



Griggs-Lang Consulting Geologists and Engineers, P.C.  
8 Brunswick Road Troy, New York 12180  
Phone: (518) 270-5920

June 10, 2020

**VIA E-MAIL**

Mark and Bev Cheffo  
499 4<sup>th</sup> Street  
Brooklyn, New York 11215

Re. Liberty Farms Sound Monitoring and Opinion Letter

Dear Mark and Bev,

This letter report assesses the potential sound levels to be produced by events held at the Barn at Liberty Farms. The venue is located in a remote area surrounded by woods, pastures and paddocks.

The worst-case scenario, the property approximately 300 feet northwest of the venue, was the focus of the assessment since it by far the closest receptor and is located in a quiet area with low ambient sound levels. All other receptors are located at much greater distances and the venue is more than 500 feet from the property line in the directions of the more distant receptors. The more distant neighbors would be impacted to a lesser extent than the worst-case scenario.

The loudest activity at the venue will be the DJ or live music following a wedding ceremony. Weddings are typically held on Saturdays. The music typically starts between 8 and 9 pm and ends by 11 pm. The DJ or live band is positioned in the northwest corner of the center hall with speakers facing southeast. All windows and doors are closed and a heavy sound curtain is drawn across the northerly doors for the duration of the performance.

We simulated the sound conditions that would be produced during a DJ or live band by setting up the sound system that is typically used, in the position that it is typically used in, and set it at the loudest volume that would ever be used.

We measured the sound levels near the building and at the point of interest on the nearest property line (worst-case scenario). The doors and windows were closed during all measurements, as they would be during an event when the music was playing. The sound curtain was drawn during all but one of the measurements in an effort to determine the practical noise attenuation characteristics of the curtain specific to this venue.

Measurements were taken at three locations; in the paddock to the north of the venue (approximately 100 feet from the northerly door), at the nearest property corner (approximately 300 feet northwest of the venue), and within the center of the main hall (approximately 30 feet from the speakers). The measurement locations are shown on the enclosed Sound Measurement Location Map.

The indoor measurement was made primarily as a calibration of the sound system to assure that the level was within the appropriate range for a worst-case assessment.

The outdoor measurements document two conditions: the ambient with no activity at the venue, and the simulated level with the sound system on. An additional measurement was made from the paddock with the sound curtain left open. It should be noted that the music being played was barely audible and hard to discern as it was masked by the sounds of traffic on roads in the distance and a light breeze rustling the leaves in the trees.

Ian White completed all sound level measurements on Saturday, June 6<sup>th</sup>, 2020 within the typical music hours. The measurements were made in accordance with ASTM 1503, a widely accepted methodology for measuring community sound levels. The Leq sound metric was used since the sounds in the area are not steady state and the Leq metric accounts for all sounds, both quiet and loud. Leq is the most commonly used sound metric for assessing community sound levels. All measurements were reported in A-weighted decibels (dBA) that best represent what the human ear hears.

Sound level worksheets are attached. These worksheets describe the conditions that existed during the measurements.

A Norsonic 118 Type I sound meter was used in all measurements. The sound meter was factory calibrated on April 30, 2020 (see attached calibration certificates for the sound meter, field calibrator and the microphone) and field calibrated before and after each measurement using a Norsonic 1251 calibrator. The sound meter was set up on a tripod and operated in accordance with the manufacturer's recommendations. The microphone was equipped with a windscreen for all outdoor measurements. The weather conditions were noted (see attached Sound Level Measurement Worksheets) and were acceptable for obtaining representative sound level measurements.

Measurements were taken for five minutes at each location under both the ambient conditions and the scenarios with the sounds system operating. The duration of the measurements was sufficient to ensure the sound levels had stabilized to a consistent level. The results are summarized in the following table:

Location	Purpose	Start Time	Duration	Leq (dBA)	Lmax (dBA)	Lmin (dBA)	Music On?	Curtain Closed?
1 – Paddock (100')	Event Simulation (w/o sound curtain)	08:40 PM	5 Mins	39.4	64.2	32.9	Yes	No
1 – Paddock (100')	Event Simulation	08:47 PM	5 Mins	38.4	50.7	31.7	Yes	Yes
1 – Paddock (100')	Ambient	08:55 PM	5 Mins	35.9	49.2	31.5	No	-
2 – Property Line	Event Simulation	09:22 PM	5 Mins	42.5*	61.7	27.7	Yes	Yes
2 – Property Line	Ambient	09:28 PM	5 Mins	36.7	66.1	25.5	No	-
2 – Property Line	Event Simulation	09:35 PM	5 Mins	38.2	63.5	28.7	Yes	Yes
3 – Inside Venue	Sound System Level	09:07 PM	5 Mins	85	91.6	46.1	Yes	-

\*Audible operation of an off-road motorbike in the vicinity of the site during the measurement caused the reading to be unusually high.

