July 27, 2021

Mr. Dave Joseph, Owner
Central Coast Lumber LLC
1400 Rampart Road
Watsonville, CA 95076

Re: Equipment Noise Testing Program and Report for County Noise Assessment

Dear Mr. Joseph,

A site observation visit and noise testing program was conducted on Wednesday July 7, 2021, on the proposed site of the Central Coast Lumber Mill, 1400 Rampart Road, Watsonville, California. The purpose of this site visit was to measure the noise levels of the mill equipment in-situ and to determine the potential noise impact to adjacent areas of the site.

Measurement Program

An instrumented measurement program was conducted on various lumber milling equipment employed in the operations of the mill facility. Individual noise testing was performed adjacent the various pieces of the operating milling equipment in the manner it would normally be used and at perimeter locations around the site. Each piece of operational equipment was tested separately while performing its finishing or cutting operation and recorded for later analysis. Additionally, ambient noise measurements, traffic noise and overhead aircraft operations from the Watsonville Airport (KWVI) were measured and recorded. The only continuously operating piece of mechanical equipment during the testing was the site generator which was being employed since a local grid connection was not available. Separate proximity measurements were made of the generator operating with its contribution excluded from the site ambient measurements.

The following pieces of milling equipment were employed for the testing program; Slab Mill, Planer, Straight Line Rip Saw, Planer/Moulder and a Gang Rip Saw and Dust Collector. All tests were conducted 3.5 meters (11.5 feet) from the operating equipment.

Site Location and Stage of Development

The 8.4-acre mill site is located directly adjacent Rampart Road, situated between Rampart Road and Highway 1 and slightly West of Airport Road (see picture 1 below). The current site is undergoing planned development; the various pieces of equipment were made operational for the noise testing. The proposed mill building, support and office buildings do not currently exist.

Picture 1 - Site of Central Coast Lumber Proposed Development

Noise Testing and Potential Mitigation Program

For the purposes of this report, all milling, and support equipment noise levels were recorded in a free field condition. A noise level is considered to be free field if it is at a distance greater than 3.5 meters from any reflecting surfaces, other than the ground and between 1 and 3.5 meters from the façade of a building or other reflective structure. Currently no vertical reflecting surfaces of buildings exist so free field measurements shall apply. A noise mitigation program has not been developed and is beyond the scope of this report at this time. However, if elected, it will consist of the construction means and methods for the proposed mill building and other structures noted in the Planning Permit Application.

Site and Equipment Noise Measurements

The measurements were taken using certified, laboratory grade, Class 1, computerized, automatic recording sound analysis equipment. All tests were monitored in real-time. Level calibration was performed before and after testing using an NIST traceable calibration standard.

Measurement Equipment

The following equipment was employed in the Central Coast Lumber Mill equipment testing program.

NTi Audio Acoustical Analyzer XL2, s/n A2A-18776-E0

(Certified, Class 1 Instrument)
M2230 microphone preamplifier, s/n 09633
GRAS Free Field Microphone, Type MC2230A, s/n A2329
Calibration Certificate, US-21-018
Extended Acoustic Pack module, s/n 4951
Sound Insulation module, s/n 1437
Vibration Measurement module, s/n 1380
Data Explorer module, license, s/n 9145
Remote Measurement module, s/n 9003
Lenovo, Think Pad Computer, Type 20MF-000DUS, s/n R9-0S4A1,
Windows 10 Pro 64-bit OS
Shear Accelerometer, JTLD352C33, s/n 356488
48V-ICP adapter, 600 010 223
Larson Davis Laboratories, CAL-250, Precision Acoustic Calibrator, S/N 5643.

Applicable Standards

ANSI S1-13 *"American National Standards Methods for Measurement of Sound Pressure Level in Air",* ANSI S1-43 *"American National Standards Specification For Integrating-Averaging Sound Level Meters"*

Noise Standard Metrics

For purposes of this report, Ldn or CNEL levels were not computed and only dBA Fast and Slow maximum levels were employed since the mill operation will only operate during daytime hours. CNEL, *Community Noise Equivalent Level,* and Ldn, Level Day/Night are time weighted 24-hour dBA averages.

Measurement Tests

Real time, dBA Fast and dBA Slow weighting as well as one-third octave spectrum measurements from 6.3 Hz to 20 KHz are shown as colored spectrograms on the detailed reports. Spectrograms display energy by frequency as a function of color; red depicts low frequencies, yellow and green mid-band frequencies and blue as high frequency energy. Full bandwidth audio recordings were also made for each piece of equipment for later analysis and to identify what noise mitigation control measures may be applied where needed.

