



MEMORANDUM

26015/Worthington Planning Board Solar Review Peer Review

DATE: May 20, 2026
TO: Bart Niswonger, Chair, Worthington Planning Board
FROM: Pare Corporation/Chris Nolan
RE: Technical Memorandum – Peer Review #1

INTRODUCTION

Pare Corporation has been retained by the Town of Worthington Planning Board to perform a peer review of a large-scale solar photovoltaic project at 190 Ridge Rd., Worthington, Massachusetts. The property and the project are partially located in the Water Supply Protection Overlay District, and a portion of the project is within an Interim Wellhead Protection Area.

The project proposes installing a large-scale solar generation facility on 29.95 acres of the 71.5-acre parcel. The parcel is entirely within the Residential - Agriculture zone under the town of Worthington Zoning Bylaws. The proposed facility is expected to generate 3.95 Megawatts (MW) DC and interconnect to the grid via existing or upgraded electric service on Ridge Road.

The site is currently open agricultural land; predominantly grass fields. The Project is attempting to qualify as a dual use agrivoltaic project under the Massachusetts Department of Energy Resources and Massachusetts Department of Agricultural Resources regulations. The Applicant has stated that the agricultural use (haying or grazing livestock) will continue for the life of the project.

Pare has reviewed the following documents submitted by the Applicant and performed a site visit April 24, 2026. The April 24 site visit included numerous town officials and interested members of the public.

Specifically, Pare has reviewed the following documents:

Applicant's Documents

- Worthington Dual Use Project Overview, August 25, 2025, by BWC.
 - Site Plan Review Application dated September 23, 2025, and attachments:
 - Natural Resources Assessment.
 - IPaC results.
 - One-line electrical diagram.
 - Electric Equipment specification sheets.
 - An Operations and Maintenance Plan.
 - Interconnection Service Agreement
 - Special Permit Application and attachments:
 - Planning Board questions (undated - electronic documents indicate October 17, 2025)
 - BWC correspondence and attachments dated October 21, 2025:
 - Tracker mount and inverter spec sheets.
 - Wetland Investigation area figure.
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- Beacon Integrated Solutions correspondence dated November 18, 2025.
- BWC's December 10, 2025, submission including the lease and Recorded Notice of Lease and an insurance cover sheet.
- Board of Health correspondence dated December 31, 2025.
- BWC's responses to questions and attachments dated January 2, 2026:
 - Ballon Test Results.
 - Mass Historical Project Notification Form.
 - ASTGU Pre-Determination Form and MA Department of Energy Resources Pre-Determination Letter.
 - Rendering of a Typical Warning sign.
 - Decommissioning Plan and Cost Estimate.
 - BESS FAQ.
- Water Operator's correspondence dated January 4, 2026.
- A Stormwater Management Plan dated February 18, 2026.
- Site Plans dated February 3, 2026.

Town Documents

- Worthington Fire Rescue Department correspondence dated February 26, 2026.
- Please note that on May 18, 2026, Pare received additional comments from the Town of Worthington Fire Department and are not included in this Technical Review.
- Protective Zoning By-Law for the Town of Worthington, Massachusetts (1970) Rev. through May 4, 2024.
- Municipal Zoning and Overlay Districts map (August 5, 2020)

REVIEW RESULTS

1. Existing/proposed conditions of the project site and adjacent roadways and intersections.

Applicant has submitted an existing condition plan that shows current road and intersection alignment, and a proposed condition plan showing no changes to existing roadways or intersections. The Applicant proposes to widen the existing driveway into the site. The Applicant also described in general terms the expected vehicular traffic during construction and after operations begin.

Recommendation:

The Board may request that the Applicant prepare a traffic impact analysis or Institute of Traffic Engineers (ITE) trip generation letter report for the proposed use and submit it to the Planning Board. Per Section 2.6.4 Form and Contents of Site Plan Review Application, C. 20 and 21 describe submission requirements including daily hour and peak hour traffic levels.

2. Existing/proposed site access and vehicle circulations.

The Applicant proposes the widening of the current driveway and adding a turnaround sufficient for Town of Worthington Fire apparatus to access the site.

Recommendation:

A WB-40 and WB-67 vehicle (tractor-trailer) maneuvering plan are shown on Sheet 3 of the Site Plan. Applicant should confirm that the largest Worthington Fire Department truck is equivalent to a WB-40.

3. Site generated traffic impacts.

Per the Applicant, the bulk of site generated traffic impacts are confined to the period during construction. Site generated traffic impacts during operation are negligible (one pickup truck visit quarterly).

