTORS

The project site is bordered by single-family residential uses to the north, single-family residential uses to the west, Carrari Street and single-family residential uses to the south, and Mayberry Avenue and single-family residential uses to the east of the project site.

The State of California defines sensitive receptors as those land uses that require serenity or are otherwise adversely affected by noise events or conditions. Schools, libraries, churches, hospitals, single and multiple-family residential, including transient lodging, motels and hotel uses make up the majority of these areas. Furthermore, the City of Rancho Cucamonga Draft 2040 General Plan states that noise sensitive land uses include those uses where noise exposure could result in health-related risks to individuals and/or places where quiet is an essential element of the intended use and include residences; parks; schools; historic sites; cemeteries; recreation areas; places of worship; transit lodging; and other places where low interior noise levels are essential are also considered noise sensitive.

Existing sensitive land uses in the project area that may be affected by project noise include the existing single-family residential uses surrounding the project site boundaries.

#### AMBIENT NOISE MEASUREMENTS

An American National Standards Institute (ANSI Section S1.4 2014 Class 1) Larson Davis model LxT sound level meter was used to document existing ambient noise levels. In order to document existing ambient noise levels in the project area, seven (7) 15-minute daytime noise measurements were taken between 11:59 AM and 4:40 PM on April 25, 2022. In addition, one (1) long-term 24-hour noise measurement was also taken from April 25, 2022, to April 26, 2022. Field worksheets and noise measurement output data are included in Appendix C.

As shown in Figure 4, the noise meter was placed at the following locations:

- STNM1: represents the existing noise environment of the single-family residential uses to the north of the boundaries of the project site (10236 Beaver Creek Court, Rancho Cucamonga). The noise meter was placed along the northern project boundary just south of the southern property line of the residence.
- STNM2: represents the existing noise environment of the single-family residential uses to the south of the boundaries of the project site along Mayberry Avenue (5220 Mayberry Avenue, Alta Loma). The noise meter was placed along the southern project boundary just north of the northern property line of the residence.

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<sup>1</sup> Rancho Cucamonga General Plan Update Draft Environmental Impact Report, Section 5.13 Noise.

- STNM3: represents the existing noise environment of the single-family residential uses located near the intersection of Almond Street and Mayberry Avenue to the northeast of the boundaries of the project site (5058 Mayberry Avenue, Rancho Cucamonga). The noise meter was placed just north of Almond Street near the single-family residence's southern property line.
- STNM4: represents the existing noise environment of the single-family residential uses to the east of the boundaries of the project site along Mayberry Avenue (5191 Mayberry Avenue, Alta Loma). The noise meter was placed just southeast of the intersection of Hidden Farm Road and Mayberry Avenue near the northern property line of the residence.
- STNM5: represents the existing noise environment of the single-family residential uses to the southeast of the boundaries of the project site along Mayberry Avenue (5235 Mayberry Avenue, Rancho Cucamonga). The noise meter was placed just east of Mayberry Avenue near the western property line of the residence.
- STNM6: represents the existing noise environment of the single-family residential uses located to the south of the boundaries of the project site along Carrari Street and Rocky Mountain Place (5200 Rocky Mountain Place, Rancho Cucamonga). The noise meter was placed along the southern boundary of the project site just northeast of the northern property line of the residence.
- STNM7: represents the existing noise environment of the single-family residential uses to the west of the boundaries of the project site (5167 Silver Mountain Way, Rancho Cucamonga). The noise meter was placed along the western project boundary within a walking path located adjacent to the eastern property line of the residence.
- LTNM1: represents the existing noise environment of the project site. The noise meter was placed along the northern boundary of the project site near to single-family residential uses to the north of the project site along Beaver Creek Court.

Table 1 provides a summary of the short-term ambient noise data. Table 2 provides hourly interval ambient noise data from the long-term noise measurement. Short-term ambient noise levels were measured between 38.5 and 51.1 dBA  $L_{eq}$ . Long-term hourly noise measurement ambient noise levels ranged from 33.6 to 46.9 dBA  $L_{eq}$ . The dominant noise source was bird song and other wildlife, a residential pool water pump, and vehicle traffic associated with Almond Street, Mayberry Avenue, Hidden Farm Road, Carrari Street, and Rocky Mountain Place.



**Table 1**  
**Short-Term Noise Measurement Summary (dBA)**

Site Location	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
STNM1	11:59 AM	38.5	51.9	32.1	45.5	42.5	38.6	35.7
STNM2	1:07 PM	49.8	60.7	48.5	52.7	50.7	49.7	49.4
STNM3	2:40 PM	43.8	59	34.6	52.9	48.5	41.6	38.8
STNM4	3:07 PM	45.9	64.2	33.7	56.2	49	40.6	37.9
STNM5	3:30 PM	51.1	67.4	34	61.9	56	44.7	40.6
STNM6	3:56 PM	46.9	62.4	33.6	53.9	51.2	47.7	43.6
STNM7	4:25 PM	45.4	61.1	37.1	51.0	48.4	45.9	44.1

Notes:

- (1) See Figure 5 for noise measurement locations. Each noise measurement was performed over a 15-minute duration.  
(2) Noise measurements performed on April 25, 2022.

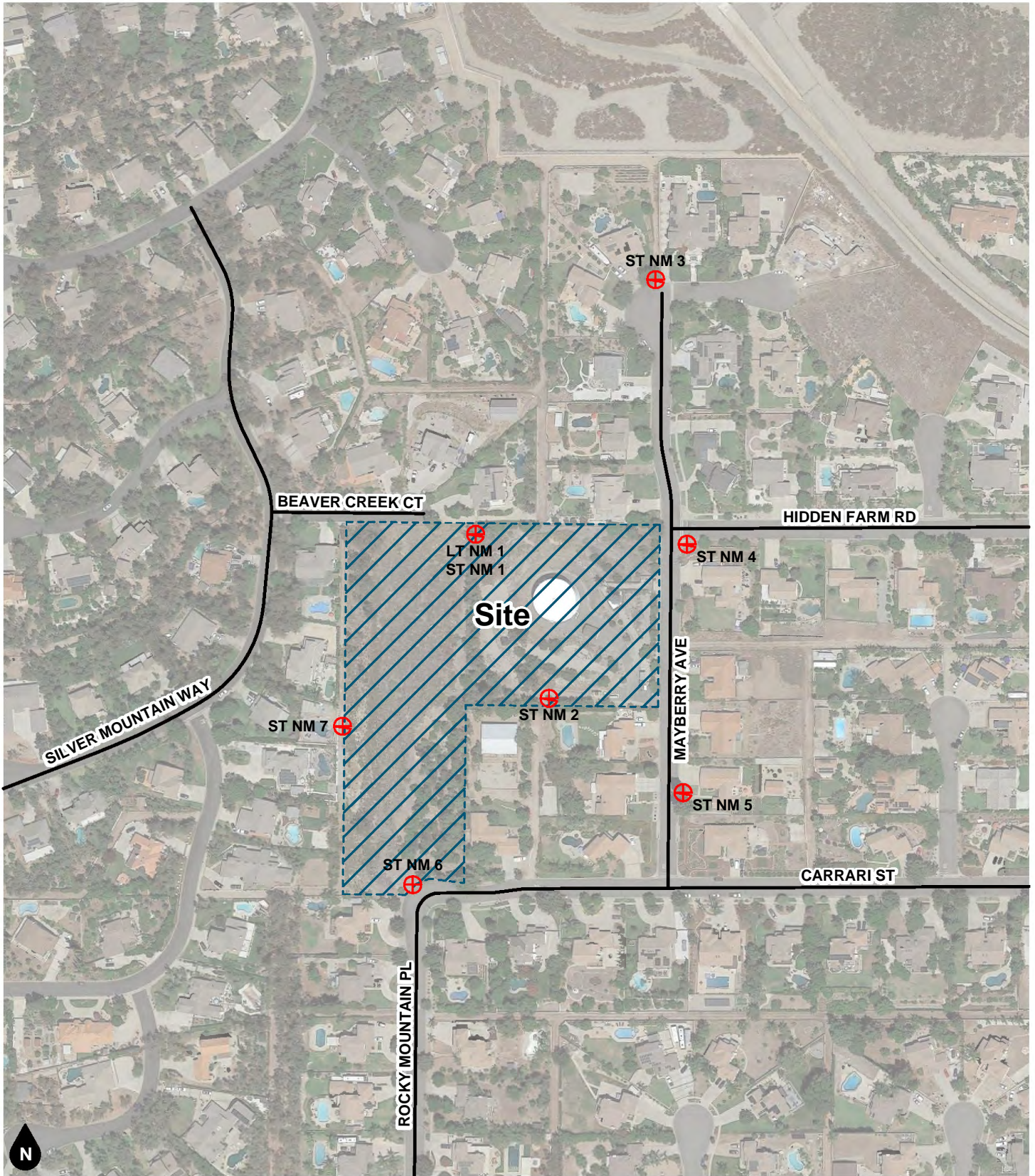
**Table 2**  
**Long-Term Noise Measurement Summary (LTNM1) (dBA)**

24-Hour Ambient Noise <sup>1,2</sup>								
Hourly Measurements	Time Started	Leq	Lmax	Lmin	L(2)	L(8)	L(25)	L(50)
Overall Summary	12:00 PM	41.6	65.2	27.4	49.5	44.6	40.8	36.6
1	12:00 PM	44.7	62.2	29.3	55.0	47.9	41.3	36.4
2	1:00 PM	41.4	63.1	27.4	51.7	42.9	39.8	35.0
3	2:00 PM	42.8	64.2	29.3	51.4	45.3	41.7	35.1
4	3:00 PM	44.5	64.1	30.5	53.5	46.6	42.5	39.1
5	4:00 PM	46.9	61.2	33.9	54.5	51.2	47.3	43.9
6	5:00 PM	44.7	57.5	33.8	51.8	48.0	44.8	42.9
7	6:00 PM	42.2	55.6	32.5	49.1	45.2	42.8	41.0
8	7:00 PM	41.0	54.6	32.7	46.8	44.8	42.5	37.5
9	8:00 PM	41.9	53.1	33.8	48.0	44.9	42.6	41.1
10	9:00 PM	38.5	51.2	33.1	43.7	42.5	38.4	36.7
11	10:00 PM	38.0	52.4	31.7	45.2	42.4	37.4	35.6
12	11:00 PM	38.0	52.7	31.2	45.3	42.4	37.9	35.5
13	12:00 AM	35.2	46.5	30.2	40.8	37.9	35.5	34.0
14	1:00 AM	33.6	46.0	29.8	39.0	35.6	33.8	32.6
15	2:00 AM	35.0	44.8	30.8	39.4	36.9	35.3	34.2
16	3:00 AM	34.9	48.5	30.3	39.4	39.0	34.7	33.3
17	4:00 AM	34.7	43.6	30.8	38.7	37.0	35.1	34.1
18	5:00 AM	38.8	58.9	31.6	44.8	41.0	39.1	36.4
19	6:00 AM	40.4	52.6	33.4	47.6	44.1	40.6	38.1
20	7:00 AM	40.6	50.1	31.9	46.4	43.8	41.3	39.3
21	8:00 AM	44.2	65.2	30.8	53.4	43.2	38.1	36.1
22	9:00 AM	42.7	63.6	31.0	51.4	44.2	38.1	35.1
23	10:00 AM	38.9	54.3	31.3	45.7	42.8	39.4	35.9
24	11:00 AM	41.6	57.7	32.4	48.5	44.8	42.2	38.8


Notes:

- (1) See Figure 5 for noise measurement locations. Noise measurement was performed over a 24-hour duration.
- (2) Noise measurement performed from April 25, 2022 to April 26, 2022.





**Legend**

 Noise Measurement Location

**NM 1**

**ST NM** Short-Term Noise Measurement

**LT NM** Long-Term Noise Measurement

**Figure 4**  
**Noise Measurement Location Map**



## 4. REGULATORY SETTING

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### FEDERAL REGULATION

#### **Federal Noise Control Act of 1972**

The U.S. Environmental Protection Agency (EPA) Office of Noise Abatement and Control was originally established to coordinate federal noise control activities. After its inception, EPA's Office of Noise Abatement and Control issued the Federal Noise Control Act of 1972, establishing programs and guidelines to identify and address the effects of noise on public health, welfare, and the environment. In response, the EPA published Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (Levels of Environmental Noise). The Levels of Environmental Noise recommended that the Ldn should not exceed 55 dBA outdoors or 45 dBA indoors to prevent significant activity interference and annoyance in noise-sensitive areas.

In addition, the Levels of Environmental Noise identified five (5) dBA as an "adequate margin of safety" for a noise level increase relative to a baseline noise exposure level of 55 dBA Ldn (i.e., there would not be a noticeable increase in adverse community reaction with an increase of five dBA or less from this baseline level). The EPA did not promote these findings as universal standards or regulatory goals with mandatory applicability to all communities, but rather as advisory exposure levels below which there would be no risk to a community from any health or welfare effect of noise.

In 1981, EPA administrators determined that subjective issues such as noise would be better addressed at lower levels of government. Consequently, in 1982 responsibilities for regulating noise control policies were transferred to State and local governments. However, noise control guidelines and regulations contained in EPA rulings in prior years remain in place by designated Federal agencies, allowing more individualized control for specific issues by designated Federal, State, and local government agencies.

### LOCAL REGULATIONS

#### **City of Rancho Cucamonga General Plan**

PlanRC, the City's General Plan update, was adopted on December 15, 2021. Volume 3 of the PlanRC includes noise related goals and policies. The goals and policies from Volume 3 of the PlanRC that are applicable to the proposed project are listed below.

- |                 |   |
|-----------------|---|
| <b>Goal N-1</b> | Noise. A city with appropriate noise and vibration levels that support a range of places from quiet neighborhoods to active, exciting districts.  |
| Policy N-1.2    | Noise Barriers, Buffers and Sound Walls. Require the use of integrated design-related noise reduction measures for both interior and exterior areas prior to the use of noise barriers, buffers, or walls to reduce noise levels generated by or affected by new development. |
| Policy N-1.3    | Non-Architectural Noise Attenuation. Non-architectural noise attenuation measures such as sound walls, setbacks, barriers, and berms shall be discouraged in pedestrian priority areas (or other urban areas or areas where pedestrian access is important).                  |

#### **City of Rancho Cucamonga Municipal Code**

Section 17.66.050 Noise Standards of the City's Municipal Code regulates environmental noise in the city. The guidelines applicable to the proposed project are summarized below.



*Section 17.66.050 (F) Residential Noise Standards*

1. Table 3 (Residential Noise Limits) includes the maximum noise limits in residential zones. These are the noise limits when measured at the adjacent residential property line (exterior) or within a neighboring home (interior).

*Section 17.66.050 (D) Special Exclusions*

The following activities shall be exempted from the provisions of this section:

4. Noise sources associated with, or vibration created by, construction, repair, remodeling, or grading of any real property or during authorized seismic surveys, provided said activities:
  - a. When adjacent to a residential land use, school, church or similar type of use, the noise generating activity does not take place between the hours of 8:00 PM and 7:00 AM on weekdays, including Saturday, or at any time on Sunday or a national holiday, and provided noise levels created do not exceed the noise standard of 65 dBA when measured at the adjacent property line.
  - b. When adjacent to a commercial or industrial use, the noise generating activity does not take place between the hours of 10:00 PM and 6:00 AM on weekdays, including Saturday and Sunday, and provided noise levels created do not exceed the noise standards of 70 dBA when measured at the adjacent property line.

**Table 3**  
**City of Rancho Cucamonga Residential Noise Limits**

Location of Measurement	Maximum Allowable	
	10:00 PM to 7:00 AM	7:00 AM to 10:00 PM
Exterior	60 dBA	65 dBA
Interior	45 dBA	50 dBA

Source: Rancho Cucamonga Municipal Code Section 17.66.050(F).

(A) It shall be unlawful for any person at any location within the city to create any noise or to allow the creation of any noise which causes the noise level when measured within any other fully enclosed (windows and doors shut) residential dwelling unit to exceed the interior noise standard in the manner described herein.

(B) 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 determined, each of the noise limits above shall be reduced five dBA for noise consisting of impulse or simple tone noise.

## 5. ANALYTICAL METHODOLOGY AND MODEL PARAMETERS

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This section discusses the analysis methodologies used to assess noise impacts.

### CONSTRUCTION NOISE MODELING

Construction noise associated with the proposed project was calculated at the sensitive receptor locations, utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. The equipment used to calculate the construction noise levels for each phase were based on the assumptions provided in the CalEEMod modeling provided in the Air Quality Study prepared for the proposed project (Lilburn Corporation, 2022). For construction noise purposes, the distance measured from the project site to sensitive receptors was assumed to be the acoustical center of the construction work area to the property line of residential properties with existing residential buildings. Sound emission levels associated with typical construction equipment as well as typical usage factors provided in Table 4 were utilized for modeling purposes. Construction noise worksheets are provided in Appendix D.

## 6. IMPACT ANALYSIS

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This impact discussion analyzes the potential for noise impacts to cause the exposure of a person to, or generation of, noise levels in excess of established City of Rancho Cucamonga standards related to construction noise impacts.

### CONSTRUCTION NOISE

#### On-site Construction Noise

Construction activities for the proposed project include that of the water tank installation. Assumptions for the phasing, duration, and required equipment for the construction of the proposed project were obtained from the project applicant. Construction activities are anticipated to last approximately nine months. As the proposed project is the construction of a water tank, for the purposes of this analysis, it was assumed that all elements of the project would be constructed in one phase, which is a worst-case scenario. Furthermore, to be conservative, it was assumed that all the pieces of construction equipment that are anticipated to be used during project construction would be in use at the same time.

Construction noise will vary depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry out each task (e.g., hours and days of the week) and the duration of the construction work. The single-family residential uses with property lines located adjacent to the north, west, south, southeast, and approximately 50 feet to the east of the project site boundaries may be affected by short-term noise impacts associated with construction noise.

Construction noise associated with the proposed project was calculated utilizing methodology presented in the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (2018) together with several key construction parameters including: distance to each sensitive receiver, equipment usage, percent usage factor, and baseline parameters for the project site. Distances to receptors were based on the acoustical center of the proposed construction activity. Construction noise levels were calculated for each phase. Anticipated noise levels during each construction phase are presented in Table 5. Worksheets for each phase are included as Appendix D.

Modeled construction noise levels could reach up to 75.5 dBA  $L_{eq}$  at the nearest residential property line to the north, 75.3 dBA  $L_{eq}$  at the nearest residential property line to the west, 66 dBA  $L_{eq}$  at the nearest residential property line to the south, 75.5 dBA  $L_{eq}$  at the nearest residential property line to the southeast, and up to 67.1 dBA  $L_{eq}$  at the nearest residential property line to the east of the construction work area (see Appendix D). Table 6 also includes a comparison of existing noise levels and project construction noise levels. STNM1 was chosen to represent noise levels at the property line of the single-family residential uses located north of the project site, STNM7 was chosen to represent noise levels at the property line of the single-family residential uses located west of the project site, STNM6 was chosen to represent noise levels at the property line of the single-family residential uses located south of the project site, STNM2 was chosen to represent noise levels at the property line of the single-family residential uses located southeast of the project site, and STNM4 was chosen to represent noise levels at the property line of the single-family residential uses located east of the project site.

As stated previously, Section 17.66.050(D) of the City's Municipal Code exempts noise associated with construction activities provided the following:

- When adjacent to a residential land use, school, church or similar type of use, the noise generating activity does not take place between the hours of 8:00 PM and 7:00 AM on weekdays, including Saturday, or at any time on Sunday or a national holiday, and provided noise levels created do not exceed the noise standard of 65 dBA when measured at the adjacent property line.



- When adjacent to a commercial or industrial use, the noise generating activity does not take place between the hours of 10:00 PM and 6:00 AM on weekdays, including Saturday and Sunday, and provided noise levels created do not exceed the noise standards of 70 dBA when measured at the adjacent property line.

BMPs were developed to ensure that project construction complies with City Code Section 17.66.050(D). Specifically, a note has been added to project plans reminding construction contractors that construction activities shall be limited to the hours between 7:00 AM to 8:00 PM weekdays, including Saturdays. Furthermore, as shown in Table 5, with implementation of BMPs project construction noise levels will not exceed the 65 dBA  $L_{eq}$  noise standard at adjacent residential property lines.

Therefore, the project will be consistent with City Code Section 17.66.050(D) and impacts would be less than significant. No mitigation is required.

### **Off-Site Construction Activity**

Construction truck trips would occur throughout the construction period. According to the FHWA, the traffic volumes need to be doubled in order to increase noise levels by 3 dBA CNEL.<sup>1</sup> It is anticipated that the proposed project would have up to eight worker and/or vendor construction-related vehicle trips per day and no hauling construction-related vehicle trips per day. Given the project site's proximity to the 210 Freeway, it is anticipated that vendor truck traffic would take the most direct route to the appropriate freeway ramps. Therefore, due to the low number of construction-related daily vehicle trips, the addition of project vendor trucks and worker vehicles per day along off-site roadway segments would not be anticipated to result in a doubling of traffic volumes. Off-site project generated construction vehicle trips would result in a negligible noise level increase and would not result in a substantial increase in ambient noise levels. Impacts would be less than significant. No mitigation measures are required.

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<sup>1</sup> Federal Highway Administration, Highway Noise Prediction Model, December 1978.

**Table 4 (1 of 2)**  
**CA/T Equipment Noise Emissions and Acoustical Usage Factor Database**

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
All Other Equipment > 5 HP	No	50	85	-N/A-	0
Auger Drill Rig	No	20	85	84	36
Backhoe	No	40	80	78	372
Bar Bender	No	20	80	-N/A-	0
Blasting	Yes	-N/A-	94	-N/A-	0
Boring Jack Power Unit	No	50	80	83	1
Chain Saw	No	20	85	84	46
Clam Shovel (dropping)	Yes	20	93	87	4
Compactor (ground)	No	20	80	83	57
Compressor (air)	No	40	80	78	18
Concrete Batch Plant	No	15	83	-N/A-	0
Concrete Mixer Truck	No	40	85	79	40
Concrete Pump Truck	No	20	82	81	30
Concrete Saw	No	20	90	90	55
Crane	No	16	85	81	405
Dozer	No	40	85	82	55
Drill Rig Truck	No	20	84	79	22
Drum Mixer	No	50	80	80	1
Dump Truck	No	40	84	76	31
Excavator	No	40	85	81	170
Flat Bed Truck	No	40	84	74	4
Forklift <sup>2,3</sup>	No	50	n/a	61	n/a
Front End Loader	No	40	80	79	96
Generator	No	50	82	81	19
Generator (<25KVA, VMS signs)	No	50	70	73	74
Gradall	No	40	85	83	70
Grader	No	40	85	-N/A-	0
Grapple (on backhoe)	No	40	85	87	1
Horizontal Boring Hydr. Jack	No	25	80	82	6
Hydra Break Ram	Yes	10	90	-N/A-	0
Impact Pile Driver	Yes	20	95	101	11
Jackhammer	Yes	20	85	89	133
Man Lift	No	20	85	75	23
Mounted Impact hammer (hoe ram)	Yes	20	90	90	212
Pavement Scarafier	No	20	85	90	2
Paver	No	50	85	77	9
Pickup Truck	No	50	85	77	9
Paving Equipment	No	50	85	77	9
Pneumatic Tools	No	50	85	85	90

**Table 4 (2 of 2)**  
**CA/T Equipment Noise Emissions and Acoustical Usage Factor Database**

Equipment Description	Impact Device?	Acoustical Use Factor (%)	Spec. Lmax @ 50ft (dBA, slow)	Actual Measured Lmax @ 50ft (dBA, slow)	No. of Actual Data Samples (Count)
Pumps	No	50	77	81	17
Refrigerator Unit	No	100	82	73	3
Rivit Buster/chipping gun	Yes	20	85	79	19
Rock Drill	No	20	85	81	3
Roller	No	20	85	80	16
Sand Blasting (Single Nozzle)	No	20	85	96	9
Scraper	No	40	85	84	12
Shears (on backhoe)	No	40	85	96	5
Slurry Plant	No	100	78	78	1
Slurry Trenching Machine	No	50	82	80	75
Soil Mix Drill Rig	No	50	80	-N/A-	0
Tractor	No	40	84	-N/A-	0
Vacuum Excavator (Vac-truck)	No	40	85	85	149
Vacuum Street Sweeper	No	10	80	82	19
Ventilation Fan	No	100	85	79	13
Vibrating Hopper	No	50	85	87	1
Vibratory Concrete Mixer	No	20	80	80	1
Vibratory Pile Driver	No	20	95	101	44
Warning Horn	No	5	85	83	12
Welder/Torch	No	40	73	74	5

Notes:

- (1) Source: FHWA Roadway Construction Noise Model User's Guide January 2006.
- (2) Warehouse & Forklift Noise Exposure - NoiseTesting.info Carl Stautins, November 4, 2014  
<http://www.noisetesting.info/blog/carl-strautins/page-3/>
- (3) Data provided Leq as measured at the operator. Sound Level at 50 feet is calculated using Inverse Square Law.

**Table 5**  
**Construction Equipment Noise Levels (dBA Leq)**

Phase	Construction Equipment	Existing Ambient Noise Levels (dBA Leq)	Construction Noise Levels (dBA Leq) <sup>1</sup>	Exceeds Standard of 65 dBA?	Construction Noise Levels with BMPs (dBA Leq)	Exceeds Standard of 65 dBA?
Water Tank Installation	Single-Family Residential to North (along Beaver Creek Ct)	38.5	75.5	Yes	64.5	No
	Single-Family Residential to West (along Silver Mountain Wy)	45.4	75.3	Yes	64.3	No
	Single-Family Residential to South (along Rocky Mountain Pl)	46.9	66.0	Yes	55.0	No
	Single-Family Residential to Southeast (along Carrari St)	49.8	75.5	Yes	64.5	No
	Single-Family Residential to East (along Mayberry Ave)	45.9	67.1	Yes	56.1	No

Notes:

- (1) Construction noise worksheets are provided in Appendix D.
- (2) Per measured existing ambient noise levels (see Table 1), STNM1 was used for residential uses to the north, STNM7 was used for residential uses to the west, STNM6 was used for residential uses to the south, STNM2 was used for residential uses to the southeast, and STNM4 was used for residential uses to the east.
- (3) City of Rancho Cucamonga Section 17.66.050(D) states that when adjacent to residential land uses construction activity is exempt as long as it does not take place between the hours of 8:00 PM and 7:00 AM on weekdays, including Saturday, or any time on Sunday or a national holiday and provided noise levels do not exceed 65 dBA when measured at adjacent residential property lines.
- (4) Project BMPs include but are not limited to the use of alternative equipment, muffled equipment, and temporary barriers that provide at least approximately 11 dB in noise reduction.



