

APPENDIX I

Noise Evaluation Report

HMB

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Noise Evaluation Report

**Proposed Solar Farm Facility
Durham Manufacturing
201 Main Street
Durham, CT**

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**Prepared For:
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Introduction

I have reviewed site plans and specifications for equipment that is being proposed for the Solar farm. The Solar farm is to be located in a heavily wooded area, adjacent to Maiden Lane to the North of the site. This evaluation is based on using 25 Inverters around the Solar arrays. The Inverters are mounted on the back of racking behind the panels. The Inverters are spaced evenly along the perimeter to the arrays. This site is bordered by Main Street; and Picket Lane. Generally, the areas to the North; South; and West are residential in nature. There are Commercial buildings to the West and schools to the Southwest and Southeast. On December 26, 2017, existing background noise measurements were taken near the proposed site and in adjacent areas. The average levels were 38-42 dBA.

The purpose of the noise evaluation is to determine whether the proposed equipment will comply with the Town of Durham Noise Ordinance. This report and the noise regulations utilize a dBA scale. This scale is used because it closely approximates the response characteristic of the human ear to loudness, and is the scale most commonly used in the measurement of community noise.

Noise Regulations

The Town of Durham has enacted regulations which limit the amount of noise which may be transferred from one property to another. In pertinent part, the Regulations provide as follows:

Daytime hours - The hours between 7 a.m. and 9 p.m. Monday thru Saturday; and 9 a.m. to 9 p.m. on Sunday.

Nighttime hours -The hours between 9 p.m. and 7 a.m. Sunday thru Saturday; and 9 p.m. to 9 a.m. Saturday to Sunday.

The allowable noise level from a Class "B" Commercial Noise Zone Emitter to a Class "A" Residential Zone Receptor's property line is 55 dBA (daytime) and 45 dBA (nighttime).

The allowable noise level from a Class "B" Commercial Noise Zone Emitter to a Class "B" Commercial Zone Receptor is 62 dBA (day / night).

Noise Evaluation

The noise levels listed in TABLE 1 take into account the effect of acoustical shielding provided by other structures on the premises. The noise levels have been projected to the nearest residential and commercial abutters.

TABLE 1

	Zone Class of Noise Receptor		
	Residential	Commercial	
	A-Day	A-Night	B - Day/Night
	(dBA)	(dBA)	(dBA)
Allowable Noise Levels			
Emitter Noise Zone			
Class B (Commercial)	55	45	62
Nearest Abutters			
North	41	41	
Northwest	45	45	
East	36	36	
South - School			
Playground	45	-	
Southeast			
Korn School	39	39	
West	40	40	
Southwest			42
Southwest			
Frank Ward			
Strong School	35	35	

Noise Evaluation Results

The noise level data in TABLE 1 demonstrates that the noise levels will meet the conditions for compliance as set forth in the Town of Durham Noise Ordinance when projected to the nearest abutters.