

**DECOMMISSIONING PLAN**

**Ground-Mounted Solar Photovoltaic System**

**160 Maple St North  
Franklin, Massachusetts**

Applicant & Responsible Party:

NextGrid Mescalbean LLC  
177 Huntington Ave  
Boston, MA 02115  
(559) 731-4645  
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## **I. FACILITY DESCRIPTION**

This Decommissioning Plan has been prepared for the proposed solar photovoltaic facility to be constructed at the property located at the Maplegate Golf Course at 160 Maple Street in Franklin MA. This plan describes the process for decommissioning the facility in accordance with state requirements and the Town of Franklin Site Plan review process. The facility will consist of a 4.99 MW (AC) solar array and accompanying equipment secured within a 7-foot high chain-link fence and accessed via an existing access road off of Maple St beginning in The Town of Bellingham..

The Facility will include the following site features, which will require decommissioning at the end of the life of the project:

- An approximate 51± acre limit of disturbance including an array of photovoltaic (PV) modules and racking system within the chain-link fence;
- Pile driven racking;
- Transformers and electrical equipment cabinets and concrete pads
- 7-foot chain-link security fence;
- Underground conduit and wires;
- Battery Storage System with Self Contained Fire suppressant system

## **II. DECOMMISSIONING PLAN**

The decommissioning of the facility will be a two-stage process consisting of dismantling, demolition and disposal/recycling followed by site restoration. The following is a description of each process.

### **Dismantlement, Demolition, and Disposal or Recycling**

A significant portion of the components that comprise the facility will include recyclable or re-sealable components including copper, aluminum, galvanized steel and the modules. Due to their re-sale monetary value, these components will be dismantled, disassembled, and recycled rather than being demolished and disposed of.

All electrical connections to the system will be disconnected and all connections will be tested locally to confirm that no electric current is running through them before proceeding. The facility will be dismantled following coordination with the utility company regarding timing and required procedures for disconnecting the facility from the utility distribution network. All electrical connections to the PV modules will be severed at each module, and the modules will then be removed from their framework by cutting or dismantling the connections to the supports. Modules will be removed and sold to a purchaser or recycler. In the event of a total fracture of any modules, the interior materials are silicon-based and are not hazardous. Disposal of these materials at a landfill is permissible.

The PV mounting system framework will be dismantled and recycled. The foundation system will be removed and recycled if feasible. All other associated structures will be demolished and removed from

the site for recycling or disposal. This will include the site fencing and gates, which will likely be reclaimed or recycled.

Concrete equipment slabs will be broken and removed to a depth of one foot below grade and clean concrete will be crushed and disposed of off-site or recycled (reused either on or off-site). The paved access road will remain in place.

Aboveground utility poles owned by the project operator will be completely removed and disposed of off-site in accordance with utility best practices. Any overhead wires will be removed from the facility and will terminate at the utility-owned connections within the adjacent overhead transmission line easement. The utility company will be responsible for dismantling the overhead wires and poles under its ownership. The decommissioning contractor will coordinate with utility company personnel to facilitate the utility company's removal of any poles and overhead wires located on the site.

Disposal of all solid and hazardous waste shall be in accordance with local, state, and federal waste disposal regulations.

The infiltration basin, swales and rip-rap areas will remain in place.

A final site walkthrough will be conducted to remove debris and/or trash generated during the decommissioning process. Any debris that may have been wind-blown to areas outside the immediate footprint of the facility being removed. Sanitary facilities will be provided on site for the workers performing the decommissioning of the facility.

### **Site Restoration**

Il disturbed area will be re-vegetated with hydro-seed, using a fast-growing seed mix. Native Trees will also be planted where appropriate. Site Restoration will take place at the written request of The Town of Franklin in case The Town has future development plans which are not natural forest.

