



# Crawford & Associates Engineering & Land Surveying, PC

Hudson Office – One Hudson City Centre, Suite 300 • Hudson, NY 12534  
Tel: (518) 828-2700 • Fax: (518) 828-2723 • [www.crawfordandassociates.com](http://www.crawfordandassociates.com)

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October 25, 2024

Town of Marlborough  
Planning Board  
21 Milton Turnpike, Suite 200  
Milton, NY 12547

Attn: Chris Brand, Planning Board Chair

**RE: ELP MARLBOROUGH SOLAR  
335 BINGHAM ROAD, TOWN OF MARLBOROUGH, NEW YORK  
TAX MAP ID: 108.3-3-21  
NOISE ASSESSMENT  
C&A # 4996.26**

Dear Chair Brand:

We are providing this Noise Assessment as supplemental application material for ELP Marlborough Solar in response to MHE's comment letter dated October 7, 2024, and the Board's request.

During operation of the facility, the noise relevant to the proposed project will be limited to the equipment pad areas central to the solar facility. The proposed project will utilize inverters located on equipment pads to convert the power from direct current (DC) to alternating current (AC). In addition, lithium-ion battery energy storage systems (BESS), which store energy generated by the solar panels, will also be sited on equipment pads. The locations of the proposed inverters, BESSs, and associated equipment pads is identified on the site plans titled, "ELP Marlborough Solar", by C&A, most current version.

It is our understanding that Town of Marlborough Zoning Code Section 155-32.2 Solar Energy, does not specify noise requirements above otherwise prohibited noises. For the purpose of this assessment, Chapter 105, Noise was referenced. According to Section 105-3, Prohibited Noises, includes:

- **105-3. A.** - *Between the hours of 10:00 p.m. and 7:00 a.m. Sunday through Thursday and 11:00 p.m. and 7:00 a.m. Friday and Saturday, any sound that exceeds 55 decibels as measured at the property line of the property from which the sound emanates or is produced.*
- **105-3. B.** - *Between the hours of 7:00 a.m. and 10:00 p.m. Sunday through Thursday and 7:00 a.m. and 11:00 p.m. on Friday and Saturday, any sound that exceeds 65 decibels as measured at the property line of the property from which in emanates or is produced is prohibited.*

Free field inverse square law was used to determine a conservative estimate of the allowable noise and associated sound pressure level (dB) of the equipment. In accordance with inverse square law, the intensity of a physical quantity decreases as the distance from its source increases, and that this decrease is proportional to the square of the distance. In this case, the inverse square law takes into consideration a known sound pressure level at a measured location, while calculating an unknown sound pressure level at a second location. According to inverse square law, it can be shown that for each doubling of distance from a point source, the sound pressure level decreases by approximately 6 dB.

With a known maximum allowable decibel rating at the property boundary (55 decibels per 105-3.A), a maximum decibel rating at the source was determined. For the purposes of this assessment, Equipment Pad Area #1 is identified as the two equipment pads at the north-central portion of the facility area, and Equipment Pad Area #2 is identified as the two equipment pads at the south-central portion of the facility area. Please see table below for reference.

**Table 1 – Equipment Pad Area #1**

Direction	Distance to Nearest Property Boundary (ft)	Maximum Allowable Decibel Rating at Property Boundary	Maximum Decibel Rating at Source (at 3')
North	450	55	98
East	426	55	98
South	1,220	55	107
West	1,142	55	106

Considering Table 1, Equipment Pad Area #1 could produce noise of up to 98 dB, while adhering to the noise requirements of Town of Marlborough Zoning Code 105-3.

**Table 2 – Equipment Pad Area #2**

Direction	Distance to Nearest Property Boundary (ft)	Maximum Allowable Decibel Rating at Property Boundary	Maximum Decibel Rating at Source (at 3')
North	934	55	104
East	533	55	99
South	747	55	102
West	1,084	55	106

Considering Table 2, Equipment Pad Area #2 could produce noise of up to 99 dB, while adhering to the noise requirements of Town of Marlborough Zoning Code 105-3.

It is anticipated that the proposed inverters and BESS components located on each equipment pad will produce noise in the range of 70-90 decibels at the source (under various operating conditions), resulting in well below the maximum source decibel rating, respectively, and subsequently below the maximum allowable decibel rating of 55 dB at the property boundary. For reference, a source of 90 dB measured 3' from the source, would result in approximately 46.5 dB at a distance of 450', comparable

to that of a suburban area at night or an air conditioning unit.

It should also be noted that the data provided herein can be considered conservative in that inverse square law calculations consider open space, free field, without obstructions. The proposed equipment pads are generally encompassed by the solar panels, fence, and 25' min. vegetation buffer, including existing vegetation and proposed landscaping, all of which would provide a sound buffer and further reduce any sound transmission.

The Applicant, ELP Marlborough Solar, commits to adhering to Town of Marlborough Zoning Code Section 105-3, Prohibited Noises.

If you have any questions regarding the information above, please feel free to contact me at (518) 828-2700 x1138.

Sincerely,  
**Crawford & Associates**  
**Engineering & Land Surveying, P.C.**



Christopher J. Knox, PE  
Project Manager II

Cc: Chris Brand, Planning Board Chair ([cbrand@marlboroughny.us](mailto:cbrand@marlboroughny.us))  
Jen Flynn, Planning Board Secretary ([marlboroughplanning@marlboroughny.us](mailto:marlboroughplanning@marlboroughny.us))