March 18, 2025

Mr. Gregory Rondeau, Chairman
Franklin Planning Board
355 East Central Street
Franklin, MA 02038

Re: Solar Canopy & Ground Mount Project
50 Constitution Boulevard
Site Plan Peer Review

Dear Mr. Rondeau:

BETA Group, Inc. is pleased to provide engineering peer review services for the proposed project entitled ***Solar Canopy & Ground Mount Project*** at 50 Constitution Boulevard in Franklin, Massachusetts. This letter is provided to outline findings, comments, and recommendations.

BASIS OF REVIEW

The following documents were received by BETA and formed the basis of the review:

- Site Plan Review Application, dated February 6, 2025, prepared by Atlantic Design Engineers, Inc., including:
  - Application letter
  - Project Narrative
  - Waiver Request
  - Application Form
  - Certificate of Ownership
  - Abutters List
  - Electric Diagram
  - Decommissioning Plan
  - Application Fee
  - Structural Site Plan
- Site Plans (6 Sheets) entitled **"Site Development Plans for Solar Canopy & Ground Mount Project,"** dated February 6, 2025, prepared by Atlantic Design Engineers, Inc.
- Stormwater Drainage Analysis, dated February 6, 2025, prepared by Atlantic Design Engineers, Inc.

Review by BETA included the above items along with the following, as applicable:

- Site Visit
- ***Chapter 185: Zoning From the Code of the Town of Franklin,*** current through July 2021
- ***Chapter 300: Subdivision of Land From the Code of the Town of Franklin,*** current through March 8, 2021
- ***Massachusetts Wetlands Protection Act 310 CMR 10.00*** effective October 24, 2014
- ***Massachusetts Stormwater Handbook*** effective January 2, 2008 by MassDEP
- ***Chapter 153: Stormwater Management From the Code of the Town of Franklin,*** Adopted May 2, 2007
- ***Wetlands Protection Chapter 181 From the Code of the Town of Franklin,*** dated August 20, 1997
- ***Town of Franklin Best Development Practices Guidebook***, dated February 2021
- MassDEP Wetlands Program Policy 17-1: Photovoltaic System Solar Array Review, dated September 23, 2017

INTRODUCTION

The project area is a 39± acre lot identified as assessor's Map 319 Lot 15 (the "Site"). The project is located at 50 Constitution Boulevard in the Town of Franklin, MA. The project parcel is within the Industrial Zoning District. The project is also located within the Adult Use and the Biotechnology Overlay Districts.

The existing Site is the location of a 3-story commercial office building for Dell Technologies. Associated existing site features include four driveway connections to Constitution Boulevard, several large parking lots with landscaping islands, pedestrian walkways, loading areas, and a grassed recreation field. Existing utilities depicted on the plans include water, gas, and electric via connections to services within Constitution Boulevard. Stormwater management is accomplished via closed drainage systems which discharge to detention basins located along the western and southern sides of the Site.

The Site is not located within the Aquifer and Water Resource Protection Zone, FEMA mapped flood zone, wellhead protection area, or in proximity to estimated habitat of rare or endangered species. A wetland resource area, mapped by MassDEP, is located to the north of the Site. The detention basins have also been flagged as wetland resource areas. NRCS soil maps indicate the presence of Woodbridge Fine Sandy Loam and Ridgebury Fine Sandy Loam, rated in Hydrologic Soil Group Ratings (HSGR) C/D and D (low to very low infiltration potential) throughout the site.

The project proposes to construct new large-scale ground-mounted and canopy-mounted solar photovoltaic systems on the southern side of the Site. The ground-mounted system will be constructed within the existing recreation field, while the canopy-mounted system will be constructed over the existing southern parking area. The electric diagram indicates a system size of 3.935 MW (AC) with 7,046 modules, though only 3,980 modules are identified on the site plan. Additional proposed site features include a perimeter fence, transformers, inverters, underground electrical conduit, and other associated electrical equipment. Existing parking and landscaping islands beneath the canopy will be retained, but existing lighting and trees are presumed to require removal or replacement. Stormwater management is proposed via a short infiltration trench adjacent to the transformer pad; otherwise, the existing closed drainage system will be retained.

The narrative indicates that a Notice of Intent has been filed for the project.

FINDINGS, COMMENTS, AND RECOMMENDATIONS

GENERAL

G1. Based upon the size of the parcel and the current impervious surface coverage, the change in impervious coverage associated with the proposed improvements are limited to concrete pads and footings. Based upon the stormwater analysis, this area is only 699 sq. ft. When compared to the existing impervious on site (1,035,709 sq. ft.), the differential is only 0.04%.

ZONING

The Site is located within the industrial (I) Zoning District. The proposed use is a Large-Scale Ground-Mounted Solar Energy System, which is permitted within this district following Planning Board Site Plan Review.

