

June 28, 2022

Mr. Bruce Flower, Chairman (Via email)
Town of Wappinger
Planning Board
20 Middlebush Road
Wappingers Falls, NY 12590

**Re: Mid-Hudson Islamic Association Solar Array
Tax Parcels #6258-02-628535
CPL # 14926.02
TOW # 22-4101**

Dear Chairman Flower and Planning Board Members:

This office received copies of the following documents:

- Revised Special Use Permit Application, dated May 24, 2022, prepared by Ahmed Shah of the Mid-Hudson Islamic Association Inc
- Revised Application for Site Plan Approval, dated May 24, 2022, prepared by Ahmed Shah of the Mid-Hudson Islamic Association Inc
- Permission to Construct Letter, dated June 6, 2022
- 5-Sheet Plan Set, last revised May 6, 2022, prepared by SunCommon

Based on our review we offer the following engineering related comments:

1. Provide a construction detail for the trenching between the array and the main load center on parcel # 6258-02-647552. Our office defers to the Town Attorney for a decision on whether a grading easement is needed for this trench, as the applicant owns both parcels.
2. Prove necessary solar installation qualifications from the contractor.
3. Show roof ventilation, ground access areas, minimum perimeter pathways of 4' in width, and interior pathways.
4. Prior to obtaining a building permit, a structural analysis of the roof prepared and stamped by a NYS-licensed Professional Engineer or Registered Architect is required. This structural analysis should address the following items, as per the New York State Solar Guidebook:
 - a. Weight of the existing roofing (composition shingle, metal, masonry, etc.).
 - b. Number of layers of roof covering.
 - c. Method of waterproofing penetrations (flashing is required by the 2020 NYS Uniform Code).
 - d. Type of racking system (engineered product) and height of solar PV modules from surface of roof.
 - e. Location-specific wind load and snow load.
 - f. Type, dimensions, and spacing of roof structural framing.
 - g. Calculations must be provided if any of the following apply:
 - i. Roofing is not lightweight, or roof has multiple layers of covering.



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- ii. Racking system is not engineered for mounting of solar PV modules.
- iii. Modules will be mounted more than 18 inches above roof surface.
- iv. Modifications must be made to framing to strengthen roof structure.
- v. Solar electric system and racking will add more than 5 pounds per square foot to dead load, or more than 45 pounds per attachment point, calculated as follows:
 - h. Total weight of solar PV modules, racking, and mounting hardware _____pounds.
 - i. Total number of attachment points to roof _____.
 - j. Weight per attachment point ($A \div B$) _____pounds.
 - k. Total area of solar PV array _____square feet.
 - l. Distributed weight of solar PV array on roof ($A \div D$) _____pounds/square foot.

If you have any questions, please contact me at (845) 686-2305, or e-mail at jbodendorf@cplteam.com.

Very truly yours,
CPL

Jon Bodendorf, P.E.
Senior Municipal Engineer

JDB/wts

cc: Barbara Roberti, Zoning Administrator (by e-mail copy)
Susan Dao, Building Inspector (by e-mail)
James Horan, Esq., Attorney to the Planning Board (by e-mail copy)
Malcolm Simpson, Planning Board Planning Consultant (by e-mail copy)
Nicholas Maselli, Planning Board Member (by e-mail copy)
Ralph Marinaccio, Planning Board Member (by e-mail copy)
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