The ambient conditions measured range from 35.9 to 36.7 dBA, consistent with a quiet rural setting. The event simulation conditions measured range from 38.2 to 38.4 dBA. Without the sound curtain drawn, the measurement from the paddock indicates that the sound level would be approximately 1dB louder at 100 feet from the venue (39.9 dBA). It was noted during all measurements that the music was barely audible outside the venue, with faint bass (low) frequencies being the only discernible sounds. The sounds of occasional birds chirping and cars passing on NYS Route 66 were far and away more prevalent at both measurement locations than the sounds of the venue. Additionally, it is noted that one event simulation reading at the property line was significantly higher than the other readings because of the operation of an off-road vehicle in the vicinity of the site during a relatively short period of the measurement.

### **Discussion of Results**

The sound from the simulated event resulted in an increase in sound levels over ambient of 2.5 dBA at a distance of 100 feet from the building. The sound level increase resulting from the simulated event was 1.5 dBA at the nearest property line in an extremely quiet period of time. These sound level increases are barely discernible and do not have a significant impact. The owners reported that they have never had a complaint from a neighbor about an event and this is certainly understandable since the music was hard to discern even close to the building.

The sound levels resulting from the simulated event were in the high 30-dBA range. These sound levels are consistent with the sound levels you would expect in a quiet rural area in the evening and do not have a significant impact on the neighborhood.

The sound from the simulated event was free of impulsive or disruptive sounds even in the paddock outside the venue. The solid and heavy wooden doors are particularly effective mitigation measures and the sound curtains provide additional sound attenuation.

The distance between the venue and the other property lines is greater than 500 feet and complies with the setback requirements of the Town of Ghent Local Law 1-2019. In addition, many of the nearest residents are located along NYS Route 66 and would have a higher ambient sound level due to the traffic on the highway. The more distant receptors would be impacted even less than the worst-case scenario assessed herein.

It is our professional opinion that the venue should not have any significant noise impact on the surrounding community.

\* \* \*

Please contact me if you have any questions.

Cordially,



Ian R. White, Senior Geologist  
Griggs-Lang Consulting Geologists and Engineers, P.C.



Paul H. Griggs, Principal Geologist  
Griggs-Lang Consulting Geologists and Engineers, P.C.

Cc. Patrick Prendergast

Enc. Sound Measurement Worksheets  
Sound Measurement Location Map

**SOUND MEASUREMENT WORKSHEET**

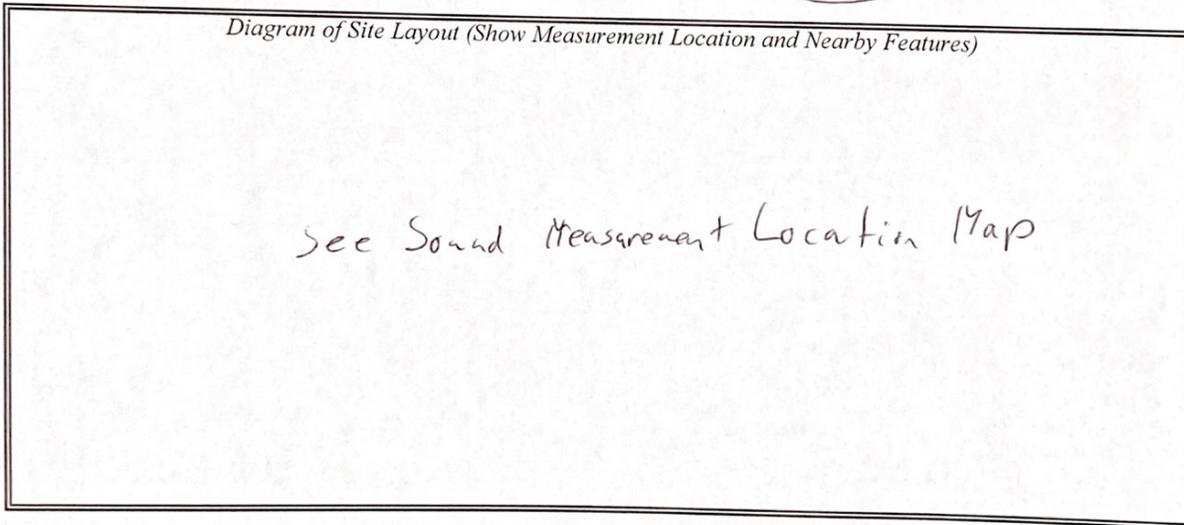
Client: Mark and Bev CLEFFO Measurement Location  
Project: Lisecty Farms Noise Monitoring  
Site: Paddock