### **Permitting Requirements**

Several approvals will be obtained prior to initiation of the decommissioning process. Permitting requirements will be determined at the time of decommissioning and updated based on then current local, state, and federal regulations. The decommissioning process is anticipated to take approximately six to eight weeks and is intended to occur outside of the winter season. In accordance with the requirements of of the Town of Franklin Zoning Bylaws, the owner/operator shall notify the Site Plan Review Authority (Planning Board) by certified mail of the proposed date of discontinued operations and the decommissioning will be completed no more than 150-days after the date of discontinued operation. Absent notice of a proposed date of decommissioning or written notice of extenuating circumstances, the solar photovoltaic installation shall be considered abandoned when it fails to operate for more than one year without the written consent of the Planning Board. Based upon current regulations, a building/demolition permit will be required from the Town of Franklin Building Department for the decommissioning of this site because a building/demolition permit must be obtained for any demolition or change to the use of a structure.

**160 Maple St North Solar Project  
Decommissioning Estimate - August 9th, 2023**

System Information Summary	
Total System Module Count	<b>36,140</b>
Total System Inverter Count	<b>8</b>
Racking Orientation	<b>2 Up Vertical</b>
Linear Feet of Racking	<b>36,799</b>
Estimated Aluminum per Foot of Racking (lbs)	<b>2</b>
Estimated Steel Per Foot of Racking (lbs)	<b>4.5</b>
Estimated Length of Interconnection to Street (feet)	<b>400</b>
Anticipated Project Lifespan for Inflation Calculation (years)	<b>20</b>
Battery Storage System	<b>Yes</b>

FEC Decommissioning Estimate Breakdown- Maple St						
Resource	Task	Task Quantity	Task Duration	Hours	Rate	Cost
Labor	Remove Modules	18,000 Module Pairs	10 Minutes Per Pair	3000	\$25.00	\$75,000
Labor	Remove Posts	7,000 Posts	10 Minutes Per Post	1165	\$25.00	\$29,125
Labor	Remove Fencing		40 Hours	40	\$30.00	\$1200
Labor	Find Grade & Seed Site		45 Hours	45	\$30.00	\$1350
Labor	Remove Conduit		50 Hours	50	\$30.00	\$1500
Labor	Remove Pad Equipment		16 Hours	16	\$30.00	\$480.00
Other	Contingency					\$10,000
Equipment	Excavate Trenching		50 Hours	50	\$125.00	\$6,250
Equipment	Remove Fencing		40 Hours	40	\$125.00	\$5,000.00
Equipment	Remove Scrap		40 Hours	40	\$125.00	\$5,000.00
Equipment	Remove Pad Equipment		16 Hours	40	\$125.00	\$5,000.00
Equipment	Remove Battery				\$5000.00	\$5,000.00
<b>Totals</b>						
			<b>Resource</b>	<b>Hours</b>	<b>Cost</b>	<b># of Days</b>
			Labor	4308	\$118,655	28
			Equipment		\$26,250.00	

<b>Salvage Value Summary</b>		
Estimated Copper Salvage (lbs)	<b>14,261.80</b>	
Estimated Aluminum Salvage (lbs)	<b>20,084.80</b>	
Estimated Steel Salvage (lbs)	<b>158,830.80</b>	
Current Day Salvage Pricing for Copper (\$/lb)	\$ 1.15	Mid City Scrap (9/26/19)
Current Salvage Pricing for Aluminum (\$/lb)	\$ 0.23	Mid City Scrap (9/26/19)
Current Salvage Pricing for Steel (\$/lb)	\$ 0.06	Mid City Scrap (9/26/19)
Estimated Copper Salvage Value	\$ 16,400.15	
Estimated Aluminum Salvage Value	\$ 4,619.50	
Estimated Steel Salvage Value	\$ 9,529.84	
Estimated Ballast Salvage (@ \$12/Ton With Metal - 2019)	\$ -	
Estimated Total Salvage Value	\$ 30,458.02	

<b>Removal Cost Summary - 5 Berry Street</b>		
		<b>Comments</b>
<b>Array Removal</b>		
Laborers	\$118,650.00	See above calculation
Equipment	\$28,250.00	See above calculation
Debris Containers w/ Disposal	\$23,800.00	28 Days X \$850.00 per day
<b>Subtotal</b>	<b>\$170,700.00</b>	
Salvage Credit	(\$22,844.00)	Material Salvage Value (\$30,458) - 25% Hauling/Material Cost Fluctuation Allowance
<b>Site Restoration Materials</b>		
Seeding and Landscaping	\$75,500.00	Assume 10 lb/acre @ \$50/lb Plant 500 Trees (4 to 6ft) @ \$100 a tree installed
<b>Total Site Restoration</b>	<b>\$75,000.00</b>	
<b>Total Cost</b>	<b>\$222,856.00</b>	