## 7. REFERENCES

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### **Environmental Protection Agency**

1974 "Information on Levels of Environmental Noise Requisite to Protect Public Health And Welfare with an Adequate Margin of Safety," EPA/ONAC 550/9-74-004, March 1974.

### **Federal Transit Administration**

2018 Transit Noise and Vibration Impact Assessment Manual. Typical Construction Equipment Vibration Emissions.

### **Rancho Cucamonga, City of**

2021 City of Rancho Cucamonga General Plan Update and Climate Action Plan Draft EIR. September.

2022 City of Rancho Cucamonga General Plan (PlanRC). December.

2022 Rancho Cucamonga Municipal Code. June.

### **Office of Planning and Research**

2017 State of California General Plan Guidelines

### **U.S. Department of Transportation**

2006 FHWA Roadway Construction Noise Model User's Guide. January.

## APPENDICES

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Appendix A List of Acronyms  
Appendix B Glossary  
Appendix C Noise Measurement Field Worksheets  
Appendix D Construction Noise Modeling

## **APPENDIX A**

### **LIST OF ACRONYMS**

Term	Definition
ADT	Average Daily Traffic
ANSI	American National Standard Institute
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
D/E/N	Day / Evening / Night
dB	Decibel
dB(A) or dB(A)	Decibel "A-Weighted"
dB(A)/DD	Decibel per Double Distance
dB(A) Leq	Average Noise Level over a Period of Time
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
L <sub>02</sub> , L <sub>08</sub> , L <sub>50</sub> , L <sub>90</sub>	A-weighted Noise Levels at 2 percent, 8 percent, 50 percent, and 90 percent, respectively, of the time period
DNL	Day-Night Average Noise Level
Leq(x)	Equivalent Noise Level for "x" period of time
Leq	Equivalent Noise Level
L <sub>max</sub>	Maximum Level of Noise (measured using a sound level meter)
L <sub>min</sub>	Minimum Level of Noise (measured using a sound level meter)
L <sub>p</sub>	Sound pressure level
LOS C	Level of Service C
L <sub>w</sub>	Sound Power Level
OPR	California Governor's Office of Planning and Research
PPV	Peak Particle Velocities
RCNM	Road Construction Noise Model
REMEL	Reference Energy Mean Emission Level
RMS	Root Mean Square

## **APPENDIX B**

### **GLOSSARY**



Term	Definition
Ambient Noise Level	The all-encompassing noise environment associated with a given environment, at a specified time, usually a composite of sound from many sources, at many directions, near and far, in which usually no particular sound is dominant.
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear.
CNEL	Community Noise Equivalent Level. CNEL is a weighted 24-hour noise level that is obtained by adding five decibels to sound levels in the evening (7:00 PM to 10:00 PM), and by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the evening and nighttime hours.
Decibel, dB	A logarithmic unit of noise level measurement that relates the energy of a noise source to that of a constant reference level; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
DNL, Ldn	Day Night Level. The DNL, or Ldn is a weighted 24-hour noise level that is obtained by adding ten decibels to sound levels at night (10:00 PM to 7:00 AM). This weighting accounts for the increased human sensitivity to noise during the nighttime hours.
Equivalent Continuous Noise Level, Leq	A level of steady state sound that in a stated time period, and a stated location, has the same A-weighted sound energy as the time-varying sound.
Fast/Slow Meter Response	The fast and slow meter responses are different settings on a sound level meter. The fast response setting takes a measurement every 100 milliseconds, while a slow setting takes one every second.
Frequency, Hertz	In a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., the number of cycles per second).
L <sub>02</sub> , L <sub>08</sub> , L <sub>50</sub> , L <sub>90</sub>	The A-weighted noise levels that are equaled or exceeded by a fluctuating sound level, 2 percent, 8 percent, 50 percent, and 90 percent of a stated time period, respectively.
L <sub>max</sub> , L <sub>min</sub>	L <sub>max</sub> is the RMS (root mean squared) maximum level of a noise source or environment measured on a sound level meter, during a designated time interval, using fast meter response. L <sub>min</sub> is the minimum level.
Offensive/Offending/Intrusive Noise	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of sound depends on its amplitude, duration, frequency, and time of occurrence, and tonal information content as well as the prevailing ambient noise level.
Root Mean Square (RMS)	A measure of the magnitude of a varying noise source quantity. The name derives from the calculation of the square root of the mean of the squares of the values. It can be calculated from either a series of lone values or a continuous varying function.

**APPENDIX C**

**NOISE MEASUREMENT FIELD WORKSHEETS**

**Noise Measurement  
Field Data**

**Project Name:** CP 20051 New Reservoir 5B-2, City of Rancho Cucamonga **Date:** April 25, 2022

**Project #:** 19491

**Noise Measurement #:** STNM1 Run Time: 15 minutes ( 1 x 15 minutes ) **Technician:** Ian Edward Gallagher

**Nearest Address or Cross Street:** 10236 Beaver Creek Ct, Rancho Cucamonga, CA 91737

**Site Description (Type of Existing Land Use and any other notable features):** Project Site: Site contains a large water tank & small buildings & is bordered by single-family residential uses to north, Mayberry Ave to east, single-family residential uses & vacant land to south, and single-family homes to west. Noise Measurement Site: Single-family residential to north and project site to south.

**Weather:** Clear skies, hazy sunshine. **Settings:** SLOW FAST

**Temperature:** 77 deg F **Wind:** 7mph **Humidity:** 11% **Terrain:** Hilly

**Start Time:** 11:59 AM **End Time:** 11:14 AM **Run Time:**

**Leq:** 38.5 dB **Primary Noise Source:** Bird song.

**Lmax** 51.9 dB

**L2** 45.5 dB **Secondary Noise Sources:** Some residential ambiance, leaf rustle from 7 mph breeze.

**L8** 42.5 dB Overhead air traffic. Very distant traffic ambiance

**L25** 38.6 dB

**L50** 35.7 dB

**NOISE METER:** SoundTrack LXT Class 1 **CALIBRATOR:** Larson Davis CAL 200

**MAKE:** Larson Davis **MAKE:** Larson Davis

**MODEL:** LXT1 **MODEL:** CAL 200

**SERIAL NUMBER:** 3855 **SERIAL NUMBER:** 11178

**FACTORY CALIBRATION DATE:** 6/7/2021 **FACTORY CALIBRATION DATE:** 6/8/2021

**FIELD CALIBRATION DATE:** 4/25/2022

Noise Measurement  
Field Data

PHOTOS:



STNM1 looking WNW towards Beaver Creek Ct.



STNM1 looking NE towards residence 10236 Beaver Creek Ct, Rancho Cucamonga.

## Summary

File Name on Meter	LxT_Data.004.s
File Name on PC	LxT_0003855-20220425 115946-LxT_Data.004.ldbin
Serial Number	0003855
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM1 34° 9'40.86"N 117°34'52.46"W
Job Description	15 minute noise measurement ( 1 x 15 minutes )
Note	Ganddini 19491, City of Rancho Cucamonga

## Measurement

Start	2022-04-25 11:59:46
Stop	2022-04-25 12:14:46
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-04-25 11:59:04
Post-Calibration	None

## Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	Bin Max
Overload	145.2 dB

## Results

LAeq	38.5
LAE	68.0
EA	0.700 $\mu\text{Pa}^2\text{h}$
EA8	22.397 $\mu\text{Pa}^2\text{h}$
EA40	111.986 $\mu\text{Pa}^2\text{h}$
LApeak (max)	2022-04-25 12:12:27 78.3 dB
LASmax	2022-04-25 12:07:47 51.9 dB
LASmin	2022-04-25 12:09:26 32.1 dB

## Statistics

LCeq	52.5 dB	LA2.00	45.5 dB
LAeq	38.5 dB	LA8.00	42.5 dB
LCeq - LAeq	14.0 dB	LA25.00	38.6 dB
LAleq	42.7 dB	LA50.00	35.7 dB
LAeq	38.5 dB	LA66.60	34.6 dB
LAleq - LAeq	4.2 dB	LA90.00	33.2 dB
Overload Count	0		



# Measurement Report

## Report Summary

Meter's File Name	LxT_Data.004.s	Computer's File Name	LxT_0003855-20220425 115946-LxT_Data.004.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM1 34° 9'40.86"N 117°34'52.46"W
Job Description	15 minute noise measurement ( 1 x 15 minutes )		
Note	Ganddini 19491, City of Rancho Cucamonga		
Start Time	2022-04-25 11:59:46	Duration	0:15:00.0
End Time	2022-04-25 12:14:46	Run Time	0:15:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

LA <sub>eq</sub>	38.5 dB		
LAE	68.0 dB	SEA	--- dB
EA	0.7 µPa²h	LAFTM5	43.9 dB
EA8	22.4 µPa²h		
EA40	112.0 µPa²h		
LA <sub>peak</sub>	78.3 dB	2022-04-25 12:12:27	
LAS <sub>max</sub>	51.9 dB	2022-04-25 12:07:47	
LAS <sub>min</sub>	32.1 dB	2022-04-25 12:09:26	
LA <sub>eq</sub>	38.5 dB		
LC <sub>eq</sub>	52.5 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	14.0 dB
LAI <sub>eq</sub>	42.7 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	4.2 dB

### Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 135.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 137.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB
LDEN	LDay	LEve
--- dB	--- dB	---
		LNight
		--- dB

### Any Data

	Level	A Time Stamp	Level	C Time Stamp	Level	Z Time Stamp
L <sub>eq</sub>	38.5 dB		52.5 dB		---	
LS <sub>(max)</sub>	51.9 dB	2022-04-25 12:07:47	---		---	
LS <sub>(min)</sub>	32.1 dB	2022-04-25 12:09:26	---		---	
L <sub>Peak(max)</sub>	78.3 dB	2022-04-25 12:12:27	---		---	

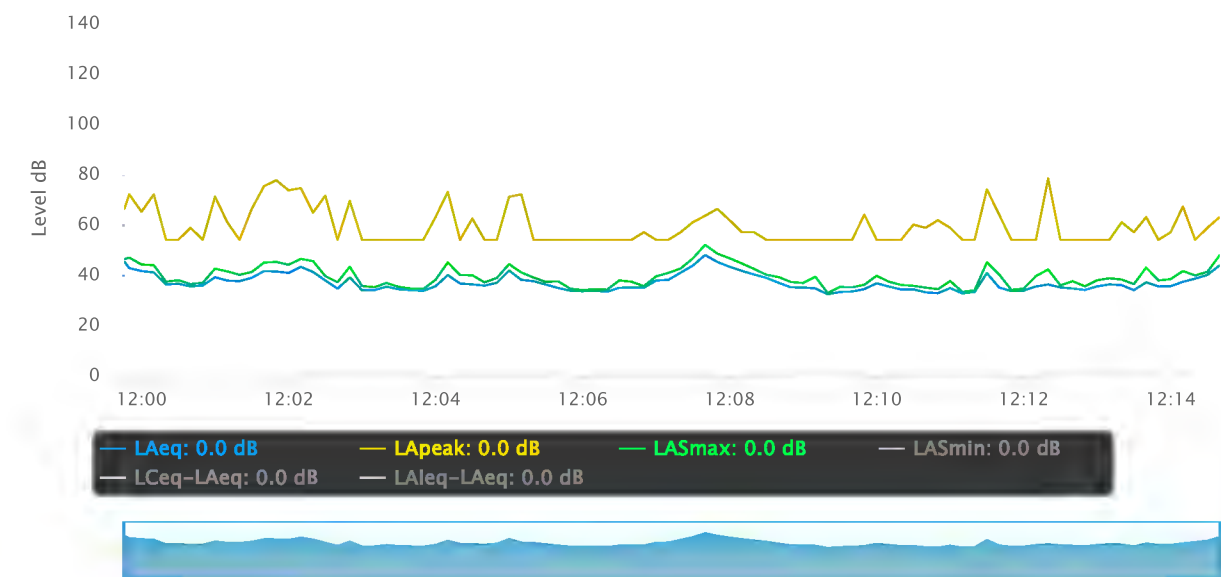
### Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

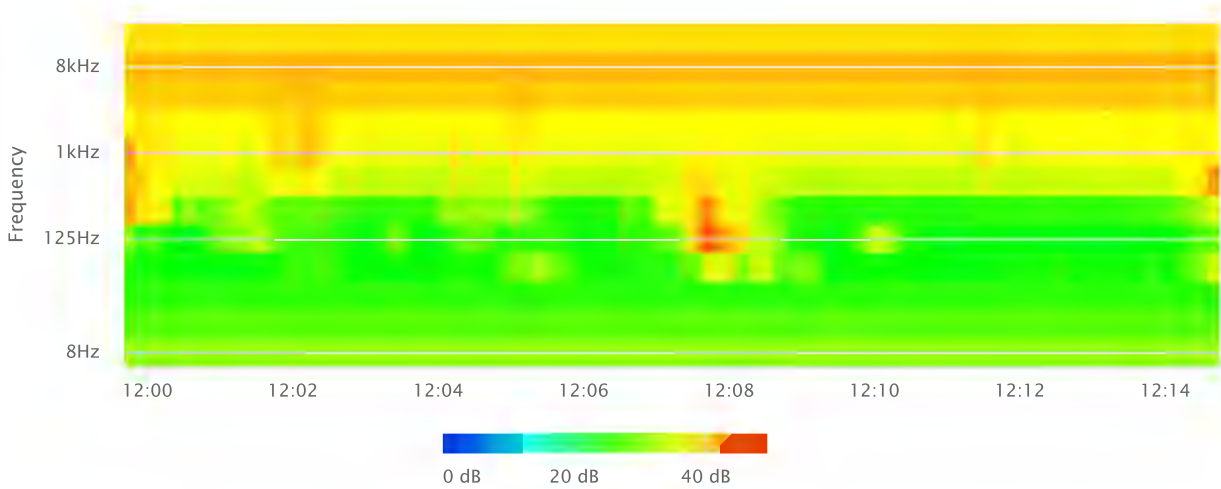
### Statistics

LAS 2.0	45.5 dB
LAS 8.0	42.5 dB
LAS 25.0	38.6 dB
LAS 50.0	35.7 dB
LAS 66.6	34.6 dB
LAS 90.0	33.2 dB

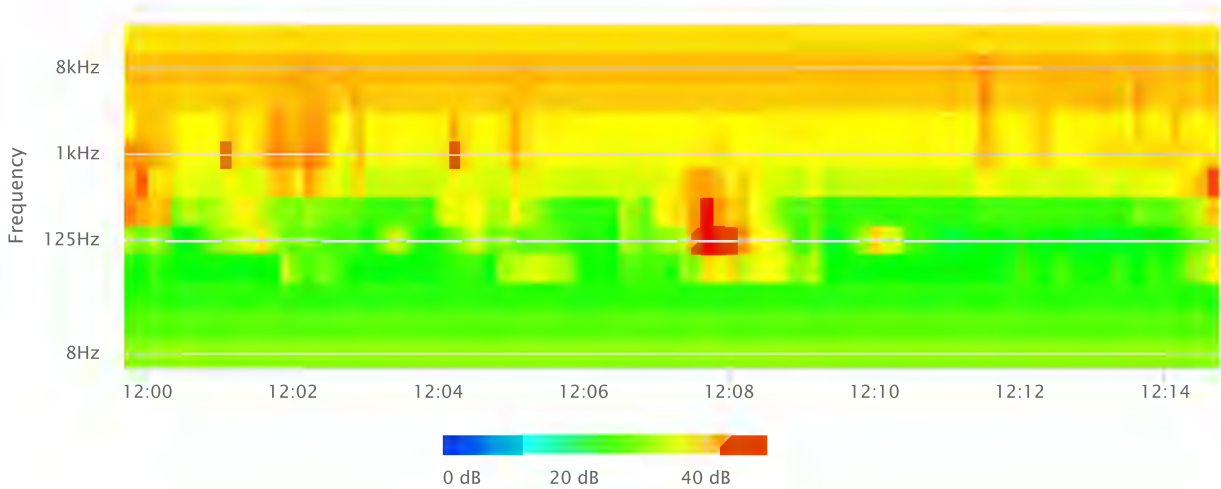
Time History



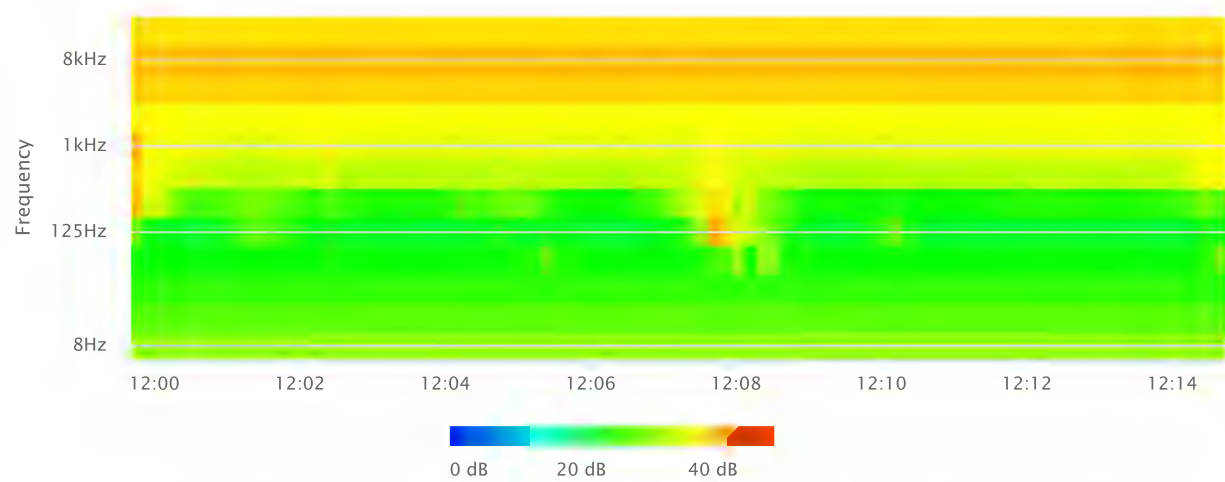
OBA 1/1 Leq



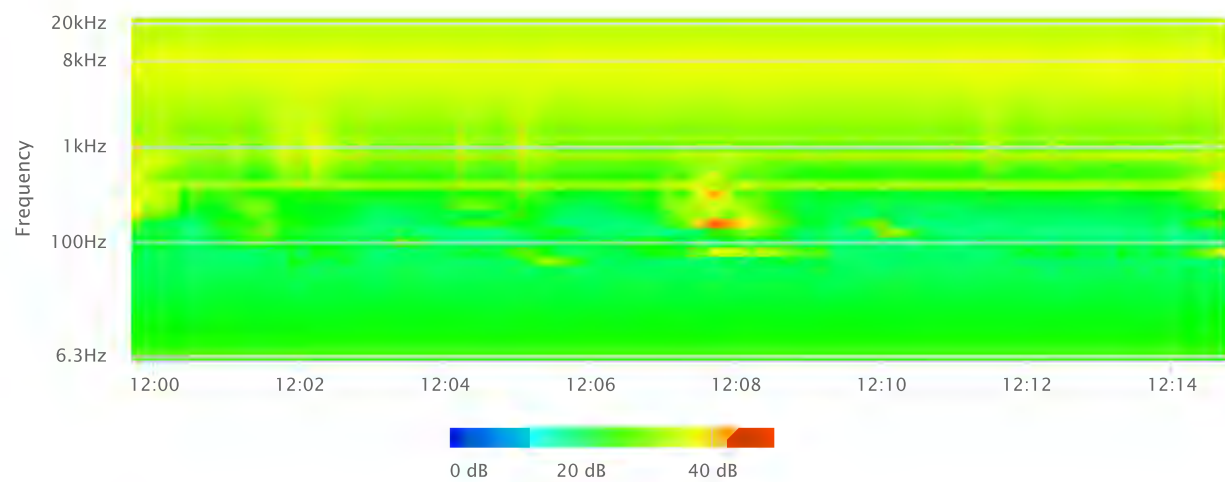
OBA 1/1 Lmax



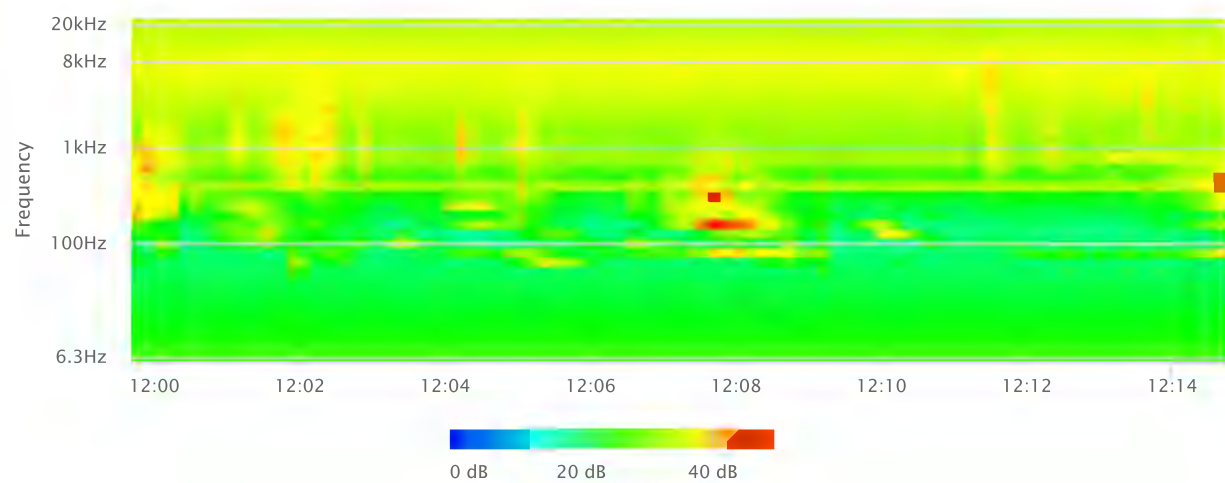
OBA 1/1 Lmin



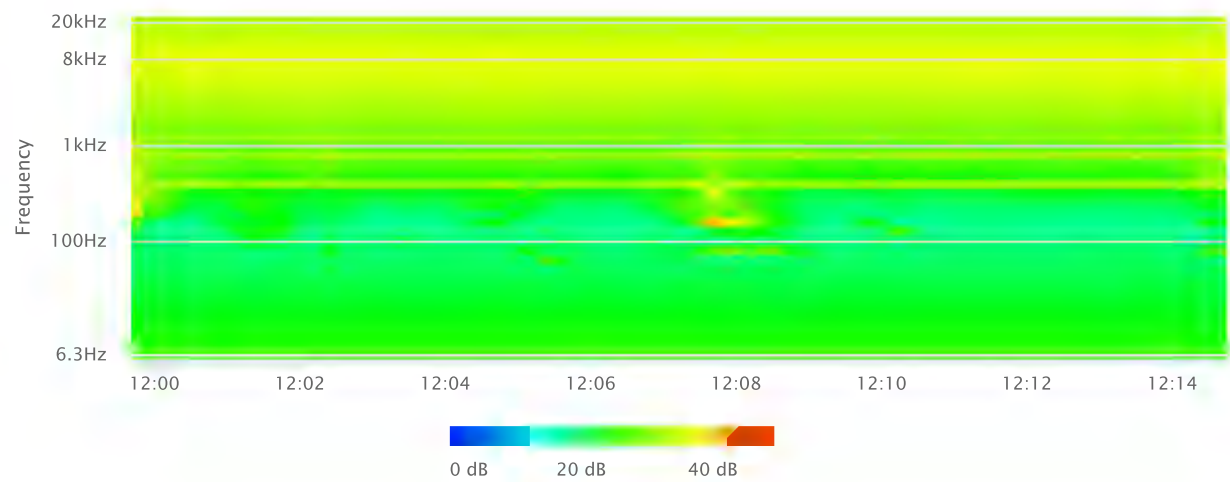
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin



**Noise Measurement  
Field Data**

**Project Name:** CP 20051 New Reservoir 5B-2, City of Rancho Cucamonga **Date:** April 25, 2022

**Project #:** 19491

**Noise Measurement #:** STNM2 Run Time: 15 minutes ( 1 x 15 minutes ) **Technician:** Ian Edward Gallagher

**Nearest Address or Cross Street:** 5220 Mayberry Avenue, Alta Loma, CA 91737

**Site Description (Type of Existing Land Use and any other notable features):** Project Site: Site contains a large water tank & small buildings & is bordered by single-family residential uses to north, Mayberry Ave to east, single-family residential uses & vacant land to south, and single-family homes to west. Noise Measurement Site: Single-family residential uses to the south and the project site to the north (with dirt access road).