SCHEDULE OF LOT, AREA, FRONTAGE, YARD, AND HEIGHT REQUIREMENTS (§185 ATTACHMENT 9)

As shown on the schedule on the Zoning table on Sheet 4 of 6, the Site meets the requirements for lot area, depth, frontage, building height, and impervious area coverage. The parcel is exempt from the current definition of lot width since it was created prior to the bylaw in 1992.

PARKING, LOADING AND DRIVEWAY REQUIREMENTS (§185-21)

The project proposes no changes in the overall parking and/or access to and from the site. There are no buildings or additions proposed with the panel arrays, thus there will be no impact on existing parking or access requirements. The ground mounted units will be enclosed by a fence in an area that was formerly a recreation field.

P1. BETA recommends the Applicant consult with the Town of Franklin Fire Department to determine if there are any additional access issues associated with the fenced area around the ground mounted units.

P2. The proposed canopy arrays will displace nine of the fifteen pole mounted lights in this parking lot. The plans indicate that these lights will be replaced with lighting beneath the solar array. BETA recommends that these fixtures be identified. It does appear that the perimeter fixtures will not be impacted by the canopies, thus light intensity levels on the perimeter access driveway will not be impacted by the proposed development.

P3. The plans should identify the disposition of the existing trees (8) in the landscaped islands beneath the proposed solar canopies. If they are to be removed, applicant should show that compliance with the shade tree requirements in the parking lot area continues to meet the bylaw requirement. (§185-21. C. (5))

INDUSTRIAL DISTRICT PERFORMANCE CONTROLS (§185-22)

The project is located within an Industrial District and therefore must conform to these requirements. Given the nature of the project, BETA does not anticipate vibration, odor, or flashing related impacts.

I1. As noted in previous solar array hearings, the inverter noise levels will be approximately 65 decibels. In accordance with §185-22.

> *A. Disturbances. No sound, noise, vibration, odor or flashing (except for warning devices, temporary construction or maintenance work, parades, agricultural activities or other special circumstances) shall be perceptible without instruments more than 400 feet from the boundaries of the originating premises within an Industrial District or more than 200 feet inside the boundaries of a commercial or business district or more than 100 feet inside the boundaries of a residential district.*

Based on the proximity of the invertors to the abutting buildings along Discovery Lane (200± ft) BETA recommends that the applicant determine if a noise barrier is needed to comply with this section of the bylaws.

EARTH REMOVAL REGULATIONS (§185-23)

The project disturbance will be limited to those soils that will be removed as needed to provide the foundations and pier supports for the proposed facilities. Otherwise, no other grade changes are proposed in conjunction with the proposed solar facilities.

E1. Indicate approximate earth removal volume to determine compliance with this section or designate areas on site where materials excavated in conjunction with the foundation construction will be disposed of or reused.

SITE PLAN AND DESIGN REVIEW (§185-31)

The project has been submitted for Site Plan Review and is required to conform to the requirements of this section. The submitted plan set appears to be in compliance with all drawing requirements and review criteria, pending further review by the Fire Department to determine access requirements.

STORMWATER MANAGEMENT

The stormwater management design proposes a stone filed trench just down gradient of the proposed electrical equipment pads. In addition, the rack mounted invertors will be set on a gravel base. Each of these measures will ensure that runoff generated by these impervious surfaces will be directed into an infiltration SCM.

G1. BETA recommends that a construction detail for the proposed gravel base at the invertors be provided to ensure that it will encourage infiltration.

STORMWATER MANAGEMENT REGULATIONS (CHAPTER 153)

Although there are no proposed grade changes, the construction process will disturb land in excess of one acre within the Town of Franklin. It is therefore subject to the Stormwater Management Regulations. The project is also required to comply with the Town of Franklin Best Development Practices Guidebook (BDPG). Compliance with these regulations is outlined below and throughout the following sections.

SW1. The disturbance in the recreation field associated with the new ground mounted solar will require revegetation. The plans should indicate what seed mix will be used to replace the disturbed turf area. (BDPG Pg 6).

MASSDEP STORMWATER STANDARDS

The project is subject to the Massachusetts Stormwater Standards as outlined by MassDEP. Compliance with these standards is outlined below:

NO UNTREATED STORMWATER (STANDARD NUMBER 1): *No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the Commonwealth.* The project proposes infiltration trenches adjacent to the proposed equipment pads. Calculations have been provided which document that the trench will provide the water quality volume.

SW2. The proposed impervious surfaces will discharge to infiltration measures. These surfaces are not subject to vehicular traffic and therefore are only subject to pretreatment to the maximum extent possible. Accordingly, the proposed stone trenches will provide the treatment for these surfaces intended by the standards.

