



January 24, 2020

Donnie Rose
 President
 R. A. Yancey Lumber Corporation
 6317 Rockfish Gap Turnpike
 Crozet, VA 22932

Subject Noise & Vibration Survey, Yancey Lumber Mill, Crozet, VA
 Loudest Locations Variability Review
 Acentech Project No. 630191

Dear Mr. Rose:

In advance of the resubmission of the mill's special exception request to the county, your team has decided to take a closer look at locations where we previously measured the highest sound levels. The goal was to limit the scale of the sound level exceptions to better align with the typical sound levels due to the mill. This may help to avoid adding a large buffer to the request to account for variability.

The previous sound study included measurements at 19 locations at or near the mill's property boundary, as detailed in Appendix A1 (map) and A2 (imagery). Due to the highest levels occurring at NV1 and NV17, those locations were the subject of additional review. On January 24, 2020, measurements were conducted over a period of about four hours at both NV1 and NV17. As in our previous report, measurements were made in accordance with the Albemarle County noise ordinance, which requires measurement of the A-weighted equivalent continuous (energy average) sound level over a 5-minute period. Since these measurements were made over four hours, we can use this greater number of 5-minute periods to characterize the typical sound level at these two locations and show the outliers.

The following table shows the condensed dataset measured at each location on each measurement date. Note that ambient levels are not measurable at NV1 because of proximity to ongoing mill based noise sources. However, because the mill has a partial shutdown during lunch, ambient levels are measureable at NV17 during that period when road traffic is dominant.

Location	January 24, 2020, Four Hours of Measurements			2019 Single Meas.	2018 Single Meas.
	Highest 5-Min LAeq	Typical 5-Min LAeq	Lowest 5-Min LAeq	Single 5-Min LAeq	Single 5-Min LAeq
NV1	Mill: 75 dBA	Mill: 70 dBA	Mill: 65 dBA	Mill: 69 dBA	Mill: 68 dBA
NV17	Total: 80 dBA Ambient: 77 dBA Mill: 77 dBA	Total: 79 dBA Ambient: 74 dBA Mill: 77 dBA	Total: 73 dBA Ambient: 73 dBA Mill: < 63 dBA	Total: 77 dBA Ambient: 74 dBA Mill: 73 dBA	Total: 80 dBA Ambient: 74 dBA Mill: 79 dBA

For areas where there is significant ambient noise, the county's noise ordinance allows you to report source sound levels (the mill) by taking the *lowest* 5-minute total sound level (mill + ambient) and removing the *highest* 5-minute ambient sound level. This will result in a reported sound level that is, in my opinion, too conservative at less than 63 dBA at NV17. We suggest that you instead use the typical (median) total sound levels and typical ambient sound levels where applicable; this will give you a more characteristic source sound level of 77 dBA at NV17 and is shown in bold in the table above.

If you plan to use these typical sound levels in your special exception request, we suggest adding language that specifies the process used to determine compliance. Something to the effect of "the typical or median 5-minute source sound level shall not exceed 77 dBA after removal of the ambient sound level."

I hope this provides you with the information you need at this time. If you have any questions, please contact me at 434-218-0759.

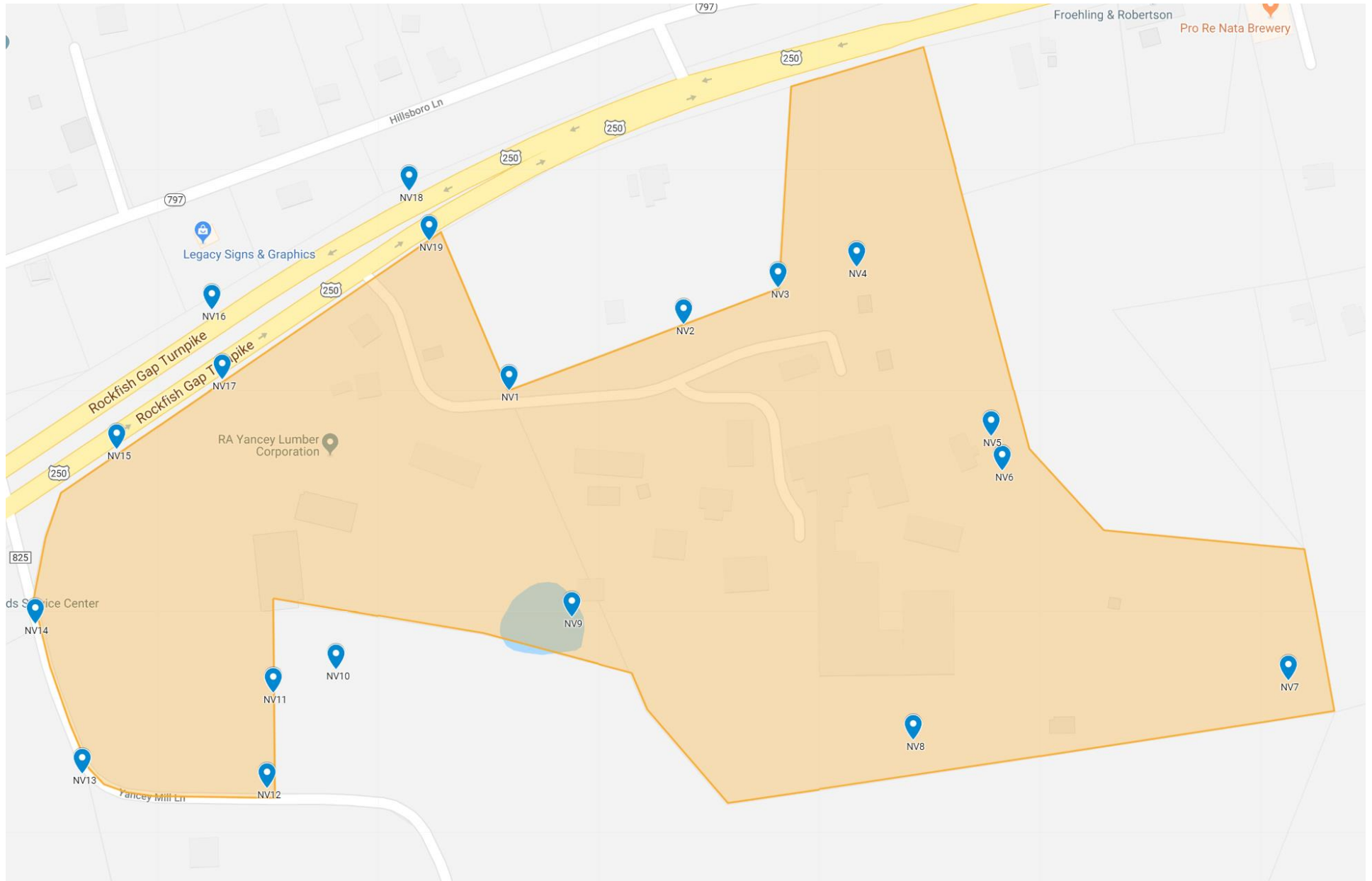
Sincerely,

Acentech Incorporated



Bill Yoder
Senior Staff Scientist

Appendix A1: Map of Measurement Locations



Appendix A2: Imagery of Measurement Locations