**Weather:** Clear skies, hazy sunshine. **Settings:** SLOW FAST

**Temperature:** 77 deg F **Wind:** 7mph **Humidity:** 11% **Terrain:** Hilly

**Start Time:** 1:07 PM **End Time:** 1:22 PM **Run Time:**

**Leq:** 49.8 dB **Primary Noise Source:** Pool water pump in operation in backyard of residence 5220 Mayberry Avenue,

**Lmax** 60.7 dB Alta Loma.

**L2** 52.7 dB **Secondary Noise Sources:** Bird song. Some residential ambiance, leaf rustle from 7 mph breeze.

**L8** 50.7 dB Overhead air traffic. Very distant traffic ambiance

**L25** 49.7 dB

**L50** 49.4 dB

<b>NOISE METER:</b> SoundTrack LXT Class 1	<b>CALIBRATOR:</b> Larson Davis CAL 200
<b>MAKE:</b> Larson Davis	<b>MAKE:</b> Larson Davis
<b>MODEL:</b> LXT1	<b>MODEL:</b> CAL 200
<b>SERIAL NUMBER:</b> 3855	<b>SERIAL NUMBER:</b> 11178
<b>FACTORY CALIBRATION DATE:</b> 6/7/2021	<b>FACTORY CALIBRATION DATE:</b> 6/8/2021
<b>FIELD CALIBRATION DATE:</b> 4/25/2022	

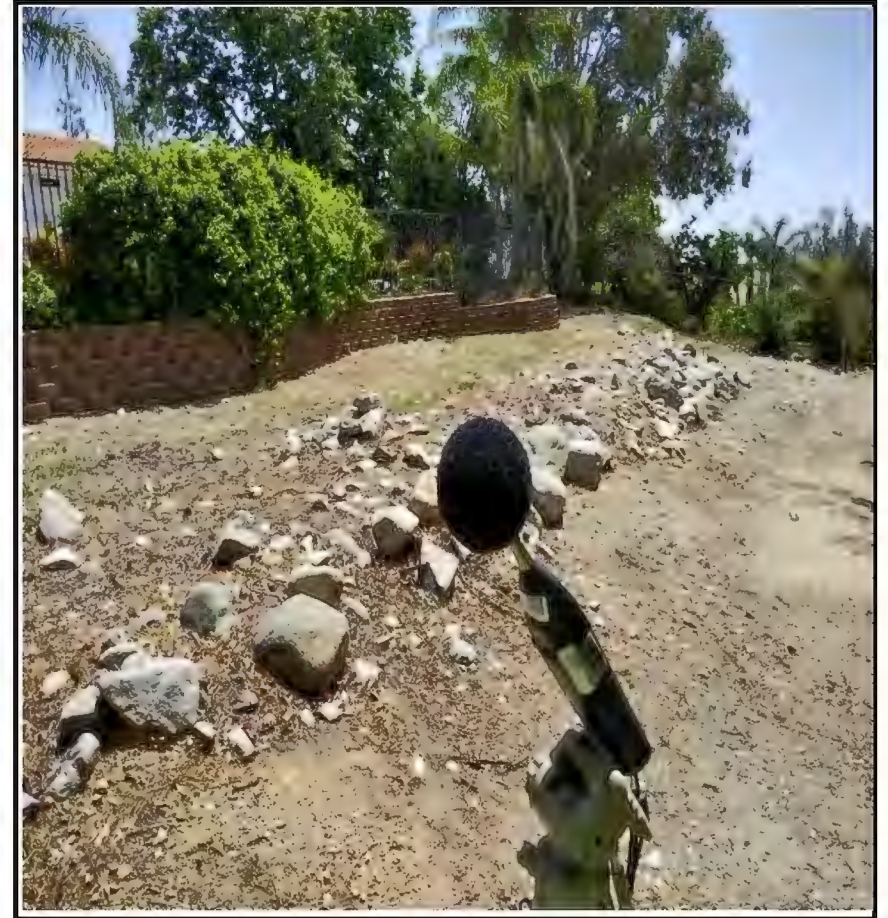


Noise Measurement  
Field Data

PHOTOS:



STNM2 looking W towards backyard of 5220 Mayberry Ave, Alta Loma. Pool water pump (left side of picture) is constantly on during 15 minute measurement.



STNM2 looking SSW down dirt access road towards Carrari Street intersection.

## Summary

File Name on Meter	LxT_Data.005.s
File Name on PC	LxT_0003855-20220425 130753-LxT_Data.00
Serial Number	3855
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM2 34° 9'37.79"N 117°34'50.49"W
Job Description	15 minute noise measurement ( 1 x 15 minutes )
Note	Ganddini 19491, City of Rancho Cucamonga

## Measurement

Start	2022-04-25 13:07:53
Stop	2022-04-25 13:22:53
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-04-25 13:07:04
Post-Calibration	None

## Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	Bin Max
Overload	145.1 dB

## Results

LAeq	49.8
LAE	79.4
EA	9.65521 $\mu\text{Pa}^2\text{h}$
EA8	308.9667 $\mu\text{Pa}^2\text{h}$
EA40	1.544834 $\text{mPa}^2\text{h}$
LApeak (max)	2022-04-25 13:09:26 89.5 dB
LASmax	2022-04-25 13:20:23 60.7 dB
LASmin	2022-04-25 13:17:24 48.5 dB

## Statistics

LCeq	54.4 dB	LA2.00	52.7 dB
LAeq	49.8 dB	LA8.00	50.7 dB
LCeq - LAeq	4.5 dB	LA25.00	49.7 dB
LAlaq	52.7 dB	LA50.00	49.4 dB
LAeq	49.8 dB	LA66.60	49.3 dB
LAlaq - LAeq	2.9 dB	LA90.00	49.1 dB
Overload Count	0		

# Measurement Report

## Report Summary

Meter's File Name	LxT_Data.005.s	Computer's File Name	LxT_0003855-20220425 130753-LxT_Data.005.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM2 34° 9'37.79"N 117°34'50.49"W
Job Description	15 minute noise measurement ( 1 x 15 minutes )		
Note	Ganddini 19491, City of Rancho Cucamonga		
Start Time	2022-04-25 13:07:53	Duration	0:15:00.0
End Time	2022-04-25 13:22:53	Run Time	0:15:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

LA <sub>eq</sub>	49.8 dB		
LAE	79.4 dB	SEA	--- dB
EA	9.7 µPa²h	LAFTM5	53.4 dB
EA8	309.0 µPa²h		
EA40	1.5 mPa²h		
LA <sub>peak</sub>	89.5 dB	2022-04-25 13:09:26	
LAS <sub>max</sub>	60.7 dB	2022-04-25 13:20:23	
LAS <sub>min</sub>	48.5 dB	2022-04-25 13:17:24	
LA <sub>eq</sub>	49.8 dB		
LC <sub>eq</sub>	54.4 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	4.5 dB
LAI <sub>eq</sub>	52.7 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	2.9 dB

### Exceedances

#### Count Duration

LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 135.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 137.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB
LDEN	LDay	LEve
--- dB	--- dB	---
		LNight
		--- dB

### Any Data

	Level	A Time Stamp	Level	C Time Stamp	Level	Z Time Stamp
L <sub>eq</sub>	49.8 dB		54.4 dB		---	
LS <sub>(max)</sub>	60.7 dB	2022-04-25 13:20:23	---		---	
LS <sub>(min)</sub>	48.5 dB	2022-04-25 13:17:24	---		---	
L <sub>Peak(max)</sub>	89.5 dB	2022-04-25 13:09:26	---		---	

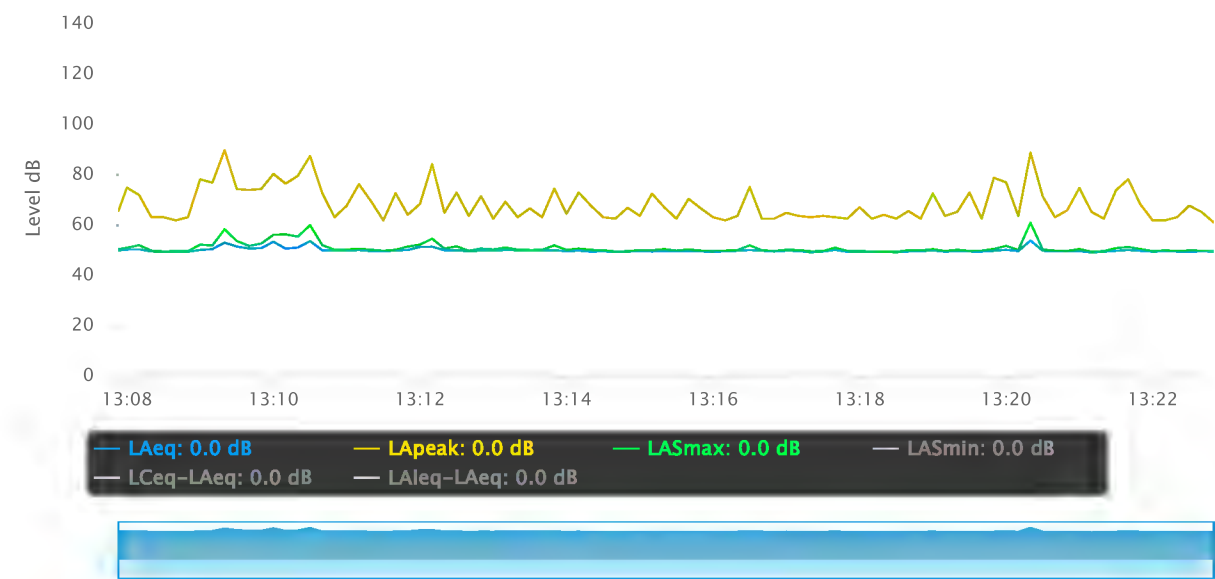
### Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

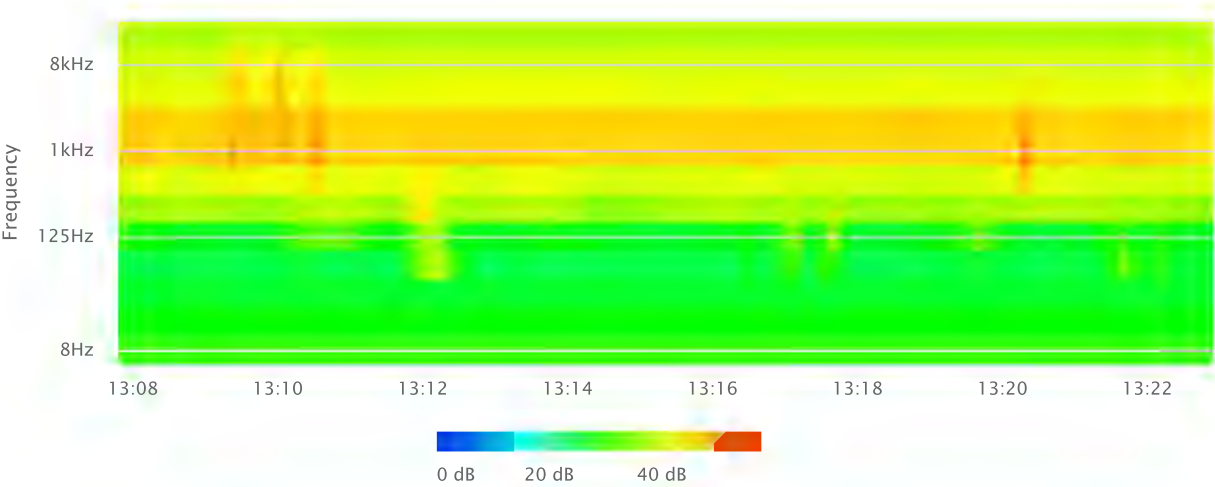
### Statistics

LAS 2.0	52.7 dB
LAS 8.0	50.7 dB
LAS 25.0	49.7 dB
LAS 50.0	49.4 dB
LAS 66.6	49.3 dB
LAS 90.0	49.1 dB

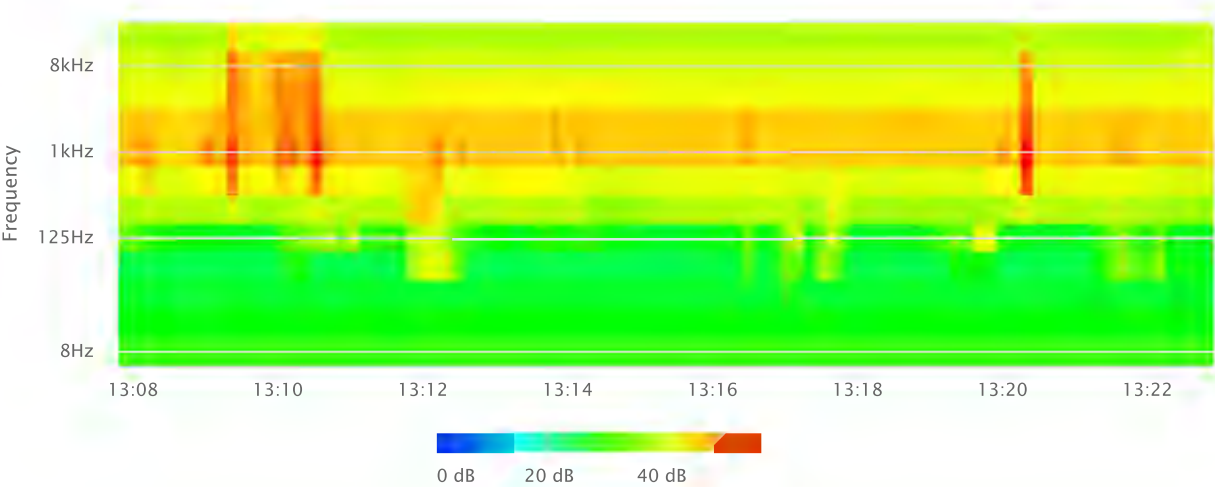
Time History



OBA 1/1 Leq

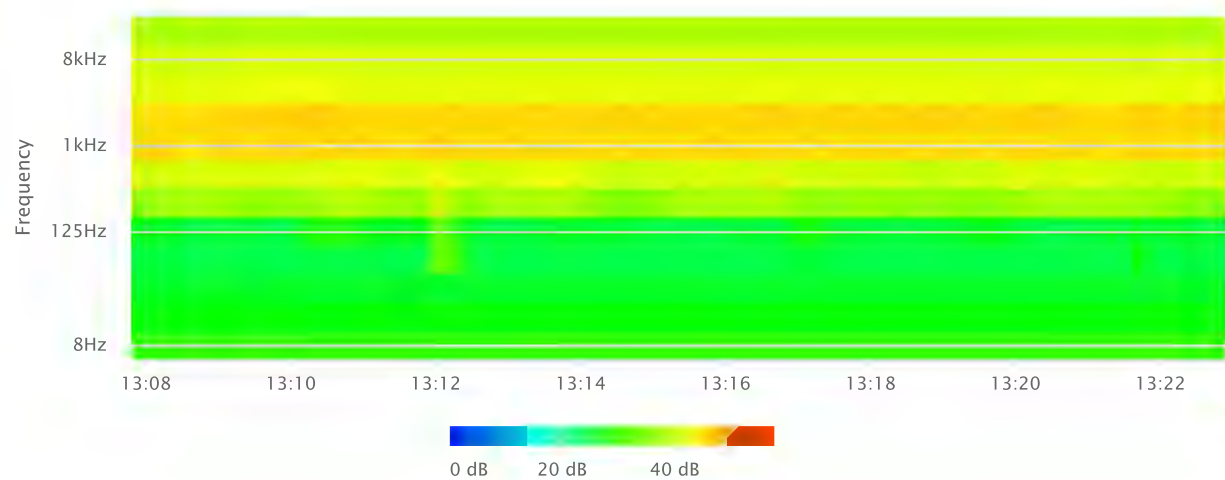


OBA 1/1 Lmax

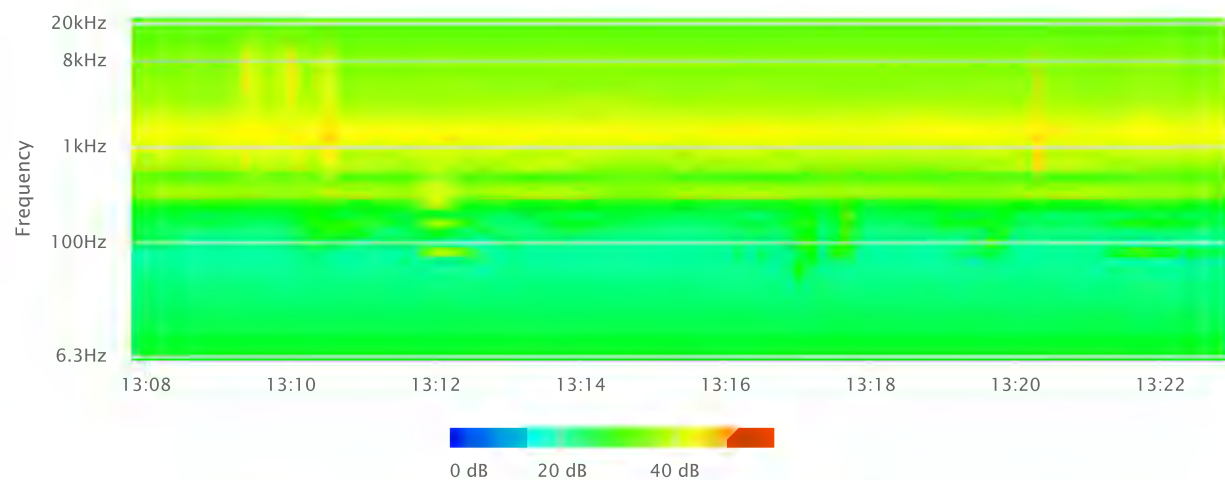




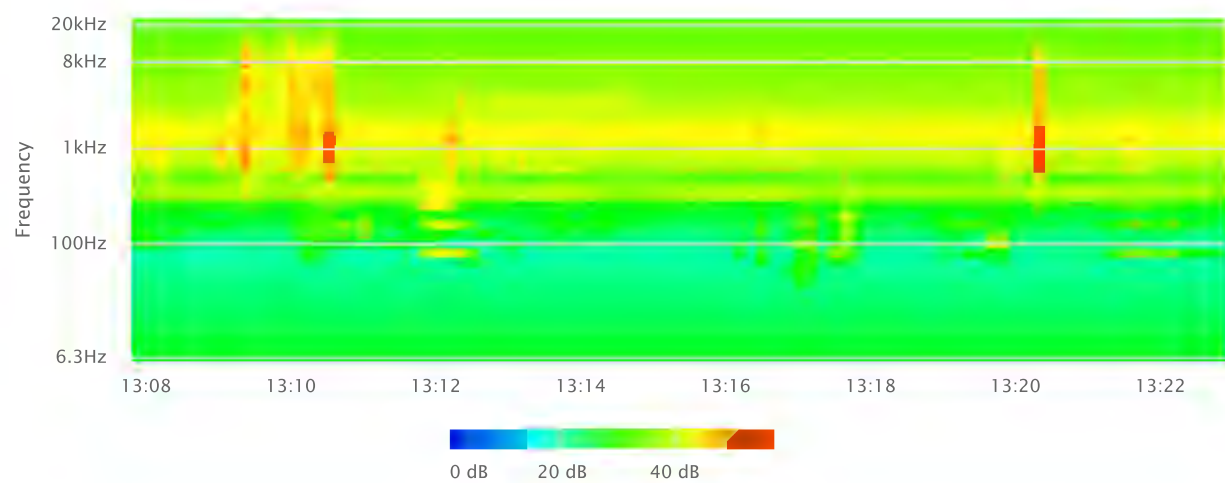
OBA 1/1 Lmin



OBA 1/3 Leq

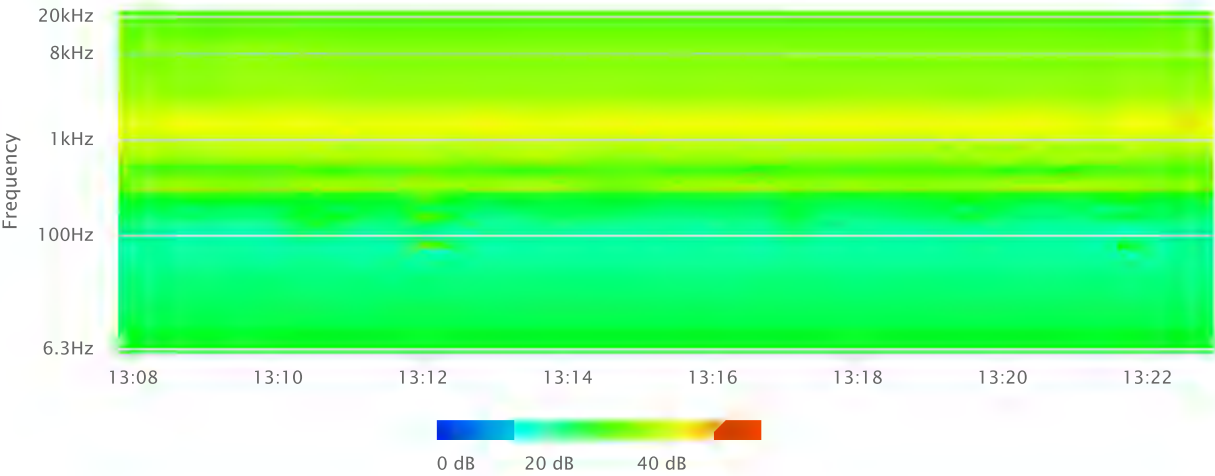


OBA 1/3 Lmax





OBA 1 /3 Lmin



**Noise Measurement  
Field Data**

**Project Name:** CP 20051 New Reservoir 5B-2, City of Rancho Cucamonga **Date:** April 25, 2022

**Project #:** 19491

**Noise Measurement #:** STNM3 Run Time: 15 minutes ( 1 x 15 minutes ) **Technician:** Ian Edward Gallagher

**Nearest Address or Cross Street:** 5058 Mayberry Avenue, Rancho Cucamonga, CA 91737

**Site Description (Type of Existing Land Use and any other notable features):** Project Site: Site contains a large water tank & small buildings & is bordered by single-family residential uses to north, Mayberry Ave to east, single-family residential uses & vacant land to south, and single-family homes to west. Noise Measurement Site: Single-family residential to north, Almond St to east, & Mayberry Ave to south.

**Weather:** Clear skies, hazy sunshine. **Settings:** SLOW FAST

**Temperature:** 77 deg F **Wind:** 7mph **Humidity:** 11% **Terrain:** Hilly

**Start Time:** 2:40 PM **End Time:** 2:55 PM **Run Time:**

**Leq:** 43.8 dB **Primary Noise Source:** One car passing microphone traveling through Almond Street & Mayberry

**Lmax** 59 dB Avenue intersection.

**L2** 52.9 dB **Secondary Noise Sources:** Bird song. Some residential ambiance, leaf rustle from 7 mph breeze.

**L8** 48.5 dB Overhead air traffic. Very distant traffic ambiance

**L25** 41.6 dB

**L50** 38.8 dB

**NOISE METER:** SoundTrack LXT Class 1 **CALIBRATOR:** Larson Davis CAL 200

**MAKE:** Larson Davis **MAKE:** Larson Davis

**MODEL:** LXT1 **MODEL:** CAL 200

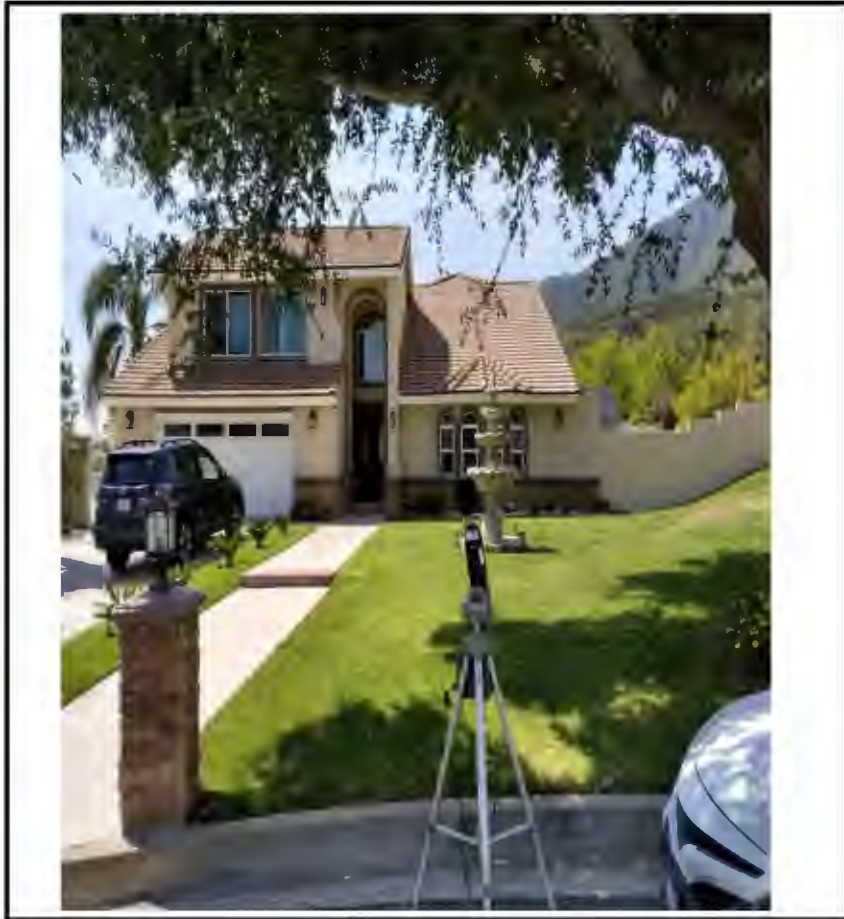
**SERIAL NUMBER:** 3855 **SERIAL NUMBER:** 11178

**FACTORY CALIBRATION DATE:** 6/7/2021 **FACTORY CALIBRATION DATE:** 6/8/2021

**FIELD CALIBRATION DATE:** 4/25/2022

Noise Measurement  
Field Data

PHOTOS:



STNM3 looking at residence 5058 Mayberry Avenue, Rancho Cucamonga.



STNM3 looking E across Mayberry Ave & Almond street intersection.