**Total Cost With 1.5% Inflation Over 20 Years = \$300,157 or \$302,200.00**



September 18, 2023

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

**Re: Proposed Solar Array, Parcel 1, 160 Maple Street, Bellingham, Norfolk County, MA  
Site Plan Peer Review**

Dear Mr. Rondeau:

BETA Group, Inc. is pleased to continue our engineering peer review services for the proposed project entitled ***Proposed Solar Array, Parcel 1, 160 Maple Street, Bellingham, Norfolk County, MA*** in Franklin, Massachusetts. This letter is provided to provide a response to our last review on August 14, 2023. There were few outstanding items remaining to be addressed, and this letter is being provided to outline the results and our recommendations.

## **BASIS OF REVIEW**

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

- Plans (40 sheets) entitled: ***Proposed Site Plan Documents for Nextgrid Mescalbean LLC, Bellingham & Franklin, Norfolk County, MA*** dated April 13, 2023, revised September 12, 2023, prepared by Bohler, stamped by John Kucich, PE No. 41530.
- Letter to BETA, from Bohler dated August 21, 2023, RE: Application to the Planning Board.
- Plan entitled ***"Test Pit Location Exhibit"*** prepared by Bohler, dated August 21, 2023.

## **INTRODUCTION**

The project site is the former Maplegate Country Club which is a total lot area of 144.6± acres. Access to the site will come from the existing driveway to the golf course clubhouse from Maple Street in Bellingham. The site development associated with this proposal will be limited to Parcel 1 which is approximately 69.5± acres. The proposed development is a 5,000-kW ground mounted Photovoltaic Power System. The limit of work for this system will be approximately 44.0 acres within parcel 1. The existing site improvements within the limits of the development include a club house, paved driveway, parking areas, gravel and paved cart paths, golf greens, driving range, landscaping, resource areas, and wooded areas. The site is surrounded by wooded land to the north, wooded land and Mine Brook to the east, Route 495 to the south, and commercial businesses, a solar field, and Maple Street to the west. Drainage patterns at the site vary but generally flow from west to east across the site to Mine Brook. The site is located within the Industrial Zoning District. The land west, north and south of the parcel are all within the same Industrial District. The parcels east of Mine Brook are located within the Single-Family III zone.

The project is partially within Water Resource District (MassDEP Zone II) along the eastern border adjacent to Mine Brook. The site is not in proximity to estimated habitat of rare or endangered species but is adjacent to NHESP Potential Vernal Pools to the North and South. The project is partially within a Zone AE

FEMA mapped flood zone (area of 1% chance flood) along the eastern boundary of the site with variable elevations determined by a detailed analysis of Mine Brook. NRCS soil maps indicate the soils at the site are of Montauk fine sandy loam, and Scituate fine sandy loam. Each are rated in Hydrologic Soil Group (HSG) C (low infiltration potential).

The project proposes to develop the site with approximately 44 acres of ground mounted solar modules, 2 separate equipment areas composed of inverters, cabinets and transformers, security fencing, 20' wide gravel access driveway from the existing paved driveway into the clubhouse through the entire site with access to future development at the southern end of the array.

The proposed development will reduce the overall impervious surface area on site. Proposed impervious surfaces include the concrete pads for solar equipment and gravel access driveways. Stormwater management will deal primarily with conformance with Standard 2 for peak flow rate attenuation. Stormwater management features proposed include the construction of a stormwater detention basin along the easterly edge of the development. The project as currently depicted will disturb in excess of one acre of land and is required to prepare a Stormwater Pollution Prevention Plan (SWPPP) and file a Notice of Intent with EPA. As currently shown, the project area will be located within the limits of the buffers to the existing wetland resource areas on site. An Order of Conditions has been filed with the Franklin Conservation Commission.

## **FINDINGS, COMMENTS, AND RECOMMENDATIONS**

To assist with the review, the comments and responses will be limited to the few outstanding items from the 4<sup>th</sup> review. These were primarily stormwater issues related to the requirement for Test Pit data for the proposed infiltration basin. That data was submitted on August 21, 2023. The corrections to the plans were addressed in the recent revised plans along with the changes requested by the conservation commission as part of their Order of Conditions. The results of our review of the revised plans are as follows.