Recommendation:

The Board may request that the Applicant prepare a traffic impact analysis or Institute of Traffic Engineers (ITE) trip generation letter report for the construction period and operation phase and submit it to the Planning Board. Per Section 2.6.4 Form and Contents of Site Plan Review Application, C. 20 and 21 describe submission requirements including daily hour and peak hour traffic levels.

4. Adequacy of defined study area.

As this refers to the Traffic Impact Analysis, until the study is performed and submitted, Pare cannot determine the adequacy of the defined study area.

Recommendation:

The Board may request that the Applicant prepare a traffic impact analysis or Institute of Traffic Engineers (ITE) trip generation letter report for the construction period and operation phase and submit it to the Planning Board. Per Section 2.6.4 Form and Contents of Site Plan Review Application, C. 20 and 21 describe submission requirements including daily hour and peak hour traffic levels.

5. Identification of project impacts and proposed mitigation for the Battery Energy Storage System (BESS) building.

Additional information is needed from the Applicant on the installation details of the BESS.

Recommendation:

According to 8.5.3 General Requirements for All LSGMSPI, A. 6. Required Documents, 1. d. one- or three-line electrical diagrams detailing the solar photovoltaic installation, associated components, and electrical interconnection methods, with NEC code compliant disconnects and over current devices and e, documentation of the major system components to be used, including photovoltaic panels, mounting system, and inverter shall be shown.

6. Electrical interconnection and on-site equipment.

Additional information is needed from the Applicant on the installation details of outdoor-rated electrical distribution equipment.

Recommendation:

The Board may request that the Applicant provide details of the 2000 kVA transformer, including insulation type and protection features, and provide details of the 4000 Amp switchboard. According to 8.5.3 General Requirements for All LSGMSPI, A. 6. Required Documents, 1. d. one- or three-line electrical diagrams detailing the solar photovoltaic installation, associated components, and electrical interconnection methods, with NEC code compliant disconnects and over current devices and e, documentation of the major system components to be used, including photovoltaic panels, mounting system, and inverter shall be shown.

7. Fire Safety features of the Battery Energy Storage System (BESS) building.

Additional information is needed on the fire safety plans for the Battery Energy Storage System (BESS) building. According to Section 2.6.4 Form and Contents of Site Plan Review Application, C. 18, Location of proposed fire protection measure shall be included.

Recommendation:

- The Board may request that the Applicant provide details of the BESS battery system and building, including interior layout of the BESS building, and indication of a secondary source of power for the fire detection and smoke detection system.
- The Board may further request that the Applicant determine whether a sprinkler system is provided, and if so, provide details showing a dry connection for the fire department to connect to, or details of a permanently connected wet sprinkler system.
- The Board may further request that the Applicant include details regarding the size of the battery spill containment or other containment based on sprinkler system type.
- The Board may further request that the Applicant coordinate with the local fire department on an appropriate hose connection if a dry system is utilized.
- The Board may request that the Applicant provide a Failure Modes and Effects Criticality Analysis as requested by WFRD and provide a hazard mitigation analysis performed by the BESS vendor.

8. Emergency Management.

Additional information is needed on the site emergency planning. The applicant has agreed to cooperate in preparing an emergency management plan.

Recommendation:

The Board may request that the Applicant provide safety documentation and emergency procedures related to disaster planning and meet with Town officials to detail an emergency management plan. According to Section 8.5.6 Safety and Environmental Standards A. Emergency Services:

1. The LSGMSPI owner or operator shall provide a copy of the project summary, electrical

schematic, and site plan to the Town Fire Chief. Upon request, the owner or operator shall cooperate with local emergency services in developing an emergency response plan. All means of shutting down the solar photovoltaic installation shall be clearly marked and approved by the Town Fire Chief. The owner or operator shall identify a person responsible for public inquiries throughout the life of the installation.

2. The LSGMSPI owner or operator shall provide a copy of the project summary, electrical schematic, and site plan to the Town Fire Chief. Upon request, the owner or operator shall cooperate with local emergency services in developing an emergency response plan. All means of shutting down the solar photovoltaic installation shall be clearly marked and approved by the Town Fire Chief. The owner or operator shall identify a person responsible for public inquiries throughout the life of the installation.

9. Stormwater Management.

The Applicant has submitted a revised stormwater management report. Pare has reviewed the report and determined the engineering computations and report were prepared in accordance with standard practice and follows the MassDEP Stormwater Handbook. Applicants have since completed several test pits on the site.

Recommendation:

The Board may request that the Applicant provide the purpose and results of the Geotech or test pit investigations. However, according to Section 2.6.4 Form and Contents of Site Plan Review Application, C. 11, a runoff drainage plan was included.