## Summary

File Name on Meter	LxT_Data.006.s
File Name on PC	LxT_0003855-20220425 144049-LxT_Data.006.lc
Serial Number	3855
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM3 34° 9'44.91"N 117°34'48.55"W
Job Description	15 minute noise measurement ( 1 x 15 minutes )
Note	Ganddini 19491, City of Rancho Cucamonga

## Measurement

Start	2022-04-25 14:40:49
Stop	2022-04-25 14:55:49
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-04-25 14:40:12
Post-Calibration	None

## Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	Bin Max
Overload	145.2 dB

## Results

LAeq	43.8
LAE	73.4
EA	2.420749 $\mu\text{Pa}^2\text{h}$
EA8	77.46397 $\mu\text{Pa}^2\text{h}$
EA40	387.3198 $\mu\text{Pa}^2\text{h}$
LApeak (max)	2022-04-25 14:45:53 84.2 dB
LASmax	2022-04-25 14:43:06 59.0 dB
LASmin	2022-04-25 14:55:34 34.6 dB

## Statistics

LCeq	58.6 dB	LA2.00	52.9 dB
LAeq	43.8 dB	LA8.00	48.5 dB
LCeq - LAeq	14.8 dB	LA25.00	41.6 dB
LAleq	48.9 dB	LA50.00	38.8 dB
LAeq	43.8 dB	LA66.60	37.6 dB
LAleq - LAeq	5.0 dB	LA90.00	35.9 dB
Overload Count	0		

# Measurement Report

## Report Summary

Meter's File Name	LxT_Data.006.s	Computer's File Name	LxT_0003855-20220425 144049-LxT_Data.006.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM3 34° 9'44.91"N 117°34'48.55"W
Job Description	15 minute noise measurement ( 1 x 15 minutes )		
Note	Ganddini 19491, City of Rancho Cucamonga		
Start Time	2022-04-25 14:40:49	Duration	0:15:00.0
End Time	2022-04-25 14:55:49	Run Time	0:15:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

LA <sub>eq</sub>	43.8 dB		
LAE	73.4 dB	SEA	--- dB
EA	2.4 µPa²h	LAFTM5	50.5 dB
EA8	77.5 µPa²h		
EA40	387.3 µPa²h		
LA <sub>peak</sub>	84.2 dB	2022-04-25 14:45:53	
LAS <sub>max</sub>	59.0 dB	2022-04-25 14:43:06	
LAS <sub>min</sub>	34.6 dB	2022-04-25 14:55:34	
LA <sub>eq</sub>	43.8 dB		
LC <sub>eq</sub>	58.6 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	14.8 dB
LAI <sub>eq</sub>	48.9 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	5.0 dB

### Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 135.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 137.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB
LDEN	LDay	LEve
--- dB	--- dB	---
		LNight
		--- dB

### Any Data

	Level	A Time Stamp	Level	C Time Stamp	Level	Z Time Stamp
L <sub>eq</sub>	43.8 dB		58.6 dB		---	
LS <sub>(max)</sub>	59.0 dB	2022-04-25 14:43:06	---		---	
LS <sub>(min)</sub>	34.6 dB	2022-04-25 14:55:34	---		---	
L <sub>Peak(max)</sub>	84.2 dB	2022-04-25 14:45:53	---		---	

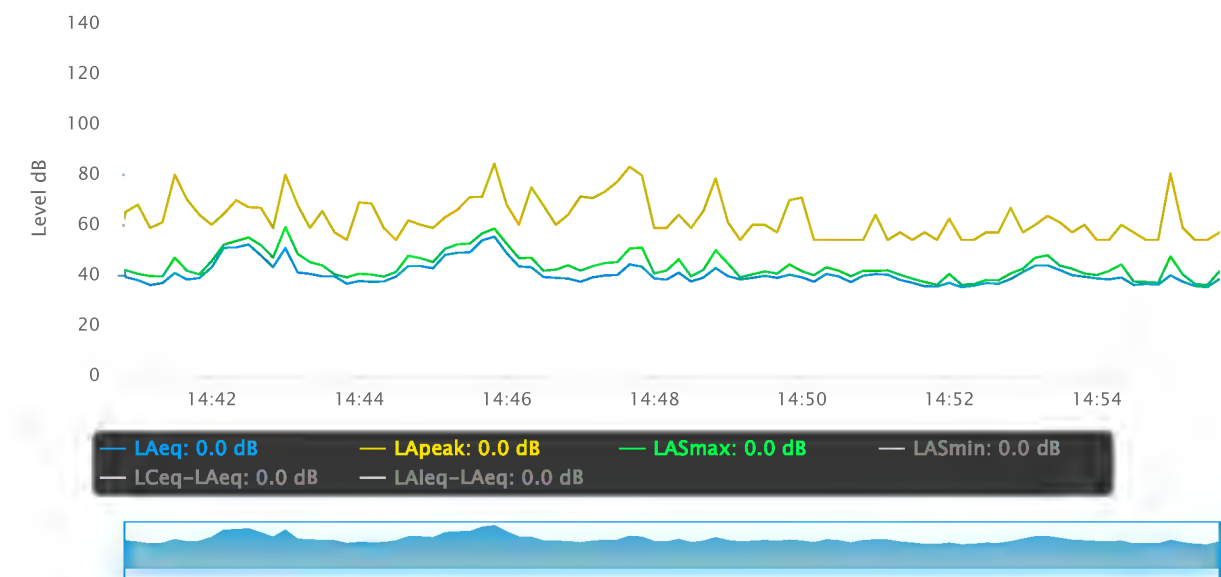
### Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

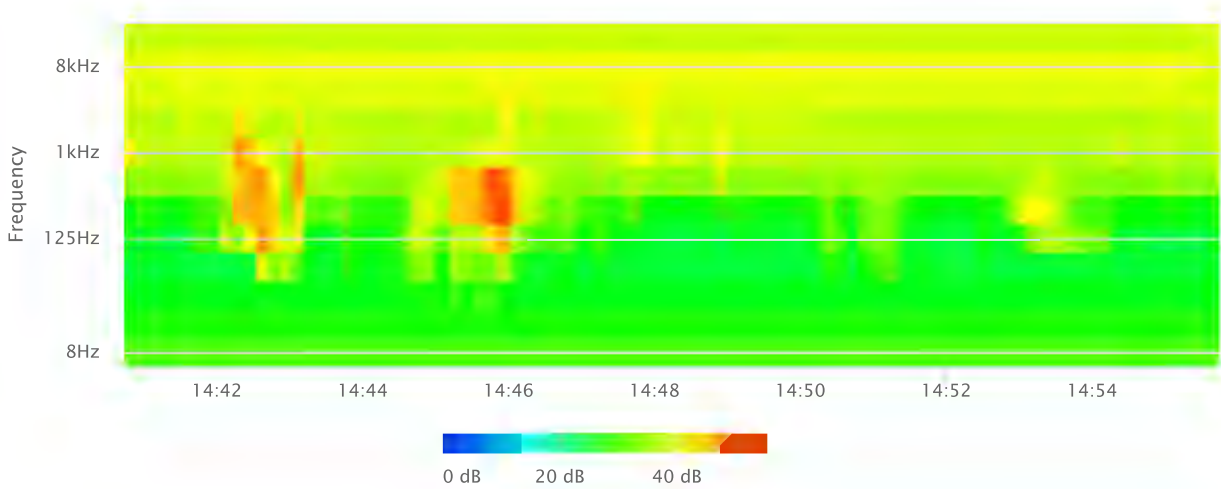
### Statistics

LAS 2.0	52.9 dB
LAS 8.0	48.5 dB
LAS 25.0	41.6 dB
LAS 50.0	38.8 dB
LAS 66.6	37.6 dB
LAS 90.0	35.9 dB

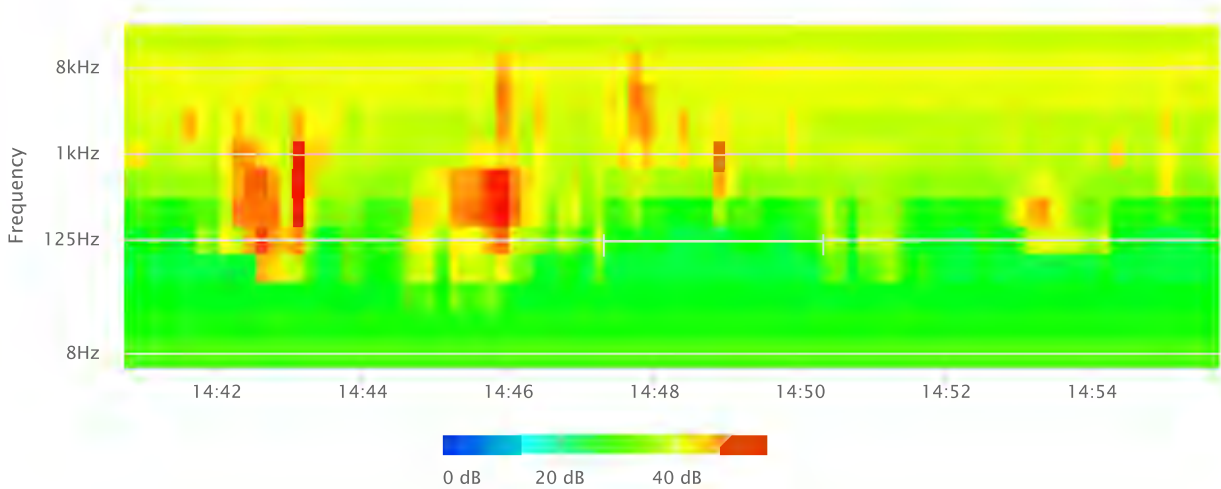
Time History



OBA 1/1 Leq

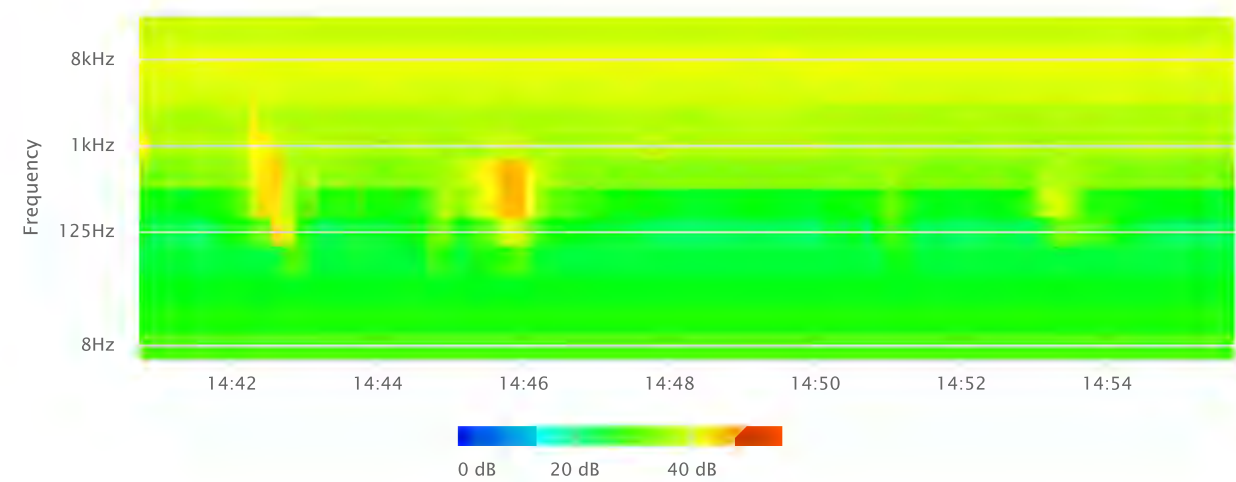


OBA 1/1 Lmax

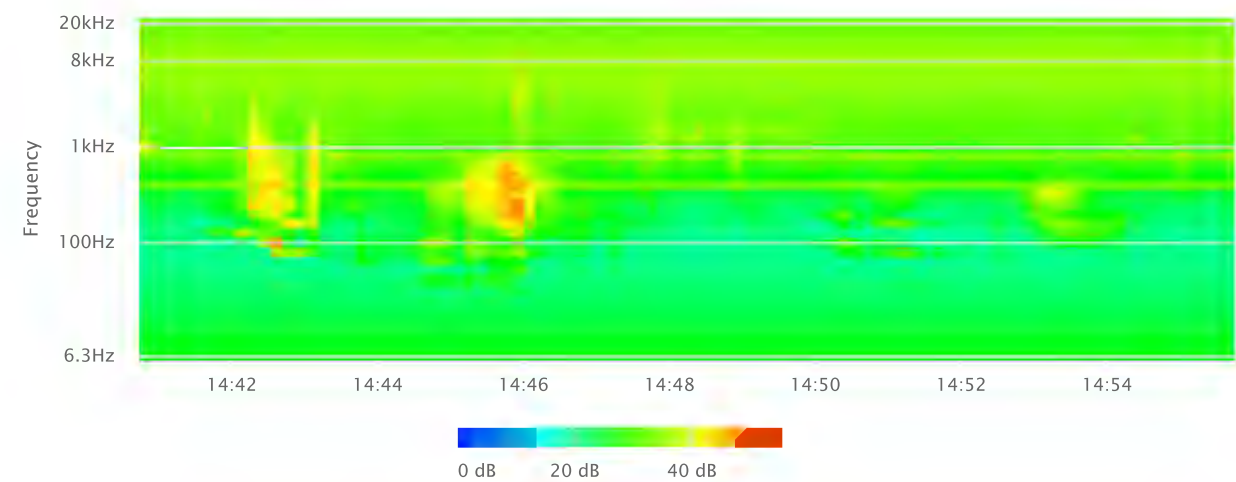




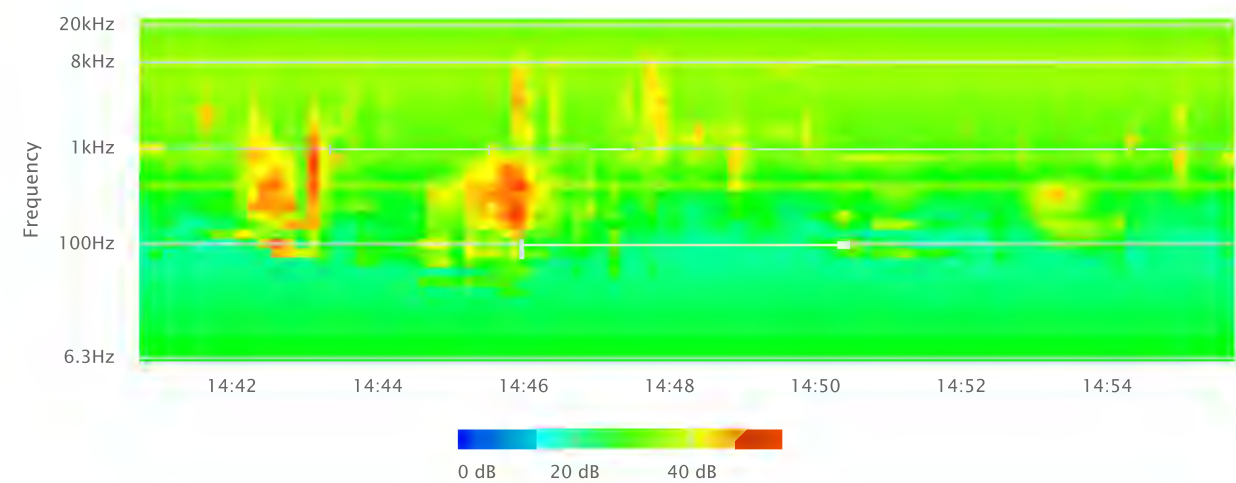
OBA 1/1 Lmin



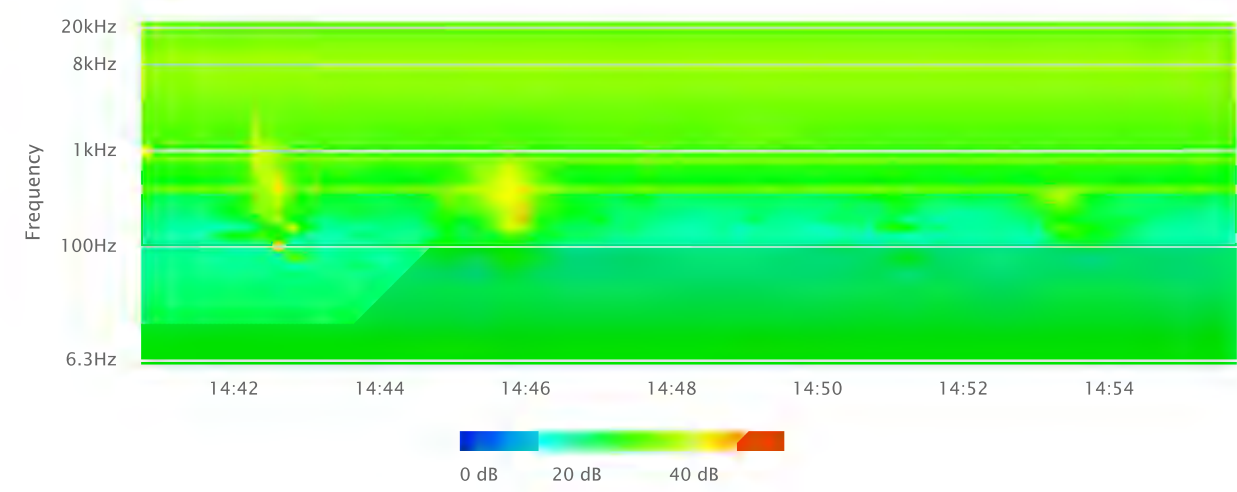
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin



**Noise Measurement  
Field Data**

**Project Name:** CP 20051 New Reservoir 5B-2, City of Rancho Cucamonga **Date:** April 25, 2022

**Project #:** 19491

**Noise Measurement #:** STNM4 Run Time: 15 minutes ( 1 x 15 minutes ) **Technician:** Ian Edward Gallagher

**Nearest Address or Cross Street:** 5191 Mayberry Avenue, Alta Loma, CA 91737

**Site Description (Type of Existing Land Use and any other notable features):** Project Site: Site contains a large water tank & small buildings & is bordered by single-family residential uses to north, Mayberry Ave to east, single-family residential uses & vacant land to south, and single-family homes to west. Noise Measurement Site: Single-family residential to SE, Mayberry Ave to west w/ project site further west, & Hidden Farm Road to north with single-family residential further north.

**Weather:** Clear skies, hazy sunshine. **Settings:** SLOW FAST

**Temperature:** 77 deg F **Wind:** 7mph **Humidity:** 11% **Terrain:** Hilly

**Start Time:** 3:07 PM **End Time:** 3:22 PM **Run Time:**

**Leq:** 45.9 dB **Primary Noise Source:** Traffic noise from the 3 vehicles passing microphone on Hidden Farm Road & Mayberry Avenue intersection

**Lmax** 64.2 dB

**L2** 56.2 dB **Secondary Noise Sources:** Bird song. Some residential ambiance, leaf rustle from 7 mph breeze

**L8** 49.0 dB Overhead air traffic. Very distant traffic ambiance

**L25** 40.6 dB

**L50** 37.9 dB

**NOISE METER:** SoundTrack LXT Class 1 **CALIBRATOR:** Larson Davis CAL 200

**MAKE:** Larson Davis **MAKE:** Larson Davis

**MODEL:** LXT1 **MODEL:** CAL 200

**SERIAL NUMBER:** 3855 **SERIAL NUMBER:** 11178

**FACTORY CALIBRATION DATE:** 6/7/2021 **FACTORY CALIBRATION DATE:** 6/8/2021

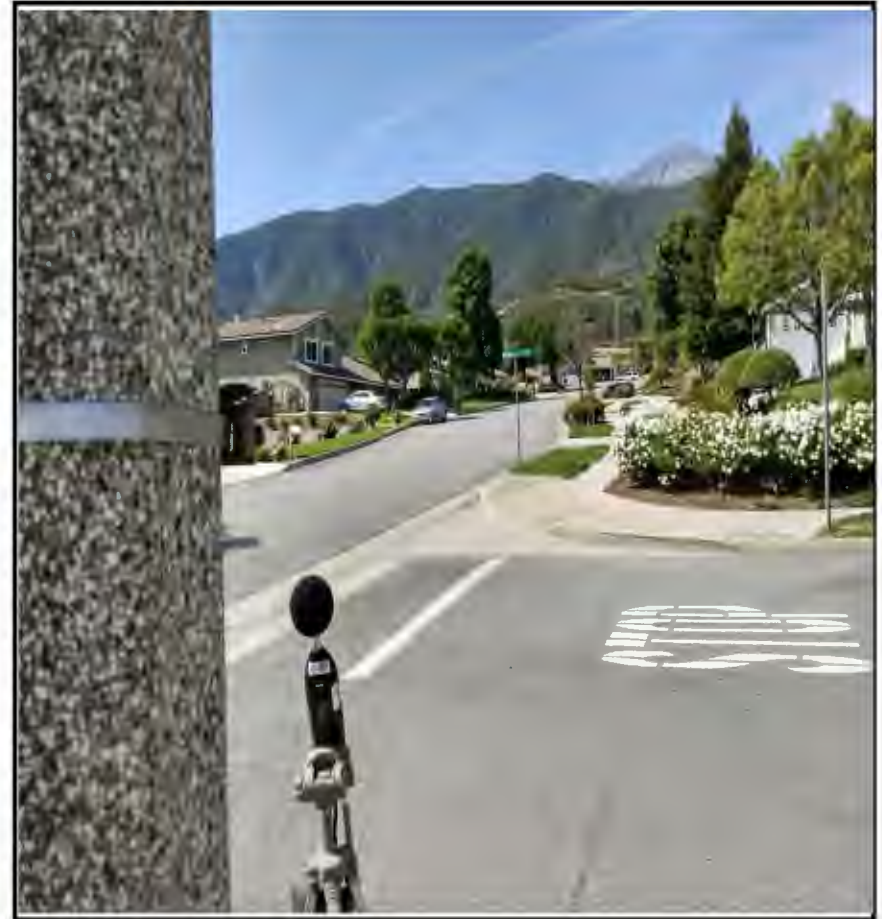
**FIELD CALIBRATION DATE:** 4/25/2022

Noise Measurement  
Field Data

PHOTOS:



STNM4 looking SE across frontyard of residence 5191 Mayberry Avenue, Alta Loma.



STNM4 looking NNW across Hidden Farm Road & Mayberry Ave intersection.

## Summary

File Name on Meter	LxT_Data.007.s
File Name on PC	LxT_0003855-20220425 150750-LxT_Data.007.ldbir
Serial Number	3855
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM4 34° 9'40.88"N 117°34'47.28"W
Job Description	15 minute noise measurement ( 1 x 15 minutes )
Note	Ganddini 19491, City of Rancho Cucamonga

## Measurement

Start	2022-04-25 15:07:50
Stop	2022-04-25 15:22:50
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-04-25 15:07:24
Post-Calibration	None

## Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	Bin Max
Overload	145.2 dB

## Results

LAeq	45.9
LAE	75.4
EA	3.847383 µPa²h
EA8	123.1163 µPa²h
EA40	615.5814 µPa²h
LApeak (max)	2022-04-25 15:08:04 80.1 dB
LASmax	2022-04-25 15:14:37 64.2 dB
LASmin	2022-04-25 15:09:03 33.7 dB

## Statistics

LCeq	58.5 dB	LA2.00	56.2 dB
LAeq	45.9 dB	LA8.00	49.0 dB
LCeq - LAeq	12.7 dB	LA25.00	40.6 dB
LAleq	48.8 dB	LA50.00	37.9 dB
LAeq	45.9 dB	LA66.60	36.8 dB
LAleq - LAeq	2.9 dB	LA90.00	35.2 dB
Overload Count	0		

# Measurement Report

## Report Summary

Meter's File Name	LxT_Data.007.s	Computer's File Name	LxT_0003855-20220425 150750-LxT_Data.007.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM4 34° 9'40.88"N 117°34'47.28"W
Job Description	15 minute noise measurement ( 1 x 15 minutes )		
Note	Ganddini 19491, City of Rancho Cucamonga		
Start Time	2022-04-25 15:07:50	Duration	0:15:00.0
End Time	2022-04-25 15:22:50	Run Time	0:15:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

LA <sub>eq</sub>	45.9 dB		
LAE	75.4 dB	SEA	--- dB
EA	3.8 µPa²h	LAFTM5	51.0 dB
EA8	123.1 µPa²h		
EA40	615.6 µPa²h		
LA <sub>peak</sub>	80.1 dB	2022-04-25 15:08:04	
LAS <sub>max</sub>	64.2 dB	2022-04-25 15:14:37	
LAS <sub>min</sub>	33.7 dB	2022-04-25 15:09:03	
LA <sub>eq</sub>	45.9 dB		
LC <sub>eq</sub>	58.5 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	12.7 dB
LAI <sub>eq</sub>	48.8 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	2.9 dB

### Exceedances

### Count Duration

LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 135.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 137.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB
LDEN	LDay	LEve
--- dB	--- dB	---
		LNight
		--- dB

### Any Data

	Level	A Time Stamp	Level	C Time Stamp	Level	Z Time Stamp
L <sub>eq</sub>	45.9 dB		58.5 dB		---	
LS <sub>(max)</sub>	64.2 dB	2022-04-25 15:14:37	---		---	
LS <sub>(min)</sub>	33.7 dB	2022-04-25 15:09:03	---		---	
L <sub>Peak(max)</sub>	80.1 dB	2022-04-25 15:08:04	---		---	

### Overloads

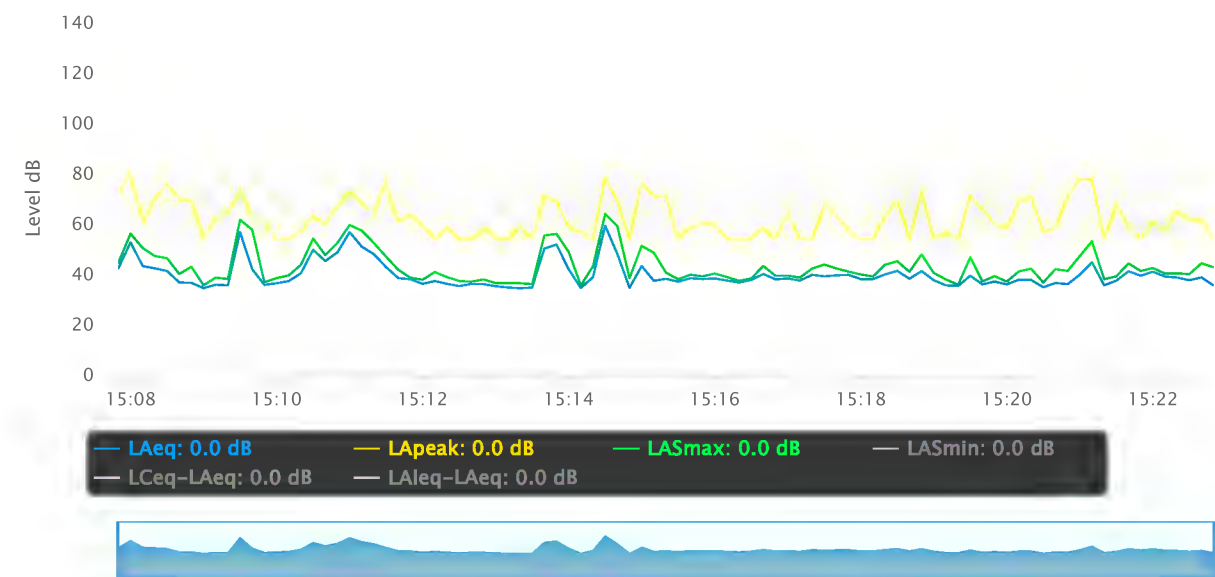
Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