Measurements by: IRW Date: 6/6/20

Weather: Partly Cloudy  
Wind Speed/Direction: 0-3 MPH/NW Temperature (°F): 65-70  
Humidity: Low Precipitation: None

Sound Level Meter: Nor 118 Calibrator Model: Nor 1251  
Time Calibrated Before Use: Before each use Time Calibrated After Use: After Each Use  
Date of Factory Calibration: 4/30/20 Windscreen: Yes No

Sound Meter Type: Type I Type II Response: Fast Slow  
Type of Measurement: Octave Band 1/3 Octave Band Composite



Purpose of Measurement: Close-up Assessment  
Location of Sound Meter: See Sound Measurement Location Map  
Height of Microphone Above Ground: 4.5'  
Microphone Angle (from horizontal): 30° Direction of Microphone: South  
Distance to Nearest Reflective Surface: 100'

Start Time: \_\_\_\_\_ Stop Time: \_\_\_\_\_ File Name: \_\_\_\_\_  
Leq: \_\_\_\_\_ Lmax: \_\_\_\_\_ Lmin: \_\_\_\_\_

## SOUND MEASUREMENT WORKSHEET

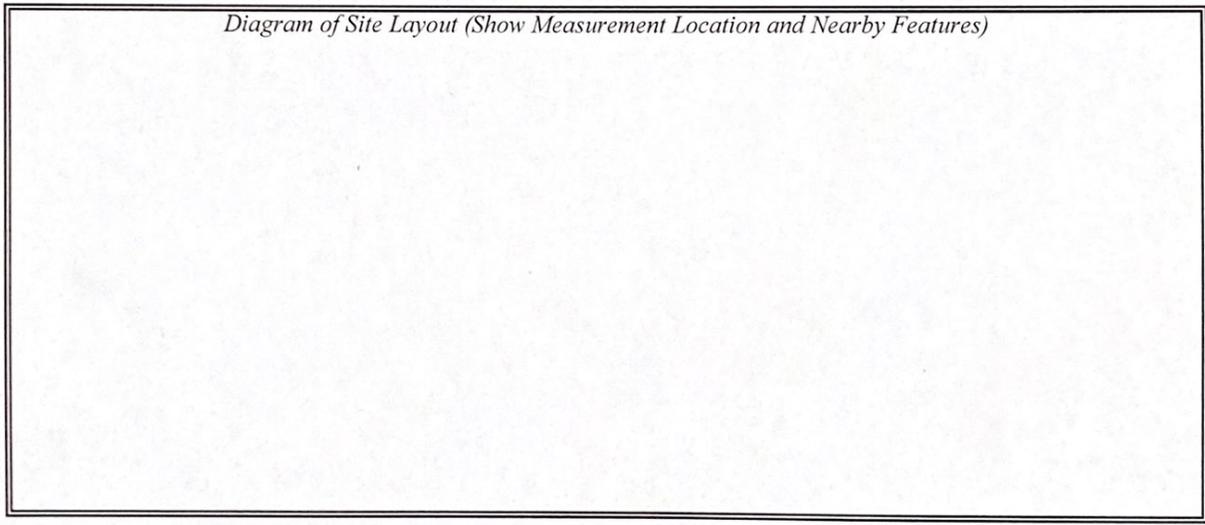
Client: <u>Mark and Bea Ceffo</u> Project: <u>Liberty Farms Noise Monitoring</u> Site: <u>Paddock Property Line</u>	Measurement Location <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">2</div>
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Measurements by: IRW Date: 6/6/20

Weather: Partly Cloudy  
 Wind Speed/Direction: 0-3 MPH/NW Temperature (°F): 65-70  
 Humidity: Low Precipitation: None

Sound Level Meter: Nor 118 Calibrator Model: Nor 1251  
 Time Calibrated Before Use: Before each use Time Calibrated After Use: After each use  
 Date of Factory Calibration: 4/3/20 Windscreen:  Yes  No

Sound Meter Type:  Type I  Type II Response: Fast  Slow  
 Type of Measurement:  Octave Band  1/3 Octave Band  Composite