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

The project proposes to retain approximately 1,100 feet of an existing paved driveway which connects to Maple Street in the Town of Bellingham. Proposed 18' or 20' wide gravel driveways will connect to this existing driveway to provide access to equipment areas and the southern end of the solar array. Notes on the plan indicate that the gravel driveway will also provide access to future development to the south.

The project does not propose a residential or nonresidential building; therefore, no parking is required. BETA anticipates that there is adequate space along at turnaround areas for maintenance vehicles to temporarily park without disrupting access.

- P1. Provide plan depicting turning moments along the access roads. Confirm that the turning radius at curves and at turnaround areas is sufficient for a Town of Franklin Fire Apparatus.

**BETA4:** *BETA recommends that the compacted subgrade be extended beneath the topsoil layer in the shoulders to support the potential traffic in the shoulder.*

**BETA5:** *The detail has not been revised; BETA will defer to the Board on this minor correction.*

## **STORMWATER MANAGEMENT**

The stormwater management design proposes a detention basin to capture stormwater runoff from the northeastern portion of the array. Two outfalls from this basin are proposed to convey captured

stormwater runoff to the east. The remainder of the Site will generally follow pre-development flow patterns with no stormwater BMPs proposed. A stone ditch has been added to the site plan adjacent to the existing paved entrance driveway for its length in Bellingham, which will help to control and treat the runoff from the driveway.

### **STORMWATER MANAGEMENT REGULATIONS (CHAPTER 153)**

The project proposes to 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. Provide test pit data in the area of the proposed basin to determine Estimated Seasonal High Groundwater levels (§153-15.A(9)).

**BETA3:** *As discussed, there are several areas where test pits could be implemented without disturbing the existing recreational use of the parcel by the golfing community. BETA recommends that a minimum of 2 shallow test pits be implemented now with a condition of 2 more prior to construction.*

**Bohler3:** *We conducted four test pits on Friday August 4th. We will be providing a supplemental response that addresses the stormwater related comments once we can compile the new data. Seasonal high groundwater was found between 60"-88" below surface grade between elevation 196 and 194.5.*

**BETA4:** *BETA will reserve comment until receipt of the supplemental response.*

**BOHLER4:** *Refer to the enclosed Test Pit Memorandum for additional information. Four test pits were performed in the area of the proposed stormwater management basin. The seasonal high groundwater elevation will be five feet below the proposed basin bottom elevation of 202.*

**BETA5:** *The test pit data has been provided and the basin has been designed in accordance with the standards and will maintain height above groundwater in accordance with the standards. No further comments.*

### **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 two new outfalls from the detention basin. Each outfall will discharge onto a new riprap apron. The northern outfall is within the 100-foot wetland buffer zone, while the southern outfall is outside all buffer zones.*

**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. The project proposes changes to site hydrology and ground cover which will impact stormwater flow to the one analyzed design point. Stormwater runoff will be mitigated via a net decrease*



in impervious area as well as a detention basin BMP. Calculations indicate a decrease in peak discharge rate and runoff volume to the design point.

SW8. Review cover type area attributed to “paved parking” for subcatchment P1a; the area used is inconsistent with the area depicted on the plans, based on the portions of the access driveway and cart paths designated to remain.

**BETA3:** *In accordance with the plans, the paved areas that will remain in subcatchment P1a is greater than 0.61 acres. It appears that the existing cart paths that are scheduled to remain in place have not been accounted for. Comment remains.*

**Bohler3:** *Supplemental response relating to open stormwater calculations will be forthcoming in a subsequent response. The plans have been revised to note the gravel and paved parking areas to be removed that will no longer be used for access to the solar arrays.*

**BETA4:** *BETA will reserve comment until receipt of the supplemental response.*

**BETA5:** *The basin as depicted on the plans complies with the design calculations. No further comments.*

**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 of Montauk fine sandy loam, and Scituate fine sandy loam. Each are rated in Hydrologic Soil Group (HSG) C (low infiltration potential). A portion of the analysis area is mapped as Freetown Muck with HSG B/D (very low infiltration potential when saturated).*

The project proposes a net decrease in impervious area; therefore, post-development annual recharge is anticipated to be an improvement compared to existing conditions.