### Statistics

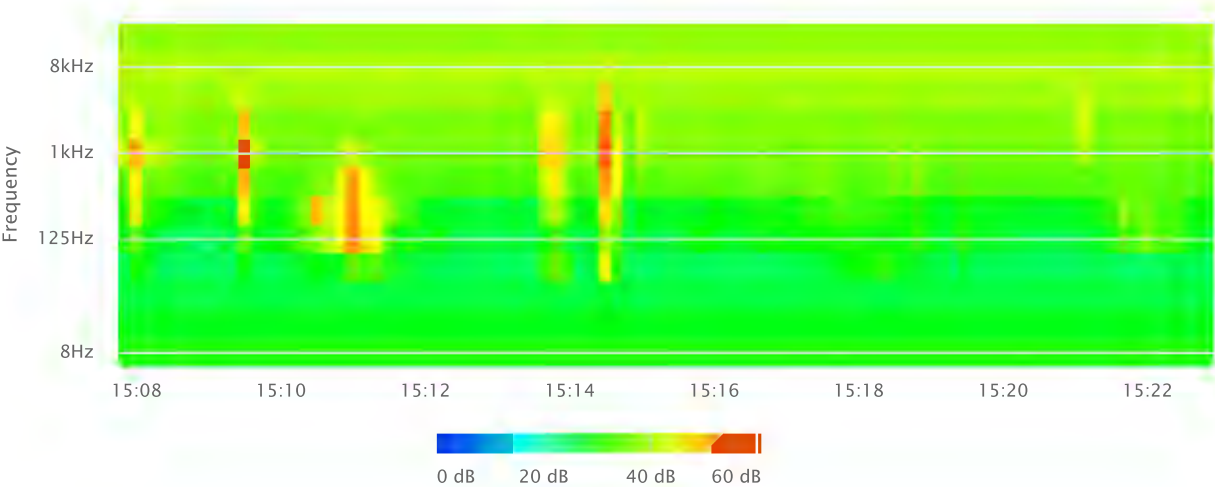
LAS 2.0	56.2 dB
LAS 8.0	49.0 dB
LAS 25.0	40.6 dB
LAS 50.0	37.9 dB
LAS 66.6	36.8 dB
LAS 90.0	35.2 dB



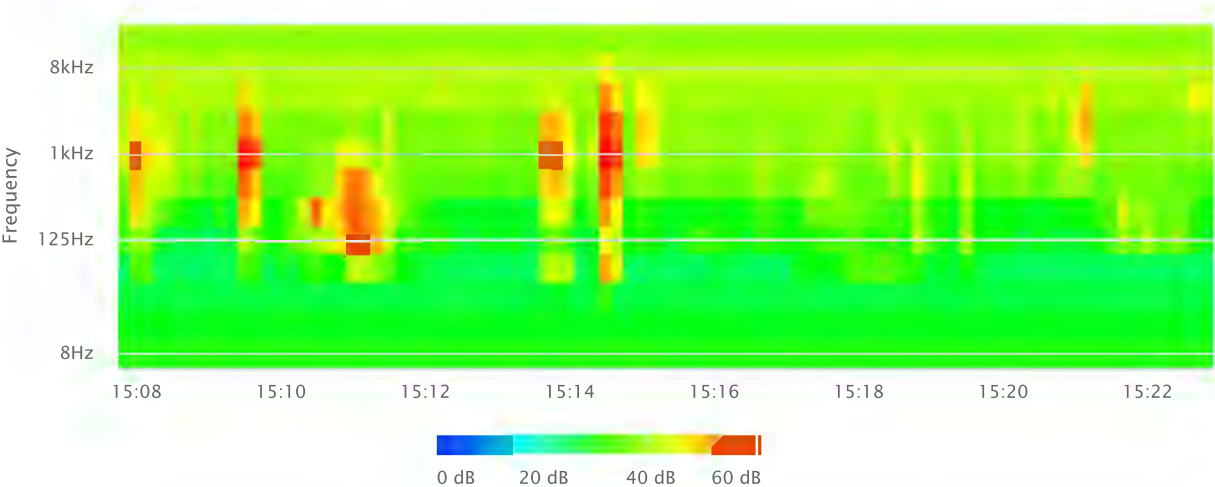
Time History



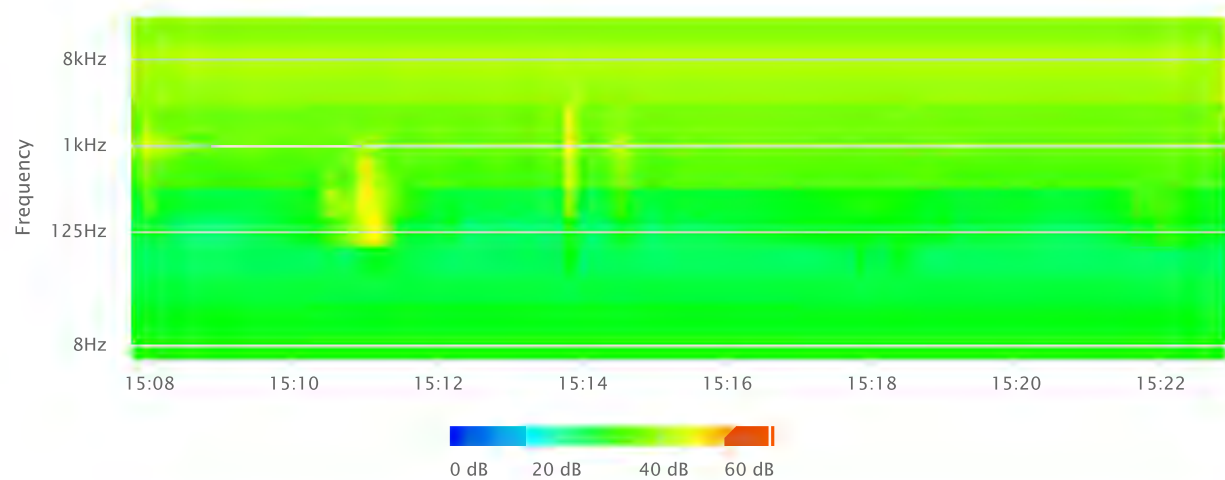
OBA 1/1 Leq



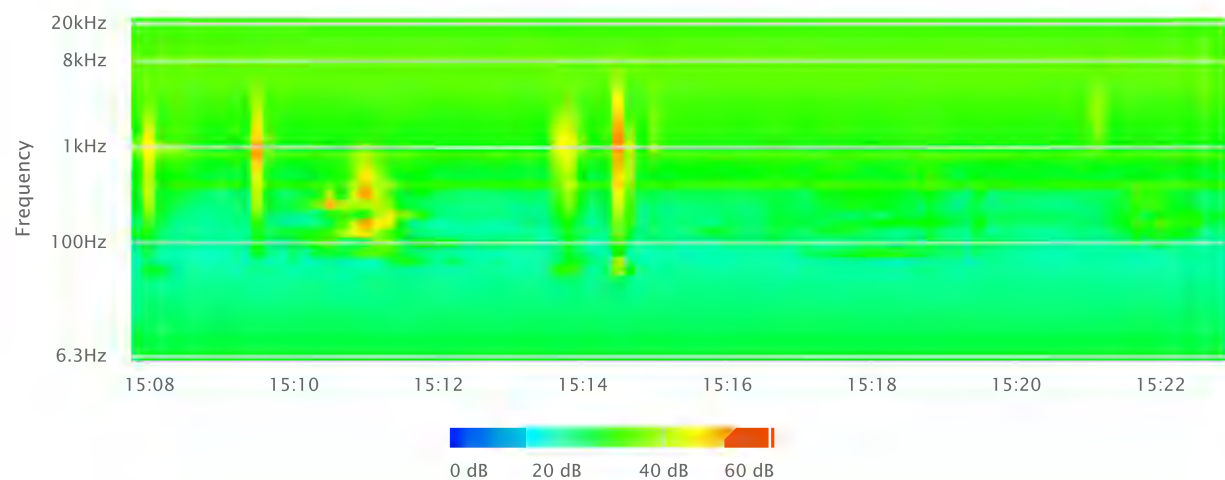
OBA 1/1 Lmax



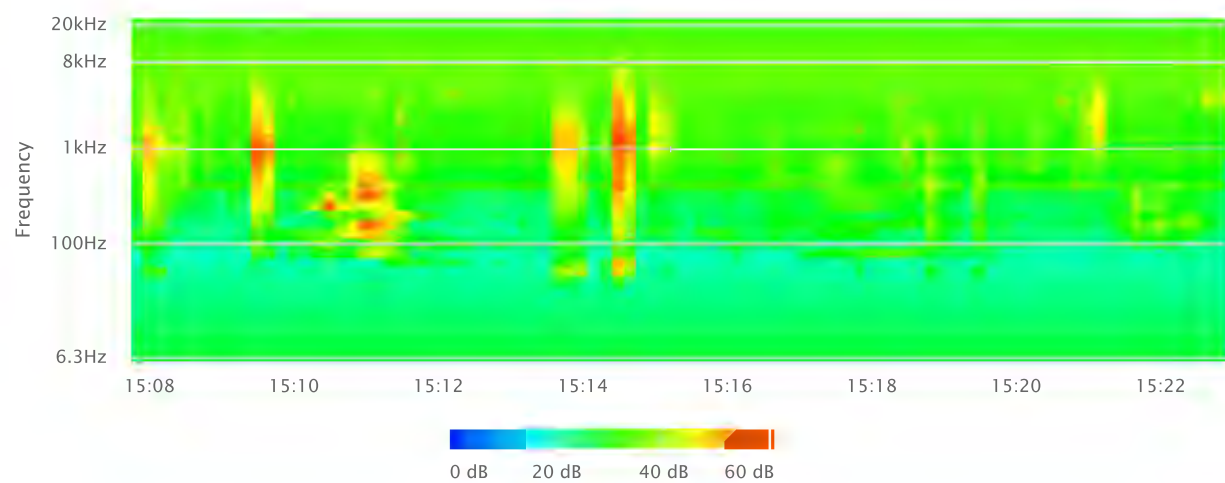
OBA 1/1 Lmin



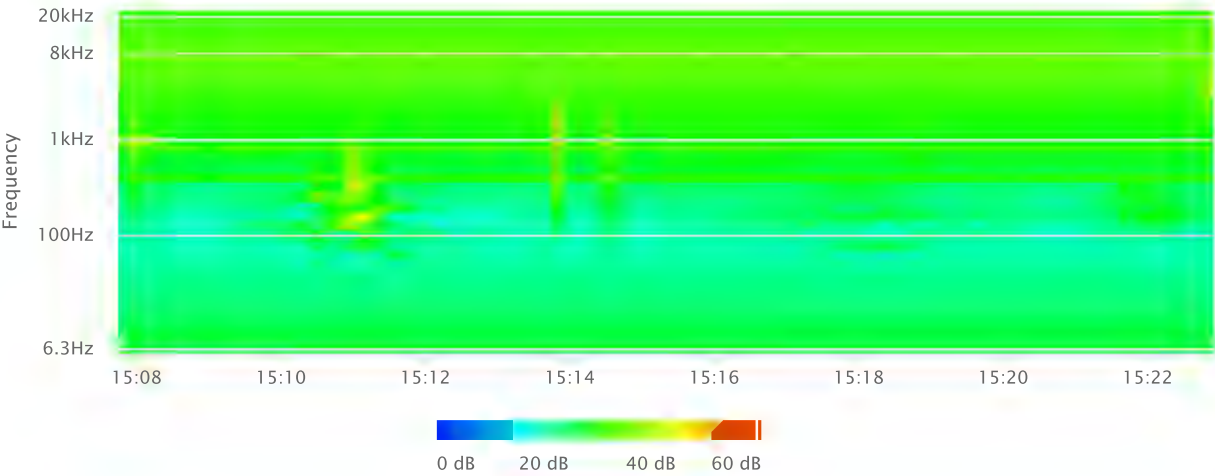
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin



**Noise Measurement  
Field Data**

**Project Name:** CP 20051 New Reservoir 5B-2, City of Rancho Cucamonga **Date:** April 25, 2022

**Project #:** 19491

**Noise Measurement #:** STNM5 Run Time: 15 minutes ( 1 x 15 minutes ) **Technician:** Ian Edward Gallagher

**Nearest Address or Cross Street:** 5235 Mayberry Avenue, Rancho Cucamonga, CA 91737

**Site Description (Type of Existing Land Use and any other notable features):** Project Site: Site contains a large water tank & small buildings & is bordered by single-family residential uses to north, Mayberry Ave to east, single-family residential uses & vacant land to south, and single-family homes to west. Noise Measurement Site: Mayberry Ave to west with single-family residential further west and single-family residential to east.

**Weather:** Clear skies, hazy sunshine. **Settings:** SLOW FAST

**Temperature:** 77 deg F **Wind:** 7mph **Humidity:** 11% **Terrain:** Hilly

**Start Time:** 3:30 PM **End Time:** 3:45 PM **Run Time:**

**Leq:** 51.1 dB **Primary Noise Source:** Traffic noise from the 2 vehicles passing microphone on Mayberry Avenue.

**Lmax** 67.4 dB

**L2** 61.9 dB **Secondary Noise Sources:** Bird song. Some residential ambiance, leaf rustle from 7 mph breeze.

**L8** 56.0 dB Overhead air traffic. Very distant traffic ambiance. Distant barking dog.

**L25** 44.7 dB

**L50** 40.6 dB

**NOISE METER:** SoundTrack LXT Class 1 **CALIBRATOR:** Larson Davis CAL 200

**MAKE:** Larson Davis **MAKE:** Larson Davis

**MODEL:** LXT1 **MODEL:** CAL 200

**SERIAL NUMBER:** 3855 **SERIAL NUMBER:** 11178

**FACTORY CALIBRATION DATE:** 6/7/2021 **FACTORY CALIBRATION DATE:** 6/8/2021

**FIELD CALIBRATION DATE:** 4/25/2022

Noise Measurement  
Field Data

PHOTOS:



STNM5 looking at frontyard of residence 5235 Mayberry Avenue, Rancho Cucamonga.



STNM5 looking S down Mayberry Avenue towards Carrari Street intersection.



## Summary

File Name on Meter	LxT_Data.008.s
File Name on PC	LxT_0003855-20220425 153051-LxT_Data.008.ldbin
Serial Number	3855
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM5 34° 9'36.30"N 117°34'47.50"W
Job Description	15 minute noise measurement ( 1 x 15 minutes )
Note	Ganddini 19491, City of Rancho Cucamonga

## Measurement

### Description

Start	2022-04-25 15:30:51
Stop	2022-04-25 15:45:51
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-04-25 15:30:22
Post-Calibration	None

## Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	Bin Max
Overload	145.3 dB

## Results

LAeq	51.1
LAE	80.6
EA	12.84035 $\mu\text{Pa}^2\text{h}$
EA8	410.8911 $\mu\text{Pa}^2\text{h}$
EA40	2.054456 $\text{mPa}^2\text{h}$
LApeak (max)	2022-04-25 15:44:23 88.4 dB
LASmax	2022-04-25 15:32:10 67.4 dB
LASmin	2022-04-25 15:41:54 34.0 dB

## Statistics

LCeq	60.7 dB	LA2.00	61.9 dB
LAeq	51.1 dB	LA8.00	56.0 dB
LCeq - LAeq	9.6 dB	LA25.00	44.7 dB
LALeq	55.6 dB	LA50.00	40.6 dB
LAeq	51.1 dB	LA66.60	38.7 dB
LALeq - LAeq	4.5 dB	LA90.00	35.8 dB
Overload Count	0		



# Measurement Report

## Report Summary

Meter's File Name	LxT_Data.008.s	Computer's File Name	LxT_0003855-20220425 153051-LxT_Data.008.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM5 34° 9'36.30"N 117°34'47.50"W
Job Description	15 minute noise measurement ( 1 x 15 minutes )		
Note	Ganddini 19491, City of Rancho Cucamonga		
Start Time	2022-04-25 15:30:51	Duration	0:15:00.0
End Time	2022-04-25 15:45:51	Run Time	0:15:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

LA <sub>eq</sub>	51.1 dB		
LAE	80.6 dB	SEA	--- dB
EA	12.8 µPa²h	LAFTM5	56.9 dB
EA8	410.9 µPa²h		
EA40	2.1 mPa²h		
LA <sub>peak</sub>	88.4 dB	2022-04-25 15:44:23	
LAS <sub>max</sub>	67.4 dB	2022-04-25 15:32:10	
LAS <sub>min</sub>	34.0 dB	2022-04-25 15:41:54	
LA <sub>eq</sub>	51.1 dB		
LC <sub>eq</sub>	60.7 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	9.6 dB
LAI <sub>eq</sub>	55.6 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	4.5 dB

### Exceedances

### Count Duration

LAS > 65.0 dB	3	0:00:10.7
LAS > 85.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 135.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 137.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB
LDEN	LDay	LEve
--- dB	--- dB	---
		LNight
		--- dB

### Any Data

	Level	A Time Stamp	Level	C Time Stamp	Level	Z Time Stamp
L <sub>eq</sub>	51.1 dB		60.7 dB		---	
LS <sub>(max)</sub>	67.4 dB	2022-04-25 15:32:10	---		---	
LS <sub>(min)</sub>	34.0 dB	2022-04-25 15:41:54	---		---	
L <sub>Peak(max)</sub>	88.4 dB	2022-04-25 15:44:23	---		---	

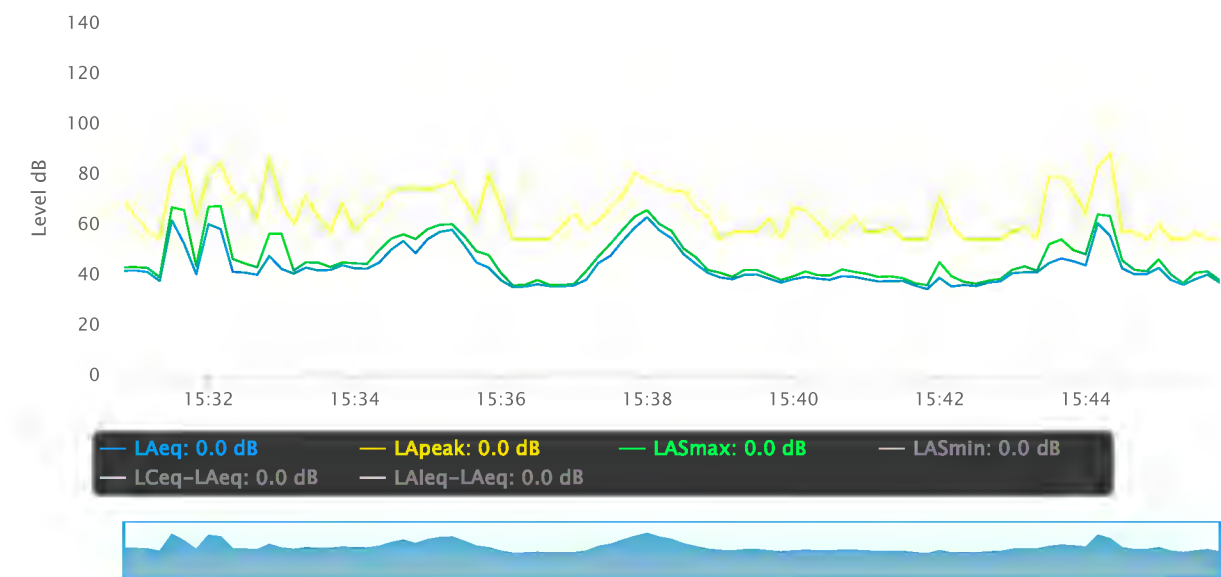
### Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

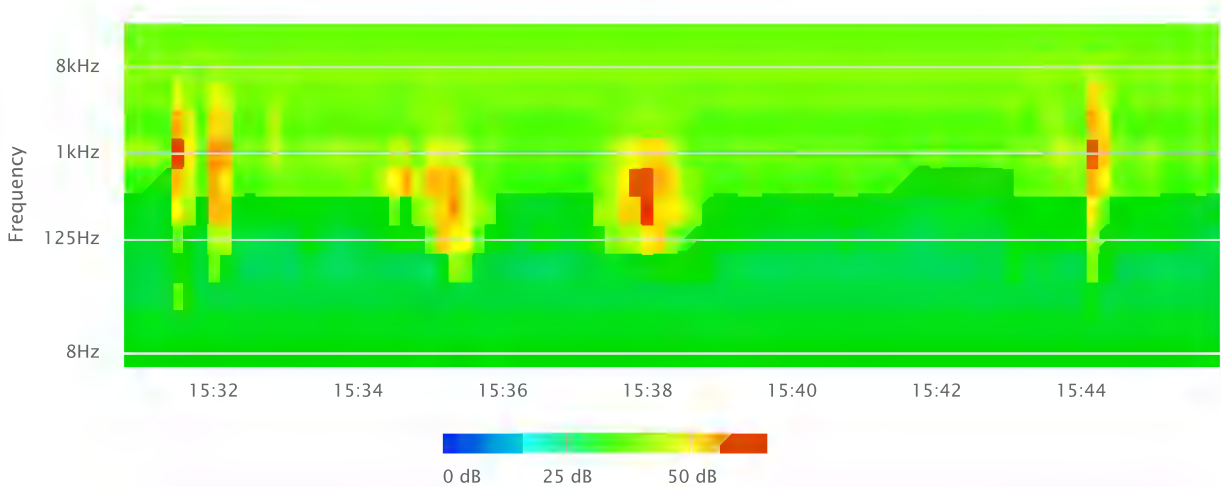
### Statistics

LAS 2.0	61.9 dB
LAS 8.0	56.0 dB
LAS 25.0	44.7 dB
LAS 50.0	40.6 dB
LAS 66.6	38.7 dB
LAS 90.0	35.8 dB