Purpose of Measurement: Nearest Property Line Assessment  
 Location of Sound Meter: See Sound Measurement Location Map  
 Height of Microphone Above Ground: 4.5'  
 Microphone Angle (from horizontal): 30° Direction of Microphone: South east  
 Distance to Nearest Reflective Surface: NA

Start Time: \_\_\_\_\_ Stop Time: \_\_\_\_\_ File Name: \_\_\_\_\_

Leq: \_\_\_\_\_ Lmax: \_\_\_\_\_ Lmin: \_\_\_\_\_

## SOUND MEASUREMENT WORKSHEET

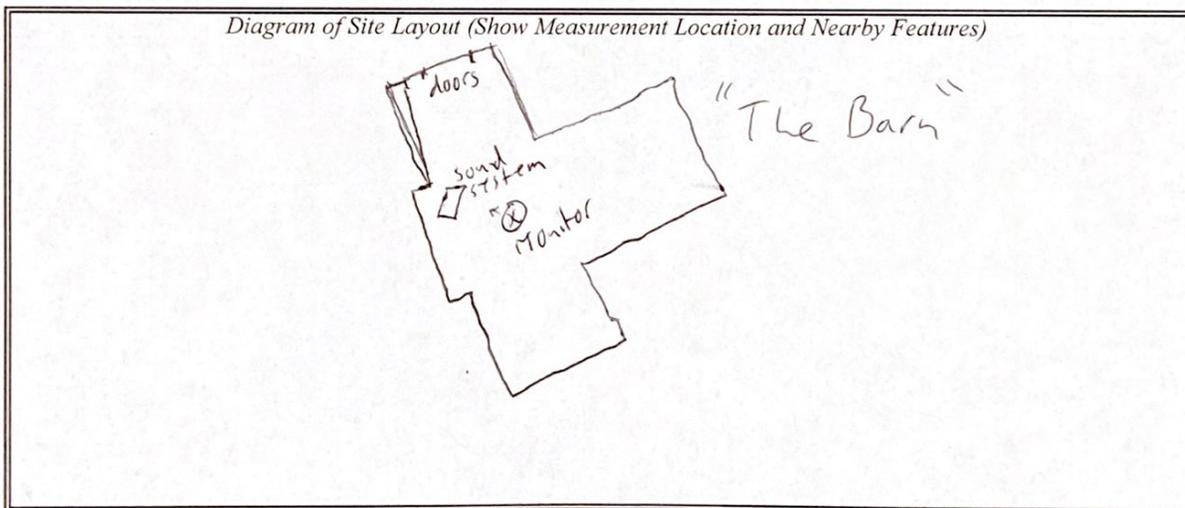
Client: <u>Mark and Bev Cleffo</u>	Measurement Location
Project: <u>Liberty Farms Noise Monitoring</u>	3
Site: <u>Inside Venue</u>	

Measurements by: IRW Date: 6/6/20

Weather: NA  
 Wind Speed/Direction: NA Temperature (°F): NA  
 Humidity: NA Precipitation: NA

Sound Level Meter: Nor 118 Calibrator Model: Nor 1251  
 Time Calibrated Before Use: Before Each Use Time Calibrated After Use: After Each Use  
 Date of Factory Calibration: 4/30/20 Windscreen: Yes  No

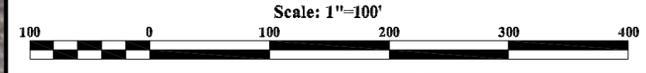
Sound Meter Type:  Type I  Type II Response: Fast   Slow  
 Type of Measurement:  Octave Band  1/3 Octave Band  Composite



Purpose of Measurement: Sound System Level  
 Location of Sound Meter: Center of main Reception Hall, towards speakers  
 Height of Microphone Above Ground: 4.5'  
 Microphone Angle (from horizontal): 30° Direction of Microphone: NW  
 Distance to Nearest Reflective Surface: ~30'

Start Time: 9:07 Stop Time: 9:12 File Name: 004

Leq: 85.0 Lmax: 91.6 Lmin: 46.1



**MARK AND BEV CHEFFO**  
 Liberty Farms  
 Town of Ghent, Columbia County, New York

**SOUND MEASUREMENT LOCATION MAP**

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MAP REVISIONS		
BY	DESCRIPTION	DATE

DETAILS
Date: 6/6/20
Scale: 1"=100'
Contour Interval: None
Datum: MSL
USGS Base: Ghent
Project Manager: PHG
Drafted by: IRW
Checked by: PHG
Base Map(s): 1) NYSEG 2017 Aerial Photos 2) Base Map by Pat Prindogast

LEGEND
----- Property Line

NOTES