

32.1157.117  
August 28, 2023

Nicole Roberts  
Conservation & Planning Agent  
Town of Winchendon  
109 Front Street  
Winchendon, MA 01475

Re: **Peer Review – Proposed Solar Energy Storage System, 256 Murdock Ave  
Response to Comments**

Dear Ms. Roberts:

At the Planning Department's request, Tighe & Bond has reviewed the submission materials for the proposed solar energy storage system located at 256 Murdock Ave in Winchendon, Massachusetts and provided a review letter on May 11, 2023. Subsequently, the Applicant submitted revised materials on July 10, 2023, and Tighe & Bond issued a second review letter on July 21, 2023. The Applicant has submitted an additional response to comments letter and revised materials on August 2, 2023. This letter is in response to the most recently revised submission materials and includes the original review comments, Consultant (Hannigan Engineering, Inc.) responses in bold, and Tighe & Bond's latest review comments italicized. This letter excludes comments that were addressed in previous revisions and noted as addressed in the July 21<sup>st</sup> letter.

## Basis of Review

Tighe & Bond received the following materials via email which served as the basis of our review:

- Response to Comments Letter prepared by Hannigan Engineering, Inc., dated August 2, 2023.
- Site Development Plans prepared by Hannigan Engineering, Inc., revised August 2, 2023
- Drainage Analysis prepared by Hannigan Engineering, Inc., revised July 10, 2023

During our review the following items were referenced, as necessary:

- Town of Winchendon Zoning Bylaw (October 2019)
- Town of Winchendon Stormwater Management Regulations (September 2021)
- Town of Winchendon Rules and Regulations for the Review and Approval of Site Plans and Site Development (January 2008)
- The Massachusetts Stormwater Handbook
- Applicable State and Federal Regulations

## Review Comments

The following comments pertain to the Town of Winchendon Zoning Bylaws:

2. Section 12.6.1(P) requires consideration of the microclimate, including noise levels of the immediate environment. The Consultant should provide a statement addressing potential noise pollution, or lack thereof, from the proposed project.



**Hannigan Response: A noise analysis of the electrical equipment is forthcoming.**

*T&B Response: We recommend the noise analysis is reviewed upon completion to ensure the Project meets the intent of Section 12.6.1(P).*

**Hannigan Response: ZP Battery DevCo, LLC is currently prepared the document and will be presented to the Board at the next available public meeting.**

*T&B Response: We recommend the noise analysis is reviewed upon completion to ensure the Project meets the intent of Section 12.6.1(P).*

The following comments pertain to the Town of Winchendon Stormwater Management Regulations and the stormwater report and design:

12. The rain garden is partially proposed within groundwater. The site plans show an unlined rain garden with an optional subdrain. Since the basin is not lined, it is possible groundwater can get into the system. The Consultant should consider lining the basin to prevent groundwater from permeating into the rain garden system. Additionally, as the design as modeled is reliant on the subdrain outlet, the Consultant should consider removing the "optional" language for the subdrain on the detail.

**Hannigan Response: Based on the soil testing performed on site, the Estimated Seasonal High Groundwater Table (ESHGWT) is approximately 1009.5. With the bottom of the rain garden being 1012.0, an offset of approximately 2.5-feet is provided. With the subdrain being at elevation 1009.5, should groundwater rise above the ESHWT, the subdrain would intercept the groundwater to maintain the offset from the bottom of the rain garden. The "optional" language relative to the subdrain system has been eliminated.**

*T&B Response: The soil media below the "basin" portion of the rain garden and the subdrain piping are considered part of the rain garden system/the rain garden cell. The total depth of the soil media and subdrain system below the "basin" bottom is 3.1-4.6 feet, resulting in a portion of the rain garden cell within groundwater. The system may not function as intended if groundwater permeates into the rain garden cell. We recommend that the Consultant consider lining the basin or provide 2 feet of separation to ESHGWT from the bottom of the rain garden cell system in accordance with the guidelines for rain gardens in the Massachusetts Stormwater Handbook.*

**Hannigan Response: The Rain Garden Detail has been revised to provide a 40-mil plastic liner around the planting media and subdrain system to inhibit groundwater intrusion.**

*T&B Response: The comment has been addressed.*

The following comments pertain to the Town of Winchendon Rules and Regulations for the Review and Approval of Site Plans and Site Development:

18. Section 3.3.4(P) requires a separate plan sheet containing landscape information, including a planting table with botanical and common names of each species, heights, spread (at maturity), and quantity to be planted. Landscaping details, including a typical detail of a tree well, tree planting, and specialty planting area, if applicable, are also required. The Consultant should consider preparing a separate landscape plan and details in accordance with this section.

**Hannigan Response: Due to the generally secluded location of the project site, there are no additional landscape plantings proposed for the project. It is noted that there will be plantings within the proposed rain garden area.**

**Reference is made to the Rain Garden Detail for the lists of appropriate plantings to be utilized upon the completion of construction.**

*T&B Response: We recommend the Board consider a condition of approval that proposed plantings within the rain garden are reviewed prior to installation.*

**Hannigan Response: Acknowledge, final proposed plantings can be provided to the Town for review prior to installation.**

21. Section 3.3.5(E)(4)(b) requires estimates of construction costs for consideration in determining the amount of performance bond or cash security. We note the Applicant has stated costs will be provided prior to construction if a performance bond is required. We recommend the Board consider a condition of approval that the cost is provided prior to issuance of a Building Permit.

**Hannigan Response: Acknowledged.**

*T&B Response: We recommend the Board consider a condition of approval that the cost is provided prior to issuance of a Building Permit.*

**Hannigan Response: Acknowledged.**

We appreciate the opportunity to provide these comments for the Planning Department's consideration. Should you have any questions, please do not hesitate to contact me at 413.668.6019 or jechristy@tighebond.com.

Very truly yours,

  
Jean E. Christy, PE  
Senior Engineer