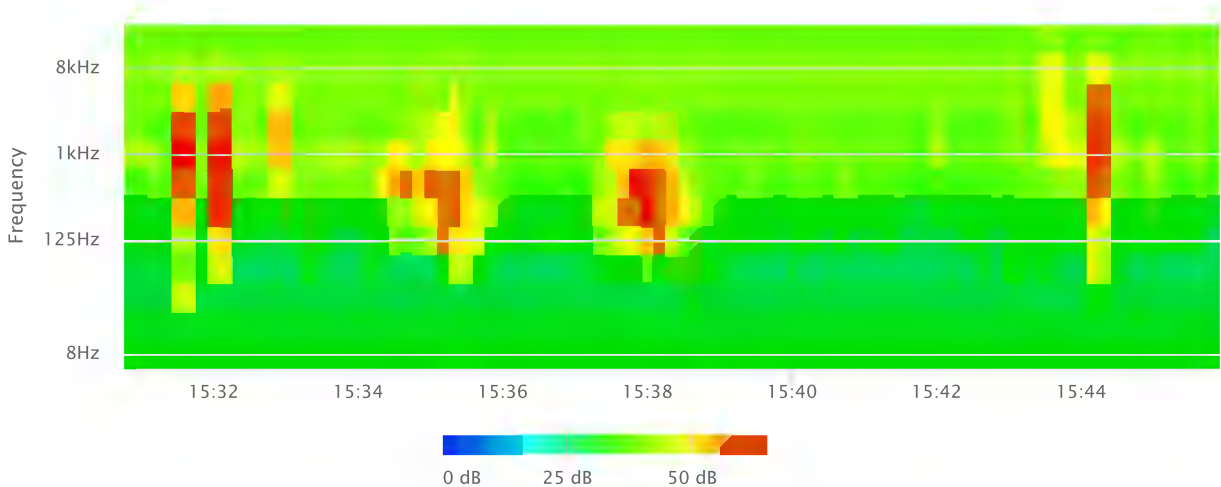
Time History



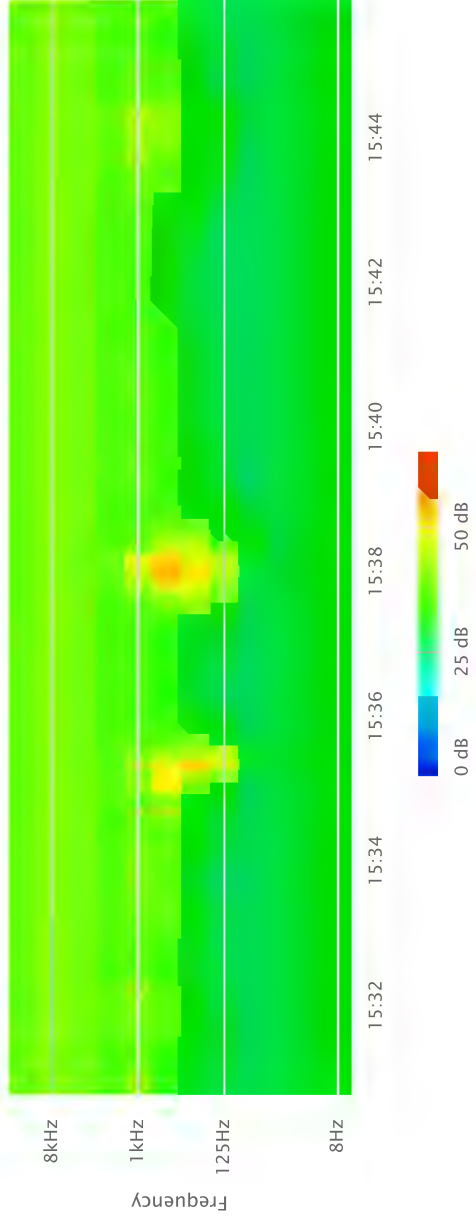
OBA 1/1 Leq



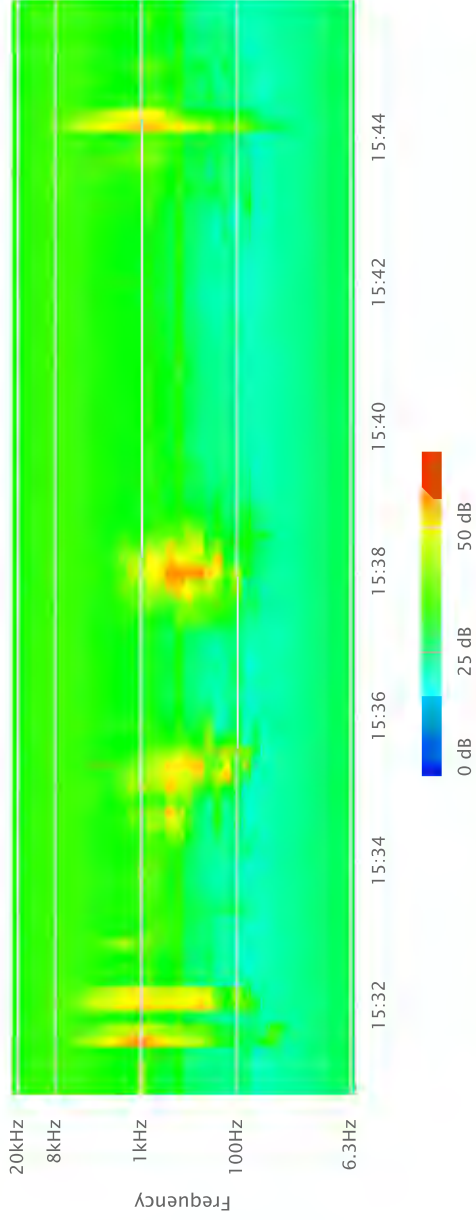
OBA 1/1 Lmax



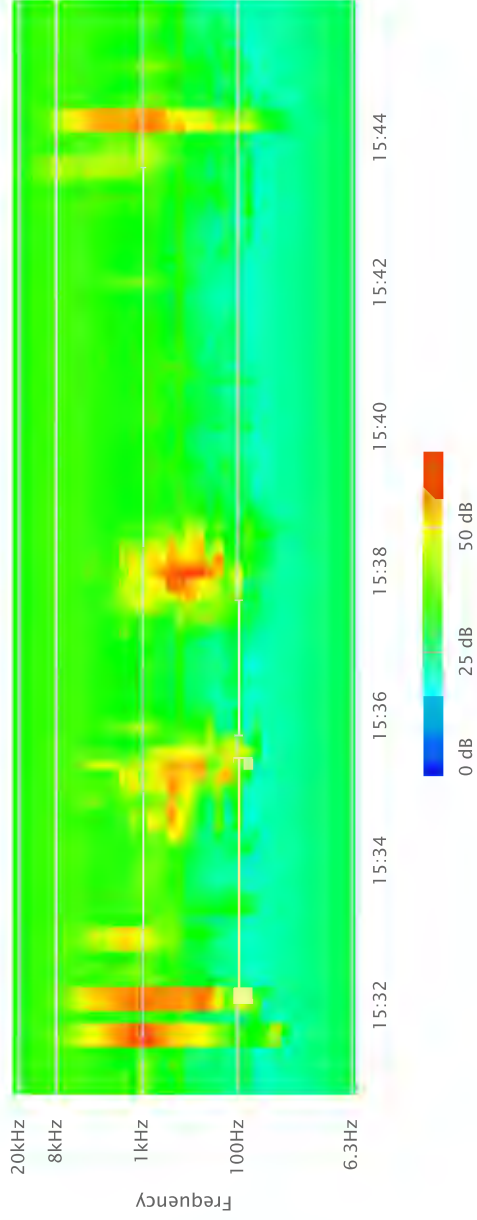
OBA 1 /1 Lmin



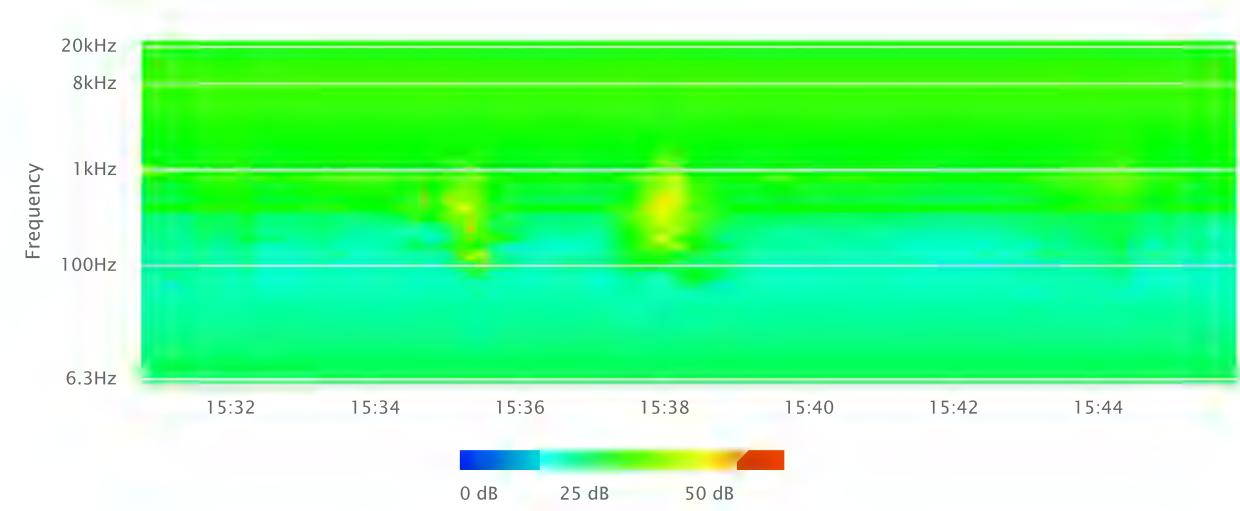
OBA 1 /3 Leq



OBA 1 /3 Lmax



OBA 1/3 Lmin



**Noise Measurement  
Field Data**

**Project Name:** CP 20051 New Reservoir 5B-2, City of Rancho Cucamonga **Date:** April 25, 2022

**Project #:** 19491

**Noise Measurement #:** STNM6 Run Time: 15 minutes ( 1 x 15 minutes ) **Technician:** Ian Edward Gallagher

**Nearest Address or Cross Street:** 5200 Rocky Mountain Pl, Rancho Cucamonga, CA 91737

**Site Description (Type of Existing Land Use and any other notable features):** Project Site: Site contains a large water tank & small buildings & is bordered by single-family residential uses to north, Mayberry Ave to east, single-family residential uses & vacant land to south, and single-family homes to west. Noise Measurement Site: Vacant project site area to north, single-family residential to northeast, Carrari St to east, Rocky Mountain Place to south, & single-family residential to southwest.

**Weather:** Clear skies, hazy sunshine. **Settings:** SLOW FAST

**Temperature:** 77 deg F **Wind:** 7mph **Humidity:** 11% **Terrain:** Hilly

**Start Time:** 3:56 PM **End Time:** 4:11 PM **Run Time:**

**Leq:** 46.9 dB **Primary Noise Source:** Traffic noise from the 2 vehicles passing microphone on Carrari Street & Rocky Mountain Place.

**Lmax** 62.4 dB

**L2** 53.9 dB **Secondary Noise Sources:** Bird song. Some residential ambiance, leaf rustle from 7 mph breeze.

**L8** 51.2 dB Overhead air traffic. Very distant traffic ambiance. Distant barking dog.

**L25** 47.7 dB

**L50** 43.6 dB

**NOISE METER:** SoundTrack LXT Class 1 **CALIBRATOR:** Larson Davis CAL 200

**MAKE:** Larson Davis **MAKE:** Larson Davis

**MODEL:** LXT1 **MODEL:** CAL 200

**SERIAL NUMBER:** 3855 **SERIAL NUMBER:** 11178

**FACTORY CALIBRATION DATE:** 6/7/2021 **FACTORY CALIBRATION DATE:** 6/8/2021

**FIELD CALIBRATION DATE:** 4/25/2022



Noise Measurement  
Field Data

PHOTOS:



STNM6 looking SSW down Rocky Mountain Pl toward residence 5200 Rocky Mountain Pl, Rancho Cucamonga.



STNM6 looking E down Carrari Street.



## Summary

File Name on Meter	LxT_Data.009.s
File Name on PC	LxT_0003855-20220425 155634-LxT_Data.009.ldbin
Serial Number	0003855
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM6
Job Description	15 minute noise measurement ( 1 x 15 minutes )
Note	Ganddini 19491, City of Rancho Cucamonga

## Measurement

Start	2022-04-25 15:56:34
Stop	2022-04-25 16:11:34
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-04-25 15:56:09
Post-Calibration	None

## Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	Bin Max
Overload	145.4 dB

## Results

LAeq	46.9
LAE	76.5
EA	4.921 $\mu\text{Pa}^2\text{h}$
EA8	157.457 $\mu\text{Pa}^2\text{h}$
EA40	787.286 $\mu\text{Pa}^2\text{h}$
LApeak (max)	2022-04-25 16:07:15 89.7 dB
LASmax	2022-04-25 16:07:06 62.4 dB
LASmin	2022-04-25 16:02:03 33.6 dB

## Statistics

LCeq	55.7 dB	LA2.00	53.9 dB
LAeq	46.9 dB	LA8.00	51.2 dB
LCeq - LAeq	8.8 dB	LA25.00	47.7 dB
LAlaq	51.2 dB	LA50.00	43.6 dB
LAeq	46.9 dB	LA66.60	41.0 dB
LAlaq - LAeq	4.3 dB	LA90.00	36.7 dB
Overload Count	0		

# Measurement Report

## Report Summary

Meter's File Name	LxT_Data.009.s	Computer's File Name	LxT_0003855-20220425 155634-LxT_Data.009.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM6 34° 9'34.82"N 117°34'53.38"W
Job Description	15 minute noise measurement ( 1 x 15 minutes )		
Note	Ganddini 19491, City of Rancho Cucamonga		
Start Time	2022-04-25 15:56:34	Duration	0:15:00.0
End Time	2022-04-25 16:11:34	Run Time	0:15:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

LA <sub>eq</sub>	46.9 dB		
LAE	76.5 dB	SEA	--- dB
EA	4.9 µPa²h	LAFTM5	52.6 dB
EA8	157.5 µPa²h		
EA40	787.3 µPa²h		
LA <sub>peak</sub>	89.7 dB	2022-04-25 16:07:15	
LAS <sub>max</sub>	62.4 dB	2022-04-25 16:07:06	
LAS <sub>min</sub>	33.6 dB	2022-04-25 16:02:03	
LA <sub>eq</sub>	46.9 dB		
LC <sub>eq</sub>	55.7 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	8.8 dB
LAI <sub>eq</sub>	51.2 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	4.3 dB

### Exceedances

	Count	Duration
LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 135.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 137.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB
LDEN	LDay	LEve
--- dB	--- dB	---
		LNight
		--- dB

### Any Data

	Level	A Time Stamp	Level	C Time Stamp	Level	Z Time Stamp
L <sub>eq</sub>	46.9 dB		55.7 dB		---	
LS <sub>(max)</sub>	62.4 dB	2022-04-25 16:07:06	---		---	
LS <sub>(min)</sub>	33.6 dB	2022-04-25 16:02:03	---		---	
L <sub>Peak(max)</sub>	89.7 dB	2022-04-25 16:07:15	---		---	

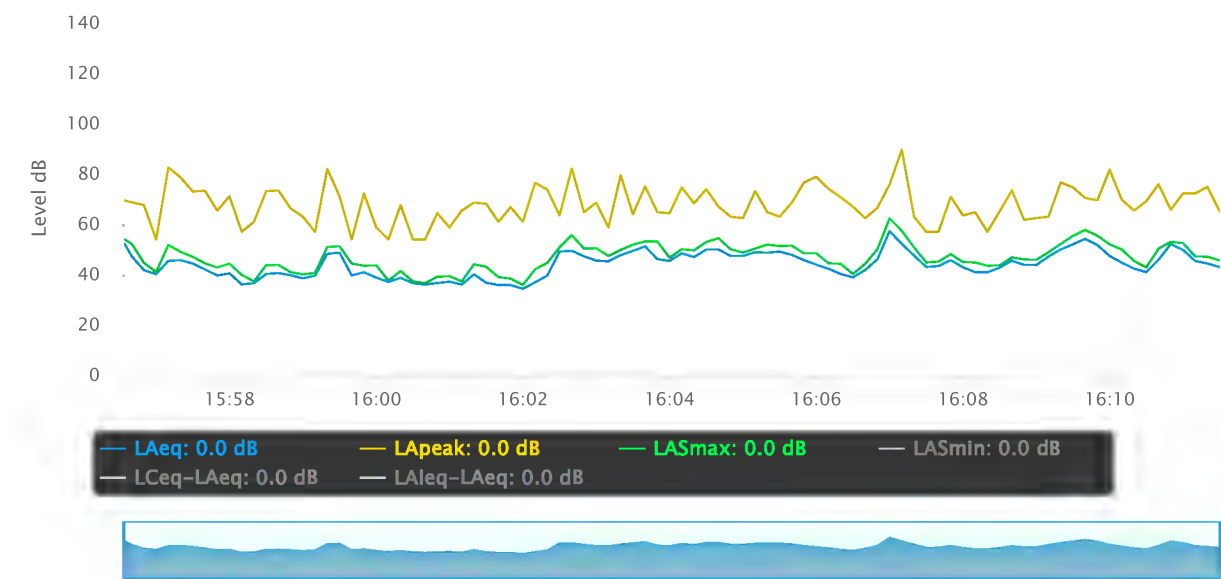
### Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

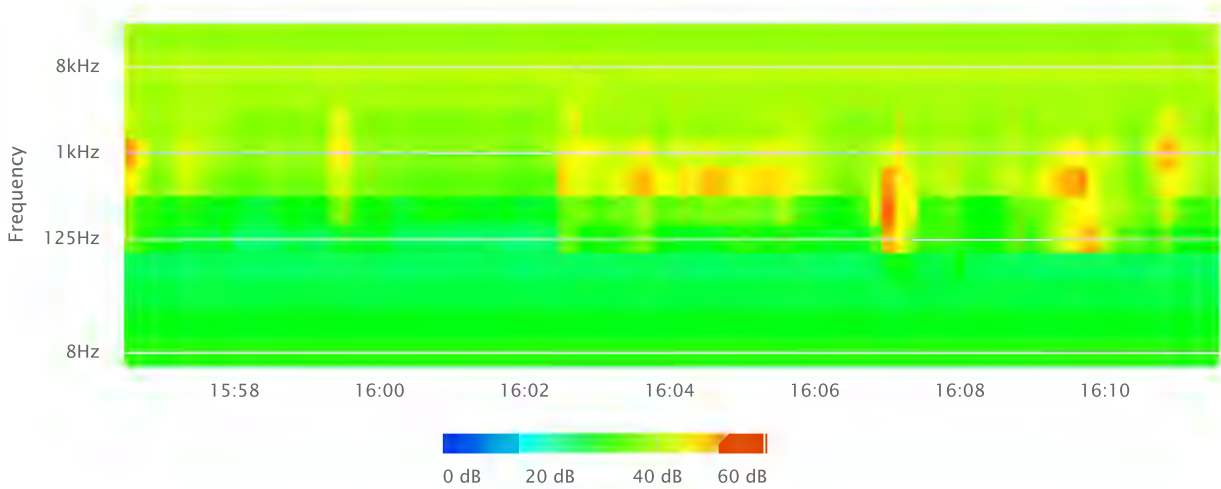
### Statistics

LAS 2.0	53.9 dB
LAS 8.0	51.2 dB
LAS 25.0	47.7 dB
LAS 50.0	43.6 dB
LAS 66.6	41.0 dB
LAS 90.0	36.7 dB

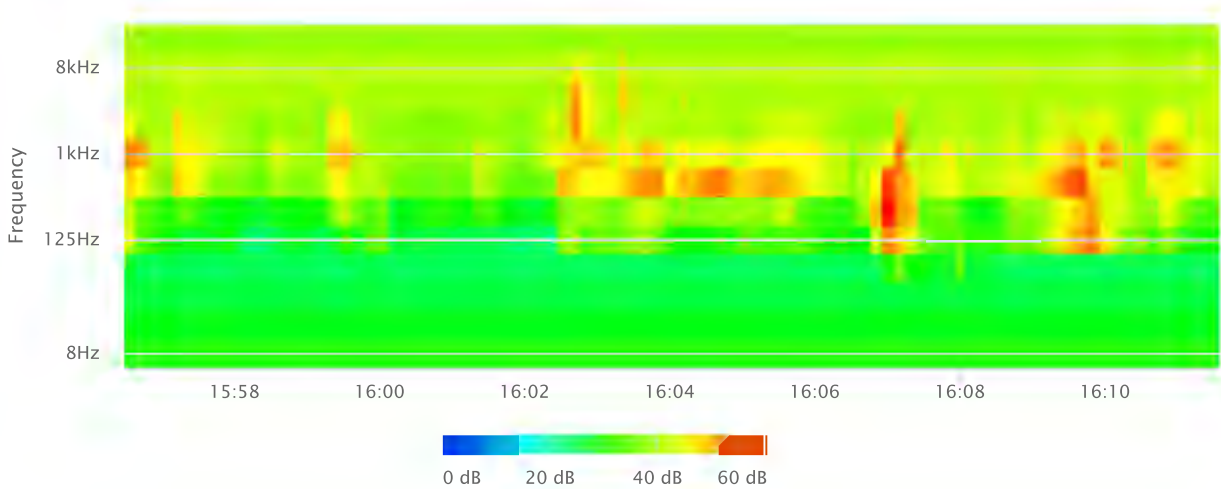
Time History



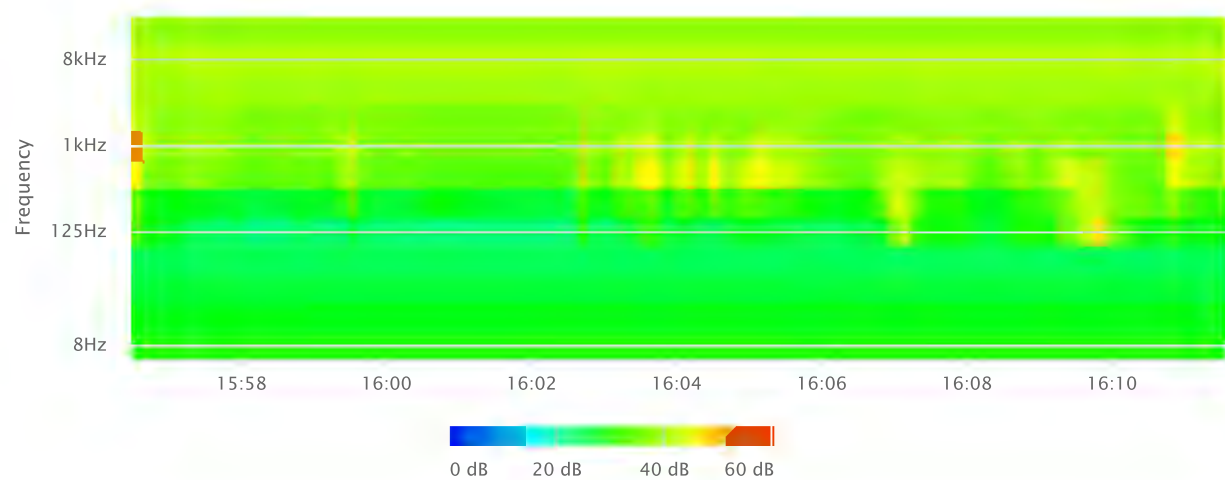
OBA 1/1 Leq



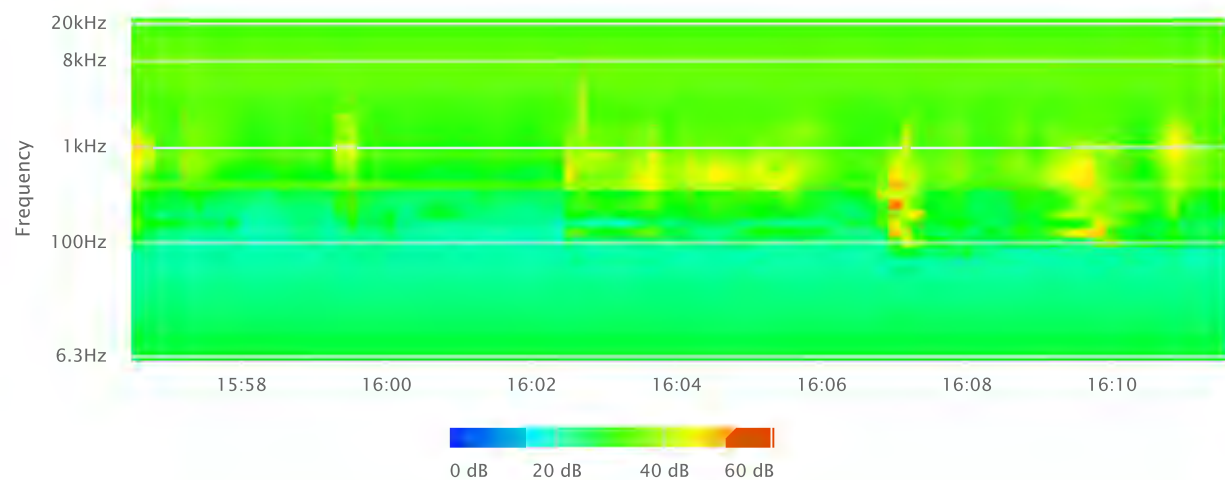
OBA 1/1 Lmax



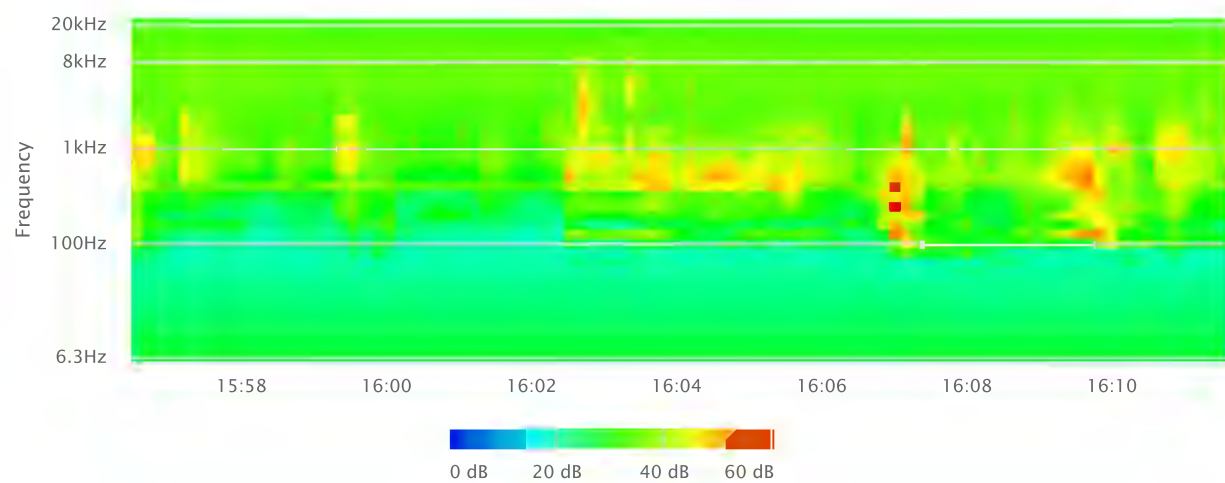
OBA 1/1 Lmin



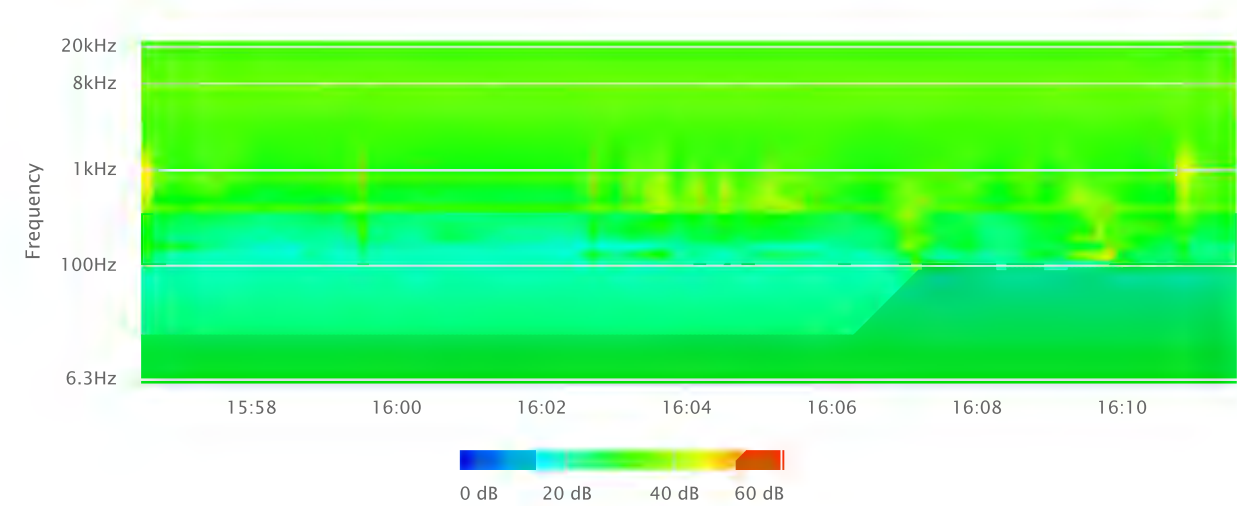
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1/3 Lmin



**Noise Measurement  
Field Data**

**Project Name:** CP 20051 New Reservoir 5B-2, City of Rancho Cucamonga **Date:** April 25, 2022

**Project #:** 19491

**Noise Measurement #:** STNM7 Run Time: 15 minutes ( 1 x 15 minutes ) **Technician:** Ian Edward Gallagher

**Nearest Address or Cross Street:** 5167 Silver Mountain Way, Rancho Cucamonga, CA 91737

**Site Description (Type of Existing Land Use and any other notable features):** Project Site: Site contains a large water tank & small buildings & is bordered by single-family residential uses to north, Mayberry Ave to east, single-family residential uses & vacant land to south, and single-family homes to west. Noise Measurement Site: Vacant land to east with single-family residential further east, single-family residential to west, & project site to north and south.