10. Sound impacts and mitigation.

The Applicant has submitted a response (January 2, 2026) to inquiries regarding noise issues which indicate that Applicant will provide a sound study of the system and provide sound profiles of OEM equipment prior to issuance of a building permit.

Recommendations:

- The Board may request that the Applicant provide a sound study at the same locations and time of day which includes a pre-construction baseline and observations during operations within six months of commencement of operations.
- The Board may request that the Applicant share an existing sound study from a similar project that includes a BESS and tracker technology.
- The Board may request that the Applicant provide sound profiles and complete specs of OEM equipment that will be used.

According to Section 8.5.6 Safety and Environmental Standards D. Sound Levels, the sound levels under normal operating conditions, measured at the boundary of the lot on which the installation is sited, shall not be more than 10 decibels greater than would otherwise exist in absence of such a facility.

11. Site landscaping, screening, and security.

The Applicant proposes to install landscaping screen along the northeast abutter's property with arborvitae with 8' spacing and install an eight (8) foot woven wire fence around the project.

Recommendation:

According to Section 8.5.6 Safety and Environmental Standards C, Landscape Maintenance, a diversity of plant species shall be used, with a preference for species native to New England.

The Board may request that the Applicant provide additional evergreen screening along the southeastern boundary to provide screening from the road and the golf course.

12. Construction sequencing.

The Plans contain a conceptual construction sequencing plan.

- Establishment of limits of work.
- Placement of erosion controls.
- Minor clearing and grubbing and site grading.
- Construction of access road.
- Construction of the solar array and appurtenant equipment.
- Restoration of disturbed areas.
- Construction of stormwater infiltration BMPs.
- Erection of the perimeter fence.
- Final stabilization of disturbed areas.

The general construction sequence is reasonable and follows the general pattern for large scale solar construction sequencing.

13. Decommissioning costs and bonding.

Applicant has prepared and filed a decommissioning plan. The Board inquired about the decommissioning of the battery system. Applicant has responded that the decommissioning of the battery system is included in the plan and revised the plan based upon a New York Solar Guidebook approach. Given the lack of standards in the bylaw and in the Commonwealth generally, use of the New York solar guidebook is reasonable.

Applicant has assumed that all materials are recyclable.

Applicant has not specified the locations for disposal /recycling of the materials. In the absence of actual disposal locations, it is pure assumption to attribute transportation costs. The Applicant has assumed an inflation factor that does not appear to be accurate as of the date of this Technical Memorandum.

The Solar Bylaw requires that the estimate be prepared by a qualified engineer. The submitted estimate does not have a seal from a qualified engineer.

Applicant has assumed that the Town will not have to remove the Facility, and as a result they have not included local prevailing wages.

Recommendation:

The Board may request that the Applicant provide further support that all materials are recyclable.

The Board may request that the Applicant provide locations for disposal and trucking costs based upon those locations.

The Board may further request that the Applicant submit an Estimate with the seal of a qualified engineer.

The Board may request that the Applicant provide an updated Estimate with prevailing wages and more recent inflation figures.

14. Conclusion.

The Applicants Site Plan with supporting calculations and documents are in general compliance with standard practice and overall compliance with the Town of Worthington Site Plan Review and Large-Scale Ground Mounted Solar Photovoltaic Installation requirements. However, additionally required documentation as listed in the respective sections above should be provided by the Applicant to address the Towns concerns.

ADDITIONAL ISSUES / ITEMS OF CONCERN

15. Contractor Experience.

The Board has inquired of the Applicant whether contractor's with agrivoltaic construction experience will be solicited.

Recommendation: The Board may request the Applicant detail BWC Wade Stream LLC's requirements.

The Board may further request the Applicant provide a template bid solicitation used by BWC LLC to obtain quotes for agrivoltaic solar projects.

16. Ownership and Insurance

The Board has inquired to the Applicant as to site control, continued ownership of the equipment and liability insurance requirements.

The Applicant has responded by providing a long-term lease and a copy of a recorded Notice of Lease which details site control. Applicant has further produced a cover sheet for insurance covering the Applicant. Pare notes that portions of the provided policies expired in April 2026.

Applicant has further indicated that BWC LLC will continue to be the owner of the project and equipment.

Recommendation:

The Board may request that the Applicant agree to provide an updated insurance policy.

The Board may request that the Applicant agree to a condition requiring 30 days' notice to the Town of any change in ownership of the equipment, project, or the ownership of the LLC.

17. The Board has inquired about the possibility of glare from the panels and other equipment and fixtures.

Recommendation:

The Board may request that the Applicant provide the specification sheet for the proposed solar panels, racking system, tracker system, and other equipment.