Noise Descriptors and Measurement Protocol

The descriptor dB is a measurement of sound level. dBA is the A-weighted decibel scale, an index of loudness that gives more "weight" to certain frequencies to approximate the way the human ear responds to sound levels. For the purposes of this report, the maximum dBA Sound Pressure Levels (SPL) were measured and recorded employing fast and slow time weighting. Fast time

weighting is typically used for common sound level measurements that can vary in level; its time constant is 1/8 of a second. Slow time weighting employs a 1 second time constant and is an exponential function of time, which defines how changes of the instantaneous sound pressure level are averaged for useful sound level results. The LAFmax weighted level display would take approximately 0.6 seconds to reach the new level, while the LASmax weighted level display would reach the new level only after approximately 5 seconds. Slow time weighting is typically employed for noise energy that is relatively constant without large variations in level such as the generator and dust collector. dBA Fast or the descriptor LAFmax is more useful for sawing and milling machinery noise where the level varies and rises to a maximum level during operation.

Measurement Results

These measurements are noted below and in more detail in the accompanying attached individual reports. Their values are as follows:

Noise Measurements – Proposed Mill Site	**LAFmax**	**LASmax**
Site Ambient Level with **No** Equipment Operating	N/A	58.3 dBA
Site Ambient at Rampart Road - Planer/Moulder and Generator Operating	N/A	59.5 dBA
Slab Mill @ 3.5 m	94.8 dBA	N/A
Planer @ 3.5 m	94.7 dBA	N/A
Straight Line Rip Saw @ 3.5 m	78.8 dBA	N/A
Planer/Moulder @ 3.5 m	111.2 dBA	N/A
Gang Rip Saw @ 3.5 m	96.4 dBA	N/A
Dust Collector @ 3.5 m	N/A	68.8 dBA
Generator @ 3.5 m	N/A	76.6 dBA
Rampart Road Traffic Noise @ Property Line	N/A	55.8 dBA

Land Use, Santa Cruz County

Santa Cruz County land use compatibility for Community Noise Requirements standards, Section 6.9.1 of the General Plan, classifies the Mill as *Industrial, Manufacturing, Utilities and Agriculture* usage. This requires a detailed analysis of the noise and noise reduction requirements for a **Conditionally Acceptable** classification. This level (measured at the property line) is typically, 70 dBA

maximum with a Slow time weighting (LASmax) for continuous noise and 65 dB maximum with a Fast time weighting (LAFmax) for impulsive noise which the Mill operations would come under. See Figure 6-2 below, Santa Cruz County Maximum Noise Exposure for Stationary Noise Sources (Copyright 2021).

Figure 6-2
Maximum Allowable Noise Exposure
Stationary Noise Sources (1)

	Daytime (5) (7AM to 10PM)	Nighttime (2,5) (10PM to 7AM)
Hourly Leq – average hourly noise level, dB (3)	50	45
Maximum level, dB (3)	70	65
Maximum Level dB – Impulsive Noise (4)	65	60

dB = decibel

(1) As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of noise barriers or other property line noise mitigation measures.

(2) Applies only where the receiving land use operates or is occupied during nighttime hours.

(3) Sound level measurements shall be made with "slow" meter response.

(4) Sound level measurements shall be made with "fast" meter response.

(5) Sound level measurements shall be raised to the ambient noise levels where the ambient levels exceed the allowable levels. Allowable levels shall be reduced 5dB if the ambient hourly Leq is at least 10 dB lower than the allowable level.

Santa Cruz County 2021, General Plan, Noise Maximums

Caveat

Noise levels add logarithmically with multiple machines and operations occurring at the same time, plus noise levels also increase when placed near vertical surfaces or partitions. This must be taken into account when predicting the maximum property line noise level.

Site Influencing Factors

Site influencing factors of the vehicle noise from Highway 1, Rampart Road traffic and operations and overflights from the Watsonville Airport contribute to the overall site noise. These will be considered by the County when evaluating the results of this report for the Central Coast Lumber site.

Conclusion

A final property line noise model cannot be accurately predicted until the Mill Building plans, adjacent structures and equipment locations are finalized. Based on the proposed structures noted in the Planning Permit drawings, the current in-situ equipment measurements (Free Field) and the relative distances involved,

the equipment noise levels should be sufficiently attenuated to meet the County's maximum levels with or without the proposed buildings. While beyond the scope of this report at this time, should additional equipment not yet in operation or changes in the site layout occur that potentially raise the site noise levels, unless excessive, these increases may be managed effectively with a Mass Loaded Vinyl (MLV) noise barrier membrane added to the perimeter fencing at the property line adjacent the proposed equipment. A suitable MLV barrier manufacturers data sheet is attached as part of this report.

The information contained in this site observation and testing report is believed to be correct and accurate. All measured results employed in this study are included as part of this report. If you have any questions regarding the information contained in this report, please feel free to contact this office for clarification.

Sincerely,

Mr. Jim Barath, Ph.D., INCE
Principal

Enclosures: Printed graphs with frequency distribution and computed results
Acoustifence, Manufacturers Data Sheet