**Weather:** Clear skies, hazy sunshine. **Settings:** SLOW FAST

**Temperature:** 77 deg F **Wind:** 7mph **Humidity:** 11% **Terrain:** Hilly

**Start Time:** 4:25 PM **End Time:** 4:40 PM **Run Time:**

**Leq:** 45.4 dB **Primary Noise Source:** Bird Song.

**Lmax** 61.1 dB

**L2** 51.0 dB **Secondary Noise Sources:** Some residential ambiance, leaf rustle from 7 mph breeze.

**L8** 48.4 dB Overhead air traffic. Very distant traffic ambiance. Distant barking dog.

**L25** 45.9 dB

**L50** 44.1 dB

**NOISE METER:** SoundTrack LXT Class 1 **CALIBRATOR:** Larson Davis CAL 200

**MAKE:** Larson Davis **MAKE:** Larson Davis

**MODEL:** LXT1 **MODEL:** CAL 200

**SERIAL NUMBER:** 3855 **SERIAL NUMBER:** 11178

**FACTORY CALIBRATION DATE:** 6/7/2021 **FACTORY CALIBRATION DATE:** 6/8/2021

**FIELD CALIBRATION DATE:** 4/25/2022



Noise Measurement  
Field Data

PHOTOS:



STNM7 looking WNW across backyard of residence 5167 Silver Mountain Way, Rancho Cucamonga.



STNM7 looking S down dirt access road towards residence 5200 Rocky Mountain Pl, Rancho Cucamonga.

## Summary

File Name on Meter	LxT_Data.010.s
File Name on PC	LxT_0003855-20220425 162542-LxT_Data.010.lnk
Serial Number	3855
Model	SoundTrack LxT®
Firmware Version	2.404
User	Ian Edward Gallagher
Location	STNM7 34° 9'37.33"N 117°34'54.63"W
Job Description	15 minute noise measurement ( 1 x 15 minutes )
Note	Ganddini 19491, City of Rancho Cucamonga

## Measurement

Start	2022-04-25 16:25:42
Stop	2022-04-25 16:40:42
Duration	00:15:00.0
Run Time	00:15:00.0
Pause	00:00:00.0
Pre-Calibration	2022-04-25 16:24:53
Post-Calibration	None

## Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	Bin Max
Overload	145.4 dB

## Results

LAeq	45.4
LAE	74.9
EA	3.469535 $\mu\text{Pa}^2\text{h}$
EA8	111.0251 $\mu\text{Pa}^2\text{h}$
EA40	555.1256 $\mu\text{Pa}^2\text{h}$
LApeak (max)	2022-04-25 16:36:51 92.0 dB
LASmax	2022-04-25 16:33:31 61.1 dB
LASmin	2022-04-25 16:26:03 37.1 dB

## Statistics

LCeq	59.3 dB	LA2.00	51.0 dB
LAeq	45.4 dB	LA8.00	48.4 dB
LCeq - LAeq	13.9 dB	LA25.00	45.9 dB
LAleq	51.5 dB	LA50.00	44.1 dB
LAeq	45.4 dB	LA66.60	43.1 dB
LAleq - LAeq	6.1 dB	LA90.00	40.9 dB
Overload Count	0		

# Measurement Report

## Report Summary

Meter's File Name	LxT_Data.010.s	Computer's File Name	LxT_0003855-20220425 162542-LxT_Data.010.ldbin
Meter	LxT1 0003855		
Firmware	2.404		
User	Ian Edward Gallagher	Location	STNM7 34° 9'37.33"N 117°34'54.63"W
Job Description	15 minute noise measurement ( 1 x 15 minutes )		
Note	Ganddini 19491, City of Rancho Cucamonga		
Start Time	2022-04-25 16:25:42	Duration	0:15:00.0
End Time	2022-04-25 16:40:42	Run Time	0:15:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

LA <sub>eq</sub>	45.4 dB		
LAE	74.9 dB	SEA	--- dB
EA	3.5 µPa²h	LAFTM5	52.5 dB
EA8	111.0 µPa²h		
EA40	555.1 µPa²h		
LA <sub>peak</sub>	92.0 dB	2022-04-25 16:36:51	
LAS <sub>max</sub>	61.1 dB	2022-04-25 16:33:31	
LAS <sub>min</sub>	37.1 dB	2022-04-25 16:26:03	
LA <sub>eq</sub>	45.4 dB		
LC <sub>eq</sub>	59.3 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	13.9 dB
LAI <sub>eq</sub>	51.5 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	6.1 dB

### Exceedances

#### Count Duration

LAS > 65.0 dB	0	0:00:00.0
LAS > 85.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 135.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 137.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB
LDEN	LDay	LEve
--- dB	--- dB	---
		LNight
		--- dB

### Any Data

	Level	A Time Stamp	Level	C Time Stamp	Level	Z Time Stamp
L <sub>eq</sub>	45.4 dB		59.3 dB		---	
LS <sub>(max)</sub>	61.1 dB	2022-04-25 16:33:31	---		---	
LS <sub>(min)</sub>	37.1 dB	2022-04-25 16:26:03	---		---	
L <sub>Peak(max)</sub>	92.0 dB	2022-04-25 16:36:51	---		---	

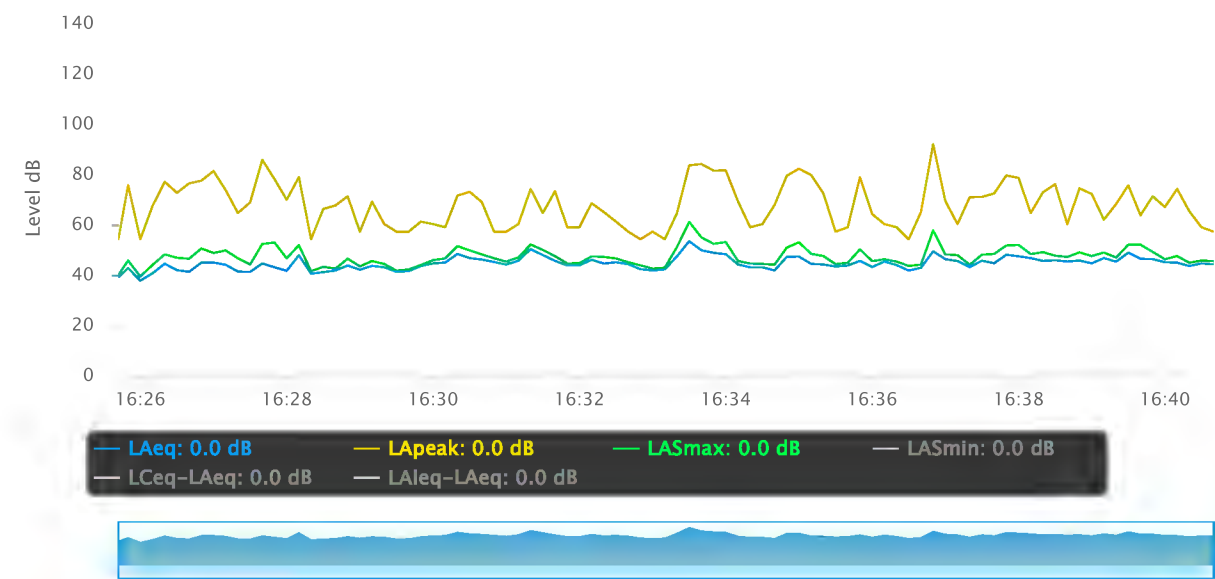
### Overloads

Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

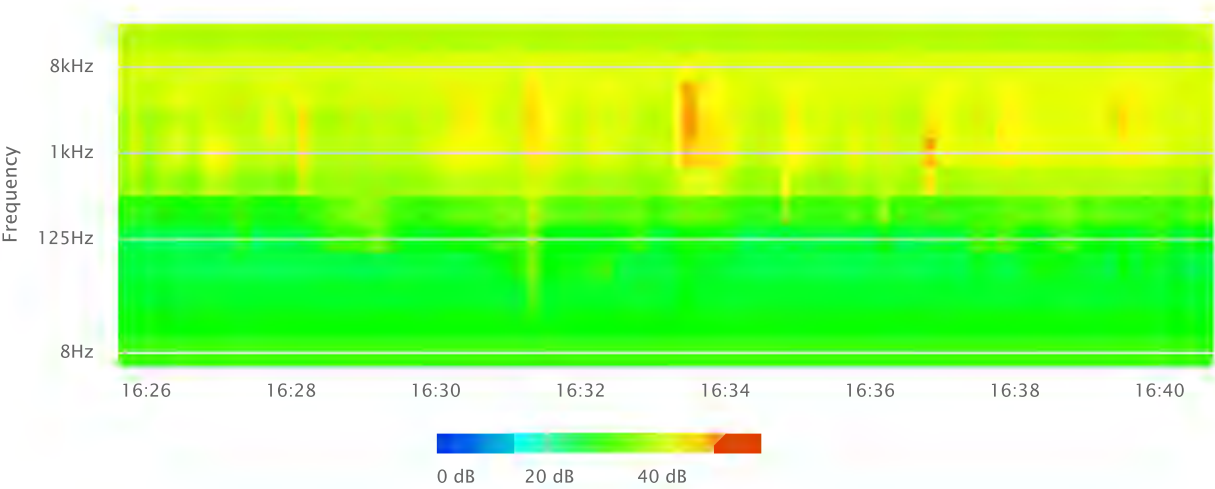
### Statistics

LAS 2.0	51.0 dB
LAS 8.0	48.4 dB
LAS 25.0	45.9 dB
LAS 50.0	44.1 dB
LAS 66.6	43.1 dB
LAS 90.0	40.9 dB

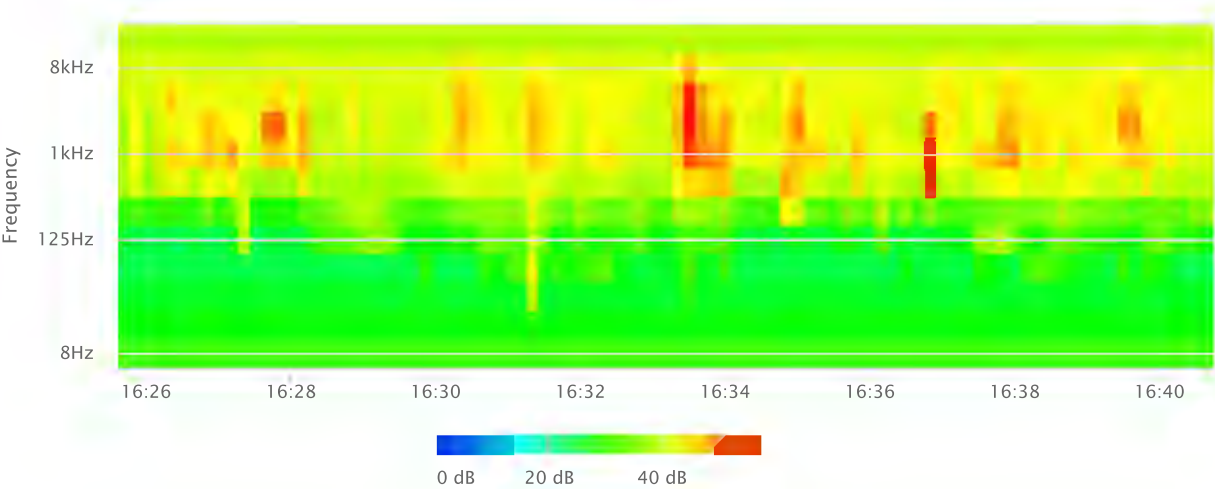
Time History



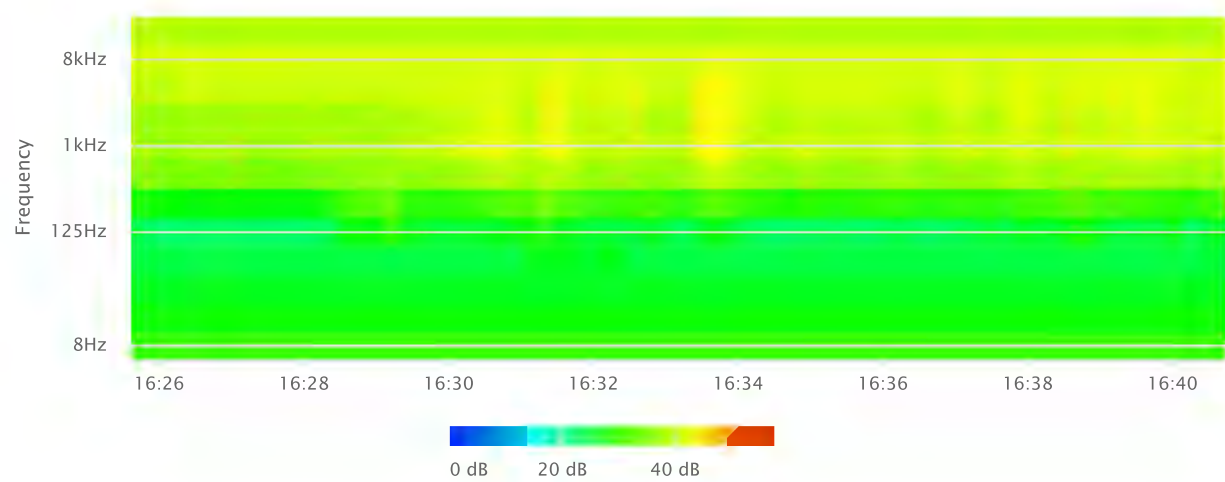
OBA 1/1 Leq



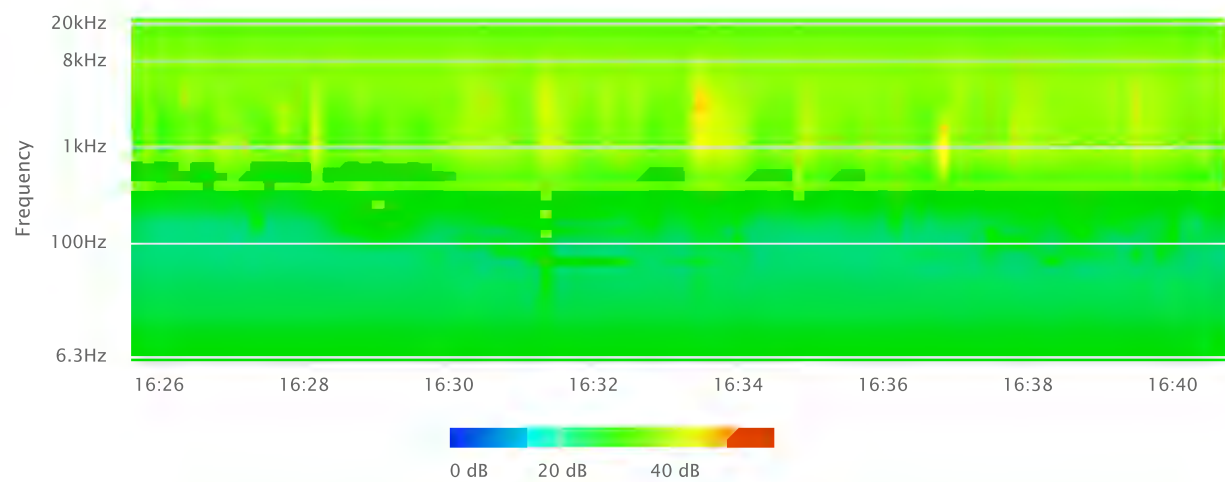
OBA 1/1 Lmax



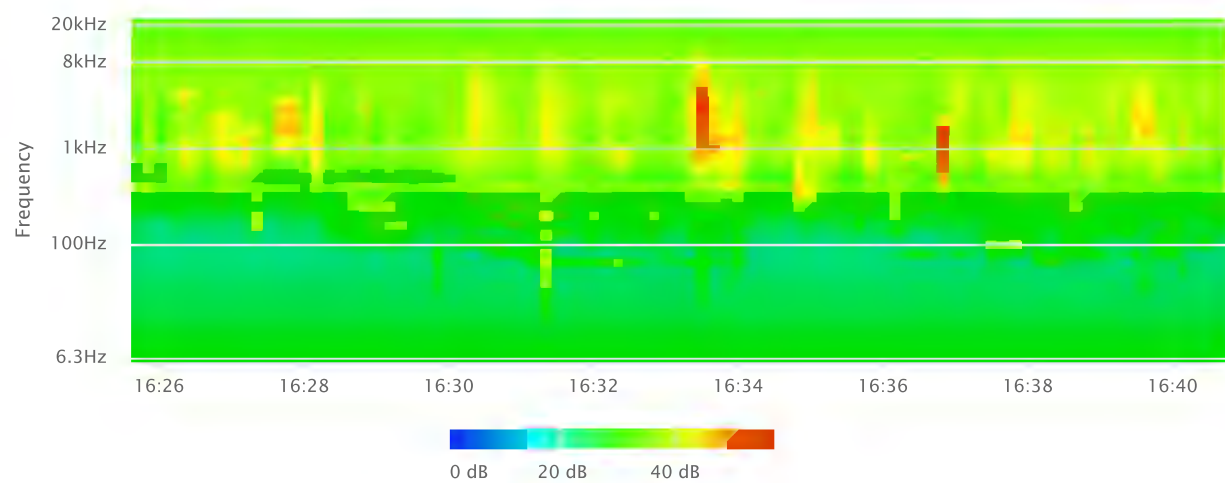
OBA 1/1 Lmin



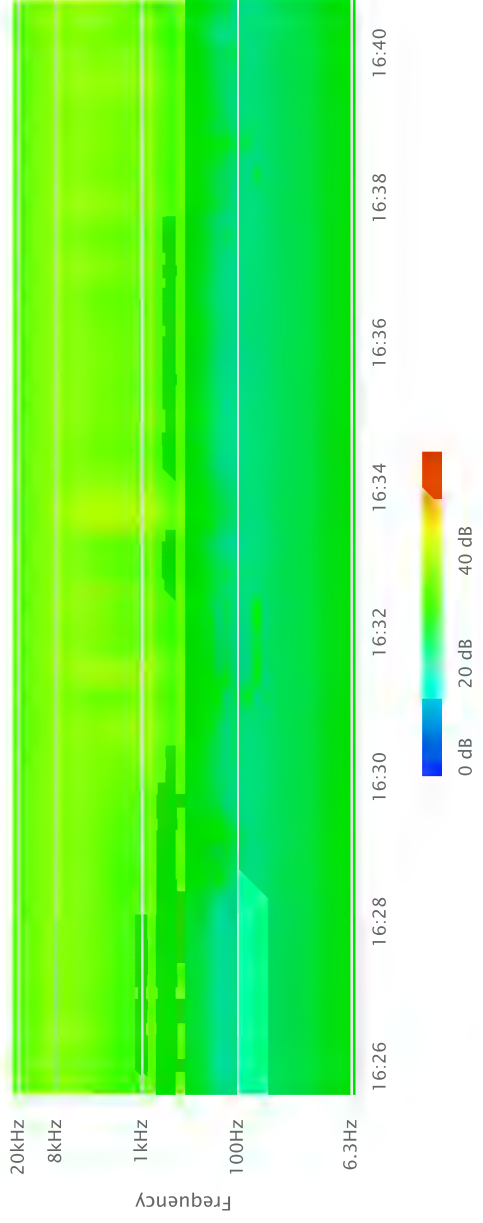
OBA 1/3 Leq



OBA 1/3 Lmax



# OBA 1 / 3 Lmin





**Noise Measurement  
Field Data**

**Project Name:** CP 20051 New Reservoir 5B-2, City of Rancho Cucamonga **Date:** 25-26 April 2022

**Project #:** 19491

**Noise Measurement #:** LTNM1 Run Time: 24 hours ( 24 x 1 hours ) **Technician:** Ian Edward Gallagher

**Nearest Address or Cross Street:** 10236 Beaver Creek Ct, Rancho Cucamonga, CA 91737

**Site Description (Type of Existing Land Use and any other notable features):** Project Site: Site contains a large water tank & small buildings & is bordered by single-family residential uses to north, Mayberry Ave to east, single-family residential uses & vacant land to south, and single-family homes to west. Noise Measurement Site: Located in northern portion of site near residential uses to north.

**Weather:** <5% cloud in sky. Sunny by day. **Settings:** SLOW FAST

**Temperature:** 80-64 deg F **Wind:** 2-11 mph **Humidity:** 11-20% **Terrain:** Flat

**Start Time:** 12:00 PM **End Time:** 12:00 PM **Run Time:**

**Leq:** 41.6 dB **Primary Noise Source:** Bird song by day, crickets at night & other wildlife.

**Lmax** 65.2 dB

**L2** 49.5 dB **Secondary Noise Sources:** Some residential ambiance, leaf rustle from 7 mph breeze.

**L8** 44.6 dB Overhead air traffic. Very distant traffic ambiance

**L25** 40.8 dB

**L50** 36.6 dB

<b>NOISE METER:</b> SoundTrack LXT Class 1	<b>CALIBRATOR:</b> Larson Davis CA 250
<b>MAKE:</b> Larson Davis	<b>MAKE:</b> Larson Davis
<b>MODEL:</b> LXT1	<b>MODEL:</b> CA 250
<b>SERIAL NUMBER:</b> 3099	<b>SERIAL NUMBER:</b> 2723
<b>FACTORY CALIBRATION DATE:</b> 11/17/2021	<b>FACTORY CALIBRATION DATE:</b> 11/18/2021
<b>FIELD CALIBRATION DATE:</b> 4/4/2022	

Noise Measurement  
Field Data

PHOTOS:



LTNM1 looking SSW at microphone in tree ~5 feet above ground.



Aerial view of LTNM1 showing location of 24-Hr measurement in relation to surrounding area.