18. The Board has inquired about hydrology related to overland / surface flow and existing conditions and proposed conditions models that are included within the stormwater report.

Existing soil Infiltration rates used in the Applicants Stormwater Report were based on NRCS Soil type and Rawls Rates, which follows MA DEP Stormwater regulations. Based on review of WSP Stormwater Management Report, existing conditions plan shown in the Applicants submission, and observed topography, overland surface flows are routed to the southeast and southwest.

Recommendation:

The Board may request that the Applicant provide the purpose and results of the Geotech or test pit investigations.

19. The Board has inquired about the fracturing of the bedrock impacts:

No such impact analysis has been submitted. A Geotech Evaluation is not specifically required for Large Scale Solar Project under the applicable bylaw. An investigative study to determine bedrock fracturing is also not typically required and not on the submission requirements of the Town of Worthington Solar Bylaw or the Water Supply Protection District. The Board has not received test pit results, and this may shed light on the depth to bedrock.

Recommendation:

The Board may request that the Applicant provide the purpose and results of the Geotech or test pit investigations.

20. The Board has inquired about the interconnection system and the need for utility poles.

The plans show a number of utility poles along the access route, noted that the locations are to be finally determined by the utility provider.

Recommendation:

The Board may request that the Applicant provide information from the utility provider regarding the number and configuration of poles required for interconnection.

21. The Board has inquired about the racking and support system, generally and specifically as to the system's ability to withstand the high winds common in the area of the proposed facility.

We note that the Plan Set dated 2/3/2026 has a detail as to mounting, racking or modules, but it does not identify the type of mounting, racking, and modules. The detail provided is for illustration purposes only.

Recommendation:

The Board may request that the Applicant detail the method of panel, support and racking installation / anchoring and provide spec sheets, including wind load ratings.

22. The Board has inquired as to the existence of a ground water monitoring plan before, during, and after construction.

There has been no such plan submitted. Such a plan is not required under the Solar Bylaw applicable to this project. Pare notes that Section 9.2 of the Bylaws has a requirement that groundwater monitoring wells be installed when excavating for removal of earth, sand, gravel, and other soils, and specifically excepts excavations incidental to permitted uses. We note that the purpose of the prospective wells under Section 9.2 is to verify groundwater elevations.

Recommendation:

The Board may request the Applicant indicate the purpose of the Soil Test pits and provide the report with results to the Town.

23. The Board has inquired as to whether there is a drinking water monitoring plan.

There has been no such plan submitted. Such a Plan is not required under the Solar Bylaw applicable to this project.

24. The Board has inquired as to whether there is a drinking water hazardous release plan.

There has been no such specific plan submitted. Such a Plan is not required under the Solar Bylaw applicable to this project.

Under the Water Supply Protection District by law, an Applicant is required to provide a complete list of chemicals, pesticides, fuels, and other potentially hazardous materials to be used or stored on the premises in quantities greater than those associated with associated with normal household use. The Board has informed Pare that Town Counsel has been consulted on whether the requirements for a Special Permit in the Water Supply Protection District extend the portion of the parcel outside the overlay.

In any event, no such submittal has been made.

Recommendation:

The Board may request the Applicant provide a submittal regarding the storage or use of chemicals, pesticides, or fuels on the premises (both within and outside the overlay district). If the submittal indicates that any such materials will be used or stored in greater than household quantities, then Applicant may be required to comply with the balance of Bylaw

9.2.7.A. 2. as to listed materials.

We note that the Applicant has agreed to cooperate in establishment of an emergency management plan.

Recommendation:

The Board may request that the Applicant review all aspects of emergency management with the Fire Chief and Emergency Management director and submit a draft plan, which plan may include a drinking water hazardous release plan.

25. The Board of Health and Water Operator has inquired as to the effects of the project on abutters' wells and septic.

No information has been submitted by the Applicant.

Recommendation:

The Board may request the Applicant respond to the Water Operator's letter and the Board of Health correspondence.

26. The Board has inquired as to whether there has been a vibration/impact study for abutters.

This comes under the noise issue.

Recommendation:

The Board may request the Applicant provide a sound study as detailed in No. 10 above.

27. The Board has inquired about the questions contained in the WRFD reports and correspondence.

The Board has forwarded a list of questions and concerns to the Applicant with a request that the Applicant provide a detailed response to the questions posed. It appears many of the questions revolve around emergency management and fire issues and may be addressed through cooperation in creation and submission of a draft emergency management plan.

Recommendation:

The Board may request the Applicant cooperate in the drafting of a detailed emergency management plan.