**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). No stormwater BMPs have been proposed with the capability of TSS removal. As noted in the project narrative, proposed impervious areas are limited to gravel drives and existing paved roadways which will see only minimal vehicle traffic for maintenance. TSS removal will also be achieved via impervious area disconnection.*

**REDEVELOPMENT (STANDARD NUMBER 7):** *Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable. The project is considered a redevelopment under the definition of “Development, rehabilitation, expansion, and phased projects on previously developed sites, provided the redevelopment results in no net increase in impervious area.” Existing cart paths and driveways will be removed to result in a net decrease in impervious area. As such, the project need only meet certain standards to the maximum extent practicable.*

SW14. BETA recommends the Applicant complete the redevelopment checklist found in Volume 3 of the MA Stormwater Handbook to document which standards are being met only to the maximum extent practicable.

**BETA3:** *The 2+ acre reduction in the impervious coverage on site does help, however, the applicant is not proposing any additional BMPs for the remaining impervious coverage. Comment remains, provide the checklist.*

**BETA4:** *Except for the entrance driveway, it does appear that all the remaining existing impervious surfaces on the site will be removed. The proposed impervious surfaces are the concrete pads associated with the electrical equipment. Based upon their location and the grades, runoff from these areas will qualify for an LID Site Design Credit, and therefor require no further analysis. The redevelopment checklist should be provided to document the treatment levels associated with the existing paved driveway which is to remain.*

**BETA5:** *Checklist provided, no further comments.*

SW21. Provide calculations using performance curves to indicate the approximate TSS removal that will be provided by impervious area disconnection.

**BETA3:** *TSS Removal Calculations for the proposed flow through the Infiltration basin should be provided. It is anticipated that this will be provided with the stormwater supplement.*

**BETA5:** *The TSS calculations have not been provided, however, there are only a few impervious surfaces proposed and as noted in the Redevelopment Checklist, these are primarily concrete pads associated with the equipment. A quick review of these areas shows that they are each entitled to an LID Site Design Credit and will need no treatment or recharge. Thus, the Issue is moot and further discussion is not warranted. No Further comments.*

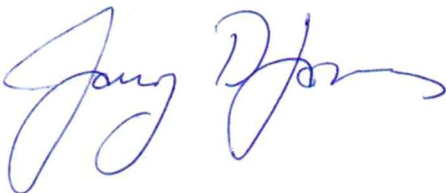
## WETLANDS PROTECTION

The Town of Franklin Conservation Commission issued an Order of Conditions for the development at their last meeting. No further issues remain relative to the wetland resource impacts.

Except for a minor correction to the construction detail for the gravel road, there are no further issues remaining regarding the site plans or stormwater design. 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

# Town of Franklin

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Franklin, Massachusetts 02038-1352



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## DEPARTMENT OF PLANNING AND COMMUNITY DEVELOPMENT

**DATE:** September 12, 2023  
**TO:** Franklin Planning Board  
**FROM:** Department of Planning and Community Development  
**RE:** Maplegate Solar North  
Site Plan

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The DPCD has reviewed the above referenced Site Plan Modification application for the Monday, September 25, 2023 Planning Board meeting and offers the following commentary:

### **General:**

1. The site is accessed through Bellingham at 160 Maple St, and located in the Industrial Zoning District.
2. The Planning Board approved an 81-P ANR plan on January 9, 2023, combining the lots indicated on the application, into one single lot.
3. The proposed project includes the construction solar panels, along with drainage.
4. Conservation Commission has issued a NOI.
5. Review letters will be provided from BETA, DPW and Fire.

### **Comments from August 21, 2023 Meeting:**

1. Provide decommission bond that includes line items for tree replacement.
2. Provide an update on the PILOT discussion with the Town.
3. Provide a plan for Lot 2 public access and recreation.

### Potential Conditions:

1. Applicant shall enter into a monetary agreement (PILOT) at the sole discretion of Administration and the Town of Franklin prior to commencement of construction.
2. A Surety bond in the amount of \$\_\_\_\_\_ shall be issued by a surety company acceptable to the Town of Franklin prior to commencement of construction.