Summary			
File Name on Meter	LxT_Data.025.s		
File Name on PC	LxT_0003099-20220425 120000-LxT_Data.C		
Serial Number	0003099		
Model	SoundTrack LxT®		
Firmware Version	2.404		
User	Ian Edward Gallagher		
Location	LTNM1 34° 9'40.90"N 117°34'51.99"W		
Job Description	24 hour noise measurement ( 24 x 1 hours )		
Note	Ganddini 19491, City of Rancho Cucamonga		
Measurement			
Start	2022-04-25 12:00:00		
Stop	2022-04-26 12:00:00		
Duration	24:00:00.0		
Run Time	24:00:00.0		
Pause	00:00:00.0		
Pre-Calibration	2022-04-25 11:22:02		
Post-Calibration	None		
Overall Settings			
RMS Weight	A Weighting		
Peak Weight	A Weighting		
Detector	Slow		
Preamplifier	PRMLxT1L		
Microphone Correction	Off		
Integration Method	Linear		
OBA Range	Normal		
OBA Bandwidth	1/1 and 1/3		
OBA Frequency Weighting	A Weighting		
OBA Max Spectrum	Bin Max		
Overload	122.8 dB		
Results			
LAeq	41.6		
LAE	91.0		
EA	138.483 µPa²h		
EA8	46.161 µPa²h		
EA40	230.805 µPa²h		
LApeak (max)	2022-04-25 15:24:46	92.1 dB	
LASmax	2022-04-26 08:53:28	65.2 dB	
LASmin	2022-04-25 13:57:44	27.4 dB	
			Statistics
LCeq	57.3 dB	LA2.00	49.5 dB
LAeq	41.6 dB	LA8.00	44.6 dB
LCeq - LAeq	15.7 dB	LA25.00	40.8 dB
LAlaq	44.4 dB	LA50.00	36.6 dB
LAeq	41.6 dB	LA90.00	32.6 dB
LAlaq - LAeq	2.8 dB	LA99.00	30.4 dB
Overload Count	0		

Record #	Date	Time	Run Duration	Run Time	Pause	LAeq	LASmin	LASmin Time	LASmax	LASmax Time	LAS2.00	LAS8.00	LAS25.00	LAS50.00	LAS90.00	LAS99.00
1	2022-04-25	12:00:00	01:00:00.0	01:00:00.0	00:00:00.0	44.7	29.3	12:12:05	62.2	12:00:00	55.0	47.9	41.3	36.4	31.7	29.9
2	2022-04-25	13:00:00	01:00:00.0	01:00:00.0	00:00:00.0	41.4	27.4	13:57:44	63.1	13:29:25	51.7	42.9	39.8	35.0	29.7	28.1
3	2022-04-25	14:00:00	01:00:00.0	01:00:00.0	00:00:00.0	42.8	29.3	14:37:35	64.2	14:32:11	51.4	45.3	41.7	35.1	31.1	29.9
4	2022-04-25	15:00:00	01:00:00.0	01:00:00.0	00:00:00.0	44.5	30.5	15:03:55	64.1	15:38:56	53.5	46.6	42.5	39.1	33.9	31.5
5	2022-04-25	16:00:00	01:00:00.0	01:00:00.0	00:00:00.0	46.9	33.9	16:20:25	61.2	16:07:58	54.5	51.2	47.3	43.9	38.4	35.2
6	2022-04-25	17:00:00	01:00:00.0	01:00:00.0	00:00:00.0	44.7	33.8	17:33:46	57.5	17:38:48	51.8	48.0	44.8	42.9	39.2	36.0
7	2022-04-25	18:00:00	01:00:00.0	01:00:00.0	00:00:00.0	42.2	32.5	18:37:06	55.6	18:41:00	49.1	45.2	42.8	41.0	35.0	33.2
8	2022-04-25	19:00:00	01:00:00.0	01:00:00.0	00:00:00.0	41.0	32.7	19:00:21	54.6	19:01:55	46.8	44.8	42.5	37.5	35.1	33.9
9	2022-04-25	20:00:00	01:00:00.0	01:00:00.0	00:00:00.0	41.9	33.8	20:54:45	53.1	20:14:49	48.0	44.9	42.6	41.1	36.7	35.2
10	2022-04-25	21:00:00	01:00:00.0	01:00:00.0	00:00:00.0	38.5	33.1	21:55:54	51.2	21:50:46	43.7	42.5	38.4	36.7	35.0	33.9
11	2022-04-25	22:00:00	01:00:00.0	01:00:00.0	00:00:00.0	38.0	31.7	22:39:02	52.4	22:29:40	45.2	42.4	37.4	35.6	33.7	32.5
12	2022-04-25	23:00:00	01:00:00.0	01:00:00.0	00:00:00.0	38.0	31.2	23:53:37	52.7	23:33:05	45.3	42.4	37.9	35.5	32.9	31.8
13	2022-04-26	00:00:00	01:00:00.0	01:00:00.0	00:00:00.0	35.2	30.2	00:46:38	46.5	00:39:49	40.8	37.9	35.5	34.0	32.1	31.1
14	2022-04-26	01:00:00	01:00:00.0	01:00:00.0	00:00:00.0	33.6	29.8	01:35:51	46.0	01:01:12	39.0	35.6	33.8	32.6	31.0	30.3
15	2022-04-26	02:00:00	01:00:00.0	01:00:00.0	00:00:00.0	35.0	30.8	02:05:06	44.8	02:16:04	39.4	36.9	35.3	34.2	32.5	31.6
16	2022-04-26	03:00:00	01:00:00.0	01:00:00.0	00:00:00.0	34.9	30.3	03:13:27	48.5	03:02:47	39.4	39.0	34.7	33.3	31.7	31.0
17	2022-04-26	04:00:00	01:00:00.0	01:00:00.0	00:00:00.0	34.7	30.8	04:17:00	43.6	04:56:46	38.7	37.0	35.1	34.1	32.4	31.4
18	2022-04-26	05:00:00	01:00:00.0	01:00:00.0	00:00:00.0	38.8	31.6	05:02:18	58.9	05:52:43	44.8	41.0	39.1	36.4	33.5	32.2
19	2022-04-26	06:00:00	01:00:00.0	01:00:00.0	00:00:00.0	40.4	33.4	06:33:52	52.6	06:52:30	47.6	44.1	40.6	38.1	35.5	34.4
20	2022-04-26	07:00:00	01:00:00.0	01:00:00.0	00:00:00.0	40.6	31.9	07:57:40	50.1	07:21:10	46.4	43.8	41.3	39.3	36.3	34.0
21	2022-04-26	08:00:00	01:00:00.0	01:00:00.0	00:00:00.0	44.2	30.8	08:21:23	65.2	08:53:28	53.4	43.2	38.1	36.1	32.9	31.4
22	2022-04-26	09:00:00	01:00:00.0	01:00:00.0	00:00:00.0	42.7	31.0	09:19:31	63.6	09:03:49	51.4	44.2	38.1	35.1	32.7	31.9
23	2022-04-26	10:00:00	01:00:00.0	01:00:00.0	00:00:00.0	38.9	31.3	10:15:12	54.3	10:41:41	45.7	42.8	39.4	35.9	33.0	32.1
24	2022-04-26	11:00:00	01:00:00.0	01:00:00.0	00:00:00.0	41.6	32.4	11:03:02	57.7	11:43:41	48.5	44.8	42.2	38.8	35.0	33.5

# Measurement Report

## Report Summary

Meter's File Name	LxT_Data.025.s	Computer's File Name	LxT_0003099-20220425 120000-LxT_Data.025.ldbin
Meter	LxT1 0003099		
Firmware	2.404		
User	Ian Edward Gallagher	Location	LTNM1 34° 9'40.90"N 117°34'51.99"W
Job Description	24 hour noise measurement ( 24 x 1 hours )		
Note	Ganddini 19491, City of Rancho Cucamonga		
Start Time	2022-04-25 12:00:00	Duration	24:00:00.0
End Time	2022-04-26 12:00:00	Run Time	24:00:00.0
		Pause Time	0:00:00.0

## Results

### Overall Metrics

LA <sub>eq</sub>	41.6 dB		
LAE	91.0 dB	SEA	--- dB
EA	138.5 µPa²h	LAFTM5	46.0 dB
EA8	46.2 µPa²h		
EA40	230.8 µPa²h		
LA <sub>peak</sub>	92.1 dB	2022-04-25 15:24:46	
LAS <sub>max</sub>	65.2 dB	2022-04-26 08:53:28	
LAS <sub>min</sub>	27.4 dB	2022-04-25 13:57:44	
LA <sub>eq</sub>	41.6 dB		
LC <sub>eq</sub>	57.3 dB	LC <sub>eq</sub> - LA <sub>eq</sub>	15.7 dB
LAI <sub>eq</sub>	44.4 dB	LAI <sub>eq</sub> - LA <sub>eq</sub>	2.8 dB

### Exceedances

	Count	Duration
LAS > 65.0 dB	1	0:00:04.10
LAS > 85.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 135.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 137.0 dB	0	0:00:00.0
LA <sub>peak</sub> > 140.0 dB	0	0:00:00.0

### Community Noise

LDN	LDay	LNight
--- dB	--- dB	0.0 dB
LDEN	LDay	LEve
--- dB	--- dB	---
		LNight
		--- dB

### Any Data

	Level	A Time Stamp	Level	C Time Stamp	Level	Z Time Stamp
L <sub>eq</sub>	41.6 dB		57.3 dB		---	
LS <sub>(max)</sub>	65.2 dB	2022-04-26 08:53:28	---		---	
LS <sub>(min)</sub>	27.4 dB	2022-04-25 13:57:44	---		---	
L <sub>Peak(max)</sub>	92.1 dB	2022-04-25 15:24:46	---		---	

### Overloads

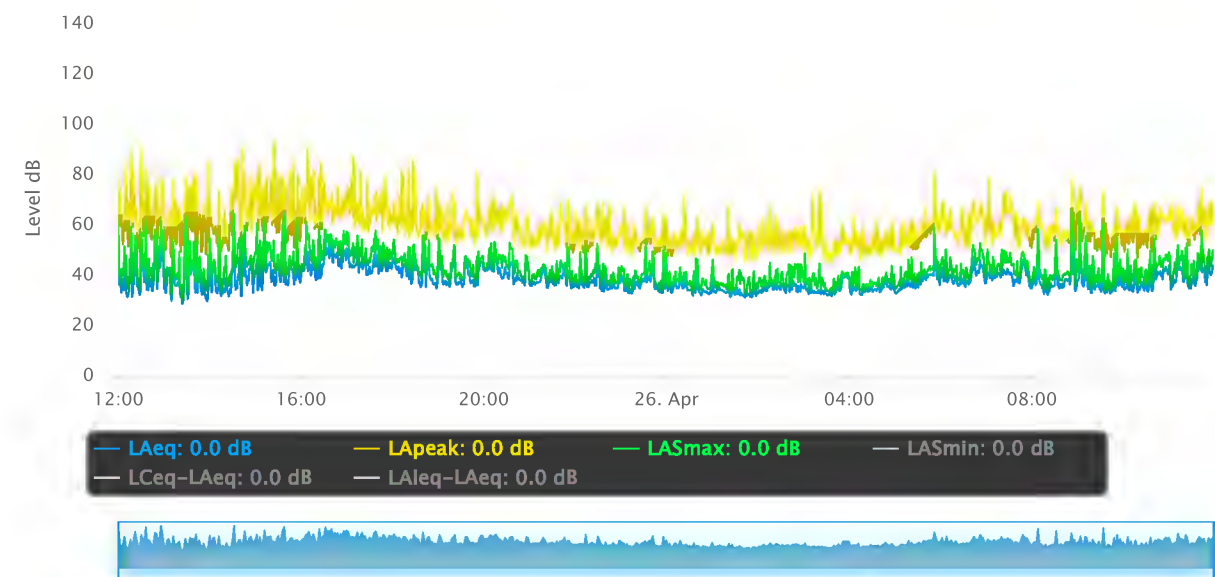
Count	Duration	OBA Count	OBA Duration
0	0:00:00.0	0	0:00:00.0

### Statistics

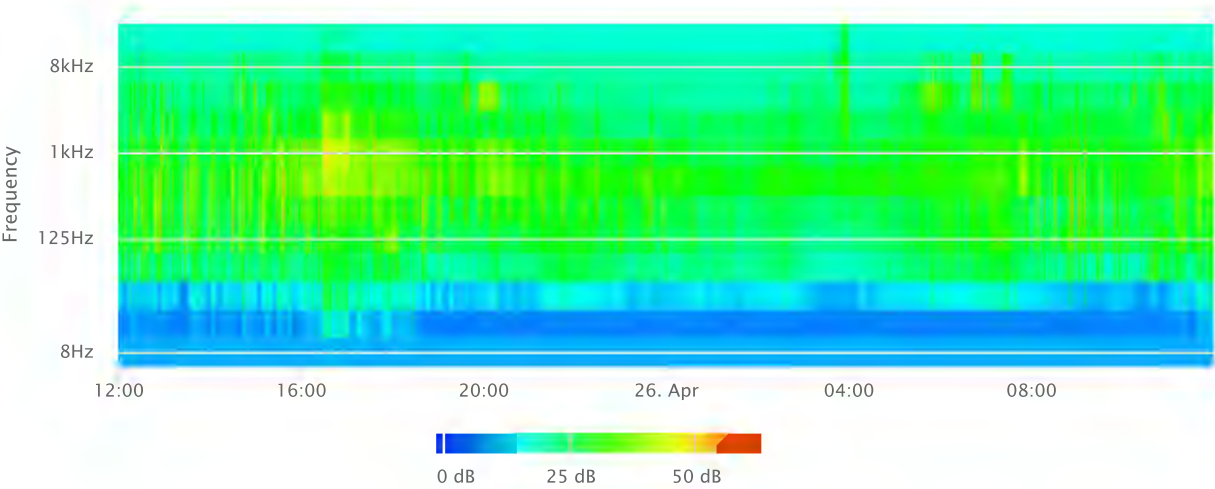
LAS 2.0	49.5 dB
LAS 8.0	44.6 dB
LAS 25.0	40.8 dB
LAS 50.0	36.6 dB
LAS 90.0	32.6 dB
LAS 99.0	30.4 dB



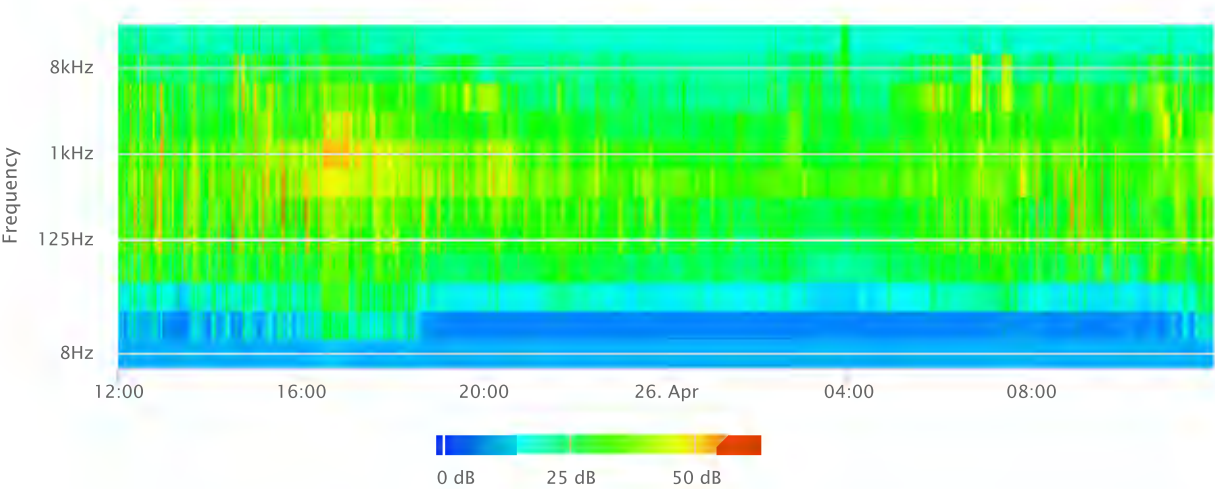
Time History



OBA 1/1 Leq

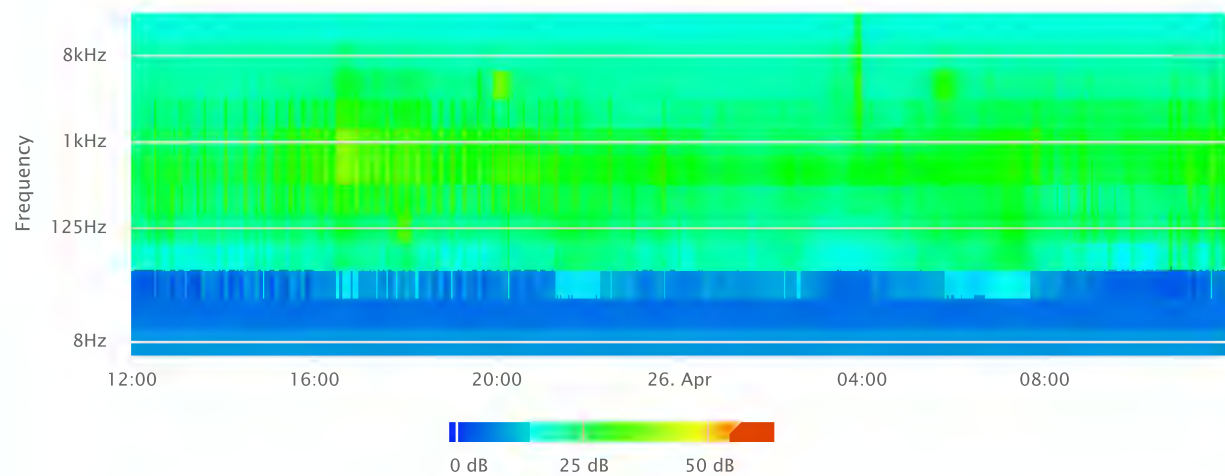


OBA 1/1 Lmax

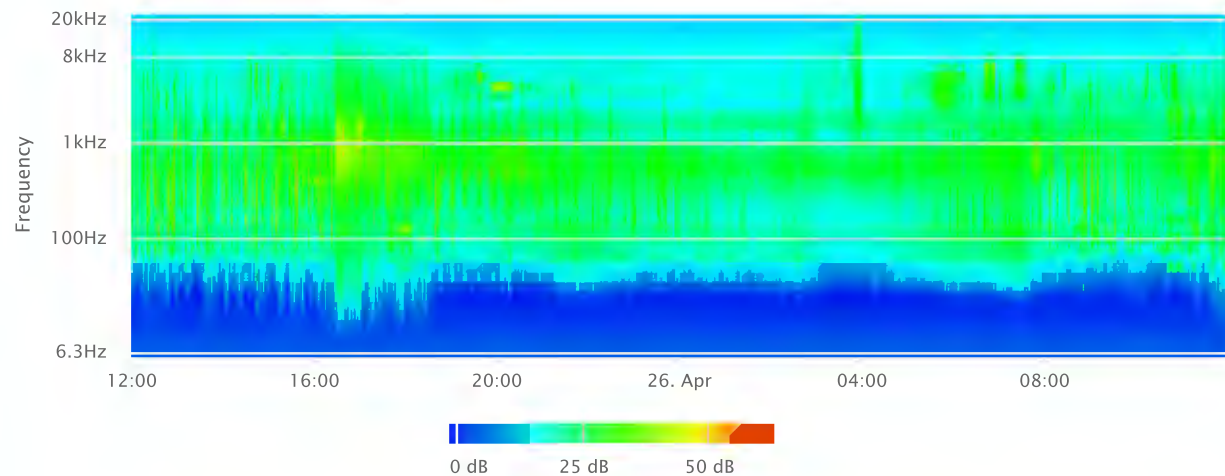




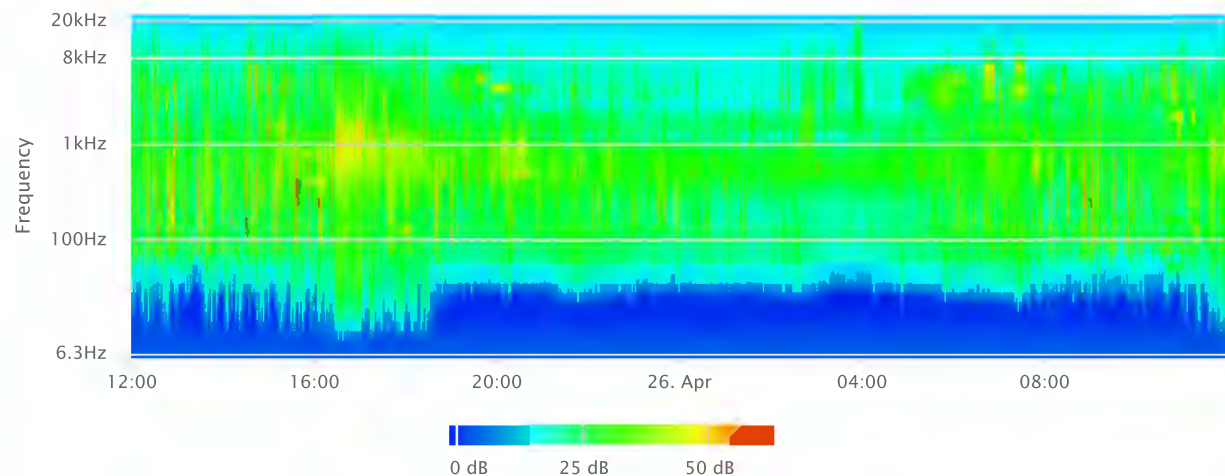
OBA 1/1 Lmin



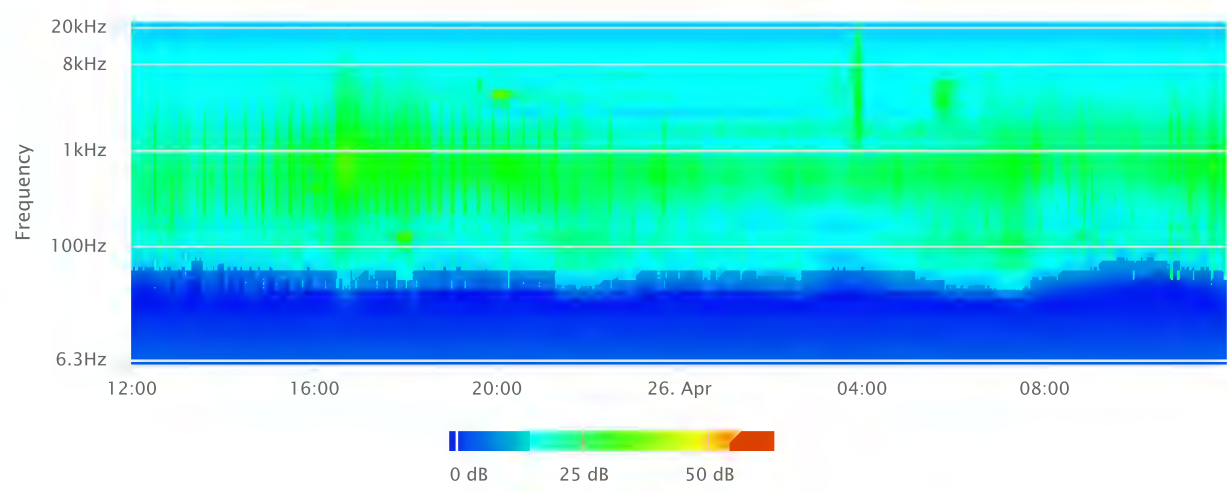
OBA 1/3 Leq



OBA 1/3 Lmax



OBA 1 / 3 Lmin



## **APPENDIX D**

### **CONSTRUCTION NOISE MODELING**

Receptor - Single-Family Residential to North (along Beaver Creek Court)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA <sup>1</sup>	Distance to Receptor <sup>3</sup>	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
<b>Water Tank Installation</b>									
Pneumatic Equipment	1	85	168	50	0.50	-10.5	-3.0	74.5	71.5
Compactor	1	83	168	20	0.20	-10.5	-7.0	72.5	65.5
Tractors/Loaders/Backhoes	1	84	168	40	0.40	-10.5	-4.0	73.5	69.5
Rubber Tired Dozers	1	82	168	40	0.40	-10.5	-4.0	71.5	67.5
Cranes	1	81	168	16	0.16	-10.5	-8.0	70.5	62.5
Forklifts <sup>2</sup>	1	48	168	40	0.40	-10.5	-4.0	37.5	33.5
Rollers	1	80	168	20	0.20	-10.5	-7.0	69.5	62.5
							Log Sum	80.1	75.5

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construction Noise Model User's Guide (January 2006) (<https://www.nrc.gov/docs/ML1805/ML18059A141.pdf>)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-Family Residential to West (along Silver Mountain Way)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA <sup>1</sup>	Distance to Receptor <sup>3</sup>	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
<b>Water Tank Installation</b>									
Pneumatic Equipment	1	85	173	50	0.50	-10.8	-3.0	74.2	71.2
Compactor	1	83	173	20	0.20	-10.8	-7.0	72.2	65.2
Tractors/Loaders/Backhoes	1	84	173	40	0.40	-10.8	-4.0	73.2	69.2
Rubber Tired Dozers	1	82	173	40	0.40	-10.8	-4.0	71.2	67.2
Cranes	1	81	173	16	0.16	-10.8	-8.0	70.2	62.3
Forklifts <sup>2</sup>	1	48	173	40	0.40	-10.8	-4.0	37.2	33.2
Rollers	1	80	173	20	0.20	-10.8	-7.0	69.2	62.2
							Log Sum	79.8	75.3

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construction Noise Model User's Guide (January 2006) (<https://www.nrc.gov/docs/ML1805/ML18059A141.pdf>)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-Family Residential to South (along Rocky Mountain Place)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA <sup>1</sup>	Distance to Receptor <sup>3</sup>	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
<b>Water Tank Installation</b>									
Pneumatic Equipment	1	85	505	50	0.50	-20.1	-3.0	64.9	61.9
Compactor	1	83	505	20	0.20	-20.1	-7.0	62.9	55.9
Tractors/Loaders/Backhoes	1	84	505	40	0.40	-20.1	-4.0	63.9	59.9
Rubber Tired Dozers	1	82	505	40	0.40	-20.1	-4.0	61.9	57.9
Cranes	1	81	505	16	0.16	-20.1	-8.0	60.9	53.0
Forklifts <sup>2</sup>	1	48	505	40	0.40	-20.1	-4.0	27.9	23.9
Rollers	1	80	505	20	0.20	-20.1	-7.0	59.9	52.9
							Log Sum	70.5	66.0

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construction Noise Model User's Guide (January 2006) (<https://www.nrc.gov/docs/ML1805/ML18059A141.pdf>)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).



Receptor - Single-Family Residential to South east (along Carrari St)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA <sup>1</sup>	Distance to Receptor <sup>3</sup>	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
<b>Water Tank Installation</b>									
Pneumatic Equipment	1	85	168	50	0.50	-10.5	-3.0	74.5	71.5
Compactor	1	83	168	20	0.20	-10.5	-7.0	72.5	65.5
Tractors/Loaders/Backhoes	1	84	168	40	0.40	-10.5	-4.0	73.5	69.5
Rubber Tired Dozers	1	82	168	40	0.40	-10.5	-4.0	71.5	67.5
Cranes	1	81	168	16	0.16	-10.5	-8.0	70.5	62.5
Forklifts <sup>2</sup>	1	48	168	40	0.40	-10.5	-4.0	37.5	33.5
Rollers	1	80	168	20	0.20	-10.5	-7.0	69.5	62.5
							Log Sum	80.1	75.5

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construction Noise Model User's Guide (January 2006) (<https://www.nrc.gov/docs/ML1805/ML18059A141.pdf>)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).

Receptor - Single-Family Residential to East (along Mayberry Avenue)

Construction Phase Equipment Item	# of Items	Item Lmax at 50 feet, dBA <sup>1</sup>	Distance to Receptor <sup>3</sup>	Item Usage Percent	Usage Factor	Dist. Correction dB	Usage Adj. dB	Receptor Item Lmax, dBA	Receptor Item Leq, dBA
<b>Water Tank Installation</b>									
Pneumatic Equipment	1	85	442	50	0.50	-18.9	-3.0	66.1	63.1
Compactor	1	83	442	20	0.20	-18.9	-7.0	64.1	57.1
Tractors/Loaders/Backhoes	1	84	442	40	0.40	-18.9	-4.0	65.1	61.1
Rubber Tired Dozers	1	82	442	40	0.40	-18.9	-4.0	63.1	59.1
Cranes	1	81	442	16	0.16	-18.9	-8.0	62.1	54.1
Forklifts <sup>2</sup>	1	48	442	40	0.40	-18.9	-4.0	29.1	25.1
Rollers	1	80	442	20	0.20	-18.9	-7.0	61.1	54.1
							Log Sum	71.7	67.1

Notes:

(1) Source: Referenced noise levels from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual (September 2018) and the FHWA Roadway Construction Noise Model User's Guide (January 2006) (<https://www.nrc.gov/docs/ML1805/ML18059A141.pdf>)

(2) Source: SoundPLAN reference list.

(3) Distance to receptor calculated from center of site. Construction noise projected from the center of the project site to nearest sensitive use (property line).



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