POST-DEVELOPMENT PEAK DISCHARGE RATES (STANDARD NUMBER 2): *Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.* As previously noted, the project will have no impact on the current runoff peak discharge rates and the manner which the runoff is being directed towards the receiving resource areas.

RECHARGE TO GROUNDWATER (STANDARD NUMBER 3): *Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to maximum extent practicable.* NRCS soil maps indicate the soils at the site are primarily Woodbridge fine sandy loam which is rated HSG-C (low infiltration potential).

Soil testing has not been conducted at the Site to date nor is any proposed.

TOTAL SUSPENDED SOLIDS (STANDARD NUMBER 4): *For new development, stormwater management systems must be designed to remove 80% (90% per Town Bylaw) of the annual load of Total Suspended Solids (TSS)*. The project is required to treat the 1.0-inch water quality volume per Town Bylaws. Since none of the existing impervious surfaces are being impacted by the proposed development, this requirement will only apply to the new impervious surfaces. The proposed infiltration trenches will provide the storage necessary to meet the bylaw requirements.

HIGHER POTENTIAL POLLUTANT LOADS (STANDARD NUMBER 5): *Stormwater discharges from Land Uses with Higher Potential Pollutant Loads (LUHPPLs) require the use of specific stormwater management BMPs.* The project is not considered a LUHPPL – **not applicable.**

CRITICAL AREAS (STANDARD NUMBER 6): *Stormwater discharges to critical areas must utilize certain stormwater management BMPs approved for critical areas.* The project is not in a critical area as defined by the standards– **not applicable.**

REDEVELOPMENT (STANDARD NUMBER 7): *Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable.* The project is not considered a redevelopment– The solar panel arrays are not defined by MASS DEP as an impervious surface; thus, the only new impervious surfaces will be the concrete equipment pads and foundations. None of the existing impervious surfaces on the site will be modified in conjunction with the proposed development. Thus, the standard is not applicable to the proposed development.

EROSION AND SEDIMENT CONTROLS (STANDARD NUMBER 8): *Erosion and sediment controls must be implemented to prevent impacts during construction or land disturbance activities.* Although no surface disturbance is anticipated in conjunction with the development of the canopies, the development of the ground mounted array based on the nature of the construction, will disturb greater than one acre of land. Accordingly, it will be required to file a Notice of Intent with EPA and develop a Stormwater Pollution Prevention Plan (SWPPP). Erosion control measures are identified on sheet 5 of 6 but are limited to a mulch log surrounding the proposed ground mounted array area.

SW3. Provide construction scheduling plan (BDPG Pg. 11)

SW4. Provide dust control plan (BDPG Pg. 11)

SW5. Provide a construction entrance onto the ground mounted array area and a construction detail for the same.

SW6. BETA recommends that silt sacks be placed on the catch basins surrounding the recreation field especially since most direct runoff into a subsurface infiltration system in the field.

SW7. Indicate if existing topsoil is to be retained and/or stockpiled and screened for re-use.

SW8. The applicant is reminded that a Stormwater permit from the Franklin DPW is required based upon the size of the disturbance.

OPERATIONS/MAINTENANCE PLAN (STANDARD NUMBER 9): *A Long-Term Operation and Maintenance Plan shall be developed and implemented to ensure that stormwater management systems function as*

designed. A Stormwater Operation and Maintenance Manual was provided with the Stormwater Management Report. The only item noted on the manual is maintenance of the proposed infiltration trench, which is the only SCM associated with the proposed development.

SW20. Provide plan showing location of SCM.

SW21. Provide signature of owner in area designated in the manual.

SW22. BETA will defer to the DPW whether Operations & Maintenance Manual for the entire site should be developed and updated to include the newest SCM.

ILLICIT DISCHARGES (STANDARD NUMBER 10): *All illicit discharges to the stormwater management system are prohibited.* An Illicit Discharge Compliance Statement was not provided with the submission.

SW23. Provide illicit discharge compliance statement with owner's signature.

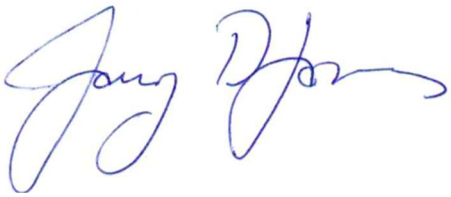
WETLANDS PROTECTION

The Project proposes work within Areas Subject to Protection and Jurisdiction of the Franklin Conservation Commission, including the 100-foot Buffer Zones to a vegetated wetland. Work within these areas includes portions of the solar array and foundation work. Therefore, the Applicant is required to submit an NOI to the Town of Franklin Conservation Commission and must obtain an Order of Conditions to complete the proposed work.

If we can be of any further assistance regarding this matter, please contact us at our office.

Very truly yours,

BETA Group, Inc.



Gary D. James, P.E.
Senior Project Engineer

cc: Amy Love, Town Planner