HANNIGAN ENGINEERING, INC.

8 MONUMENT SQUARE, LEOMINSTER, MA 01453 PHONE: (978) 534-1234 CIVIL ENGINEERS & LAND SURVEYORS

Guy Corbosiero, Chair **Winchendon Planning Board** 109 Front Street, Dept 10 Winchendon, Massachusetts 01475

March 27, 2023

RE:

Site Plan Review

Solar Energy Storage System (ESS)

ZP Battery DevCo, LLC

#0 Murdock Avenue (Map 5A2/25; 5A2/26)

Dear Mr. Corbosiero,

On behalf of our client, ZP Battery DevCo, LLC, Hannigan Engineering, Inc. is submitting an application for Site Plan Approval, and Stormwater Management Permit for the installation of a standalone solar energy storage system on land of Bostwick Realty Trust located at #0 Murdock Avenue in Winchendon, Massachusetts (Map/Parcel 5A2/25; 5A2/26). The property is located within the Industrial District and the use is noted in Article 6.11.2.b of the Town of Winchendon Zoning Bylaw as allowed by right subject to Site Plan Review. The Storage system has an estimated capacity of 10-Megawatt AC. Submitted for this review are the application form, filing fees, the Site Development Plan, the Drainage Analysis Report, along with supporting documentation with respect to the Solar Facility Infrastructure. The Site Development Plans are being submitted in full and reduced size copy.

The main components of the site are located on the easterly side of Murdock Avenue on Parcel 5A2/26. Portions of the drainage system are located on the westerly side of Murdock Avenue on Parcel 5A2/25. Currently the portions of the property to be developed are comprised of woodland area with no standing structures on the property. Areas subject to protection under the Wetlands Protection Act were reviewed by LEC Environmental Consultants and are depicted on the Site Plans. These areas include Bordering Vegetated Wetlands (BVW) located along the easterly and westerly sides of Murdock Avenue and hydraulically connected via a stone culvert within the roadway with the area generally flowing in a westerly direction. As such a filing with the Winchendon Conservation Commission is being concurrently made.

The project entails the construction of a standalone solar Energy Storage System (ESS) with an estimated capacity of approximately 10-Megawatt AC on the property. The proposed storage systems will be located along the easterly side of Murdock Avenue on Parcel 5A2/26, with Parcel 5A2/25 along the westerly side being utilized for a rain garden for stormwater management. Unlike ground-mounted Solar Energy Systems that involve the generation of energy, this facility is utilized purely for the storage of energy generated from area solar systems connected to the grid.

As part of the initial site preparation, appropriate erosion control measures will be installed to prevent the transport of soils and sediments to the lower elevations of the site. The site development will consist of the installation of eight (8) concrete pads on which the sixteen (16) ESS units will be situated. Additional electrical components and transformer pads will also be installed to allow the eventual interconnection to the grid. The electrical equipment has been separated into two fenced in areas, each containing four concrete pads with a central area between the two sites to utilize a single common electrical connection. The total area of alteration associated with the project will be approximately an acre along the easterly side and 15,000 square feet along the westerly side of Murdock Avenue.

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Access to the site will be provided via Murdock Avenue by a 24-foot-wide gravel driveway that extends easterly into the development and then runs parallel to Murdock Avenue. This driveway will provide access between the two fenced areas with three access points to Murdock Avenue. Access points are located at the terminal ends of the driveway and at the center of the project near the connection equipment. The gravel driveway is intended to provide access to the site on a periodic basis for general maintenance and inspections of the facility. This loop configuration of the access drive will allow for smaller emergency vehicles or service vehicles to enter the site and drive through the site. If in the event of a larger emergency vehicle entering the area, they would utilize Murdock Avenue to gain access to the project as it is in close proximity to the roadway.

The entire system will be surrounded by a chain-link security fence to prevent unauthorized entry. A gate will be provided at the entrance to the site with a Knox Box to allow emergency personnel to enter if necessary. Additionally, a sign will be added at the entrance of facility with the appropriate contact information for the operator and emergency contacts. With respect to lighting, lighting operated by a motion sensor will be provided in the area of the electrical system. Should maintenance be required, it is typically performed during daylight hours.

As part of this submission, a Drainage Analysis and Report is provided to review compliance with the Stormwater Management Bylaw. Stormwater generated from a portion of the site will be captured via deep-sump catchbasins and transmitted to a single rain garden feature to the west of the development to mitigate increases in peak rates of runoff and provide treatment. The area immediately within the fenced area will be comprised of loose stone and gravel with the remaining areas being loamed and seeded for permanent stabilization.

The utility interconnection will utilize a series of underground electrical conduits to transmit the electricity to and from the ESS including several transformers and inverters. Additional underground conduits are utilized with the interconnection through pad mounted equipment for final connect to the grid. The final design and connection location will be established by utility provider and is not under control of the applicant.

Safety and protocol surrounding the proposed ESS project are extensive. Each ESS container is equipped with sensors and monitors for heat, humidity, and gases. There are audible and visual alarms associated with these protection systems. Safety aspects beyond the automatic monitoring systems include the installation of Fire Department Connection (FDC) risers which are individually plumbed to each ESS container. These FDC's will be located outside of the security fence and will be individually labeled to the specific container to which it is connected. In the event of an emergency, the Fire Department can utilize the FDC to directly connect to the affected ESS container.

END OF TEXT THIS PAGE

HANNIGAN ENGINEERING, INC.

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Hannigan Engineering, Inc. is submitting these applications along with associated filing fees for the project. We understand the project will be put on the next available agenda for the meeting open to the public. Representatives of this office and of the Applicant will be available to address any questions or concerns raised at that time. Should you require additional information prior to the meeting, please do not hesitate to contact this office. We appreciate your continued assistance in this process as we look forward to working with you to obtain the anticipated approval of this project.

Sincerely,

HANNIGAN ENGINEERING, INC

Christopher M. Anderson, PE

Project Engineer

William D. Hannigan, PE

President

pc:

Pete Forte, ZP Battery DevCo,LLC Tom Corbett, ZP Battery DevCo,LLC

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Planning Decision Petition

Zoning Board of Appeals		Planning Board			Fee Rec'd	
Special Permit(s)			Site Plan Approval			
☐ Variance			ANR endorsement		An additional fee will be	
	Administrative Appeal		Preliminary Subdivision Approval		due for advertising	
	Comprehensive Permit		Definitive S	ubdivision Approval	Project Number	
4.001			Special Permit(s)			
				Management Permit		
Submis	ssion Materials to be included with			_	linchandon Zoning	
Submission Materials to be included with this Petition Form are outlined in the Town of Winchendon Zoning Bylaws and the Planning Board Regulations. This application shall not be deemed complete unless all required						
items are included or appropriate waivers have been requested.						
Property Address 0 Murdock Ave			ue Date 4/5/2023			
Property Owner's Name Bostwick Realty Trust						
Owner's Address 256 Murdock Ave,			nchendon, MA	Book 17143/339		
				Map 5A2/25; 5A2/26		
Petitioner's name ZP Battery DevCo, LLC			C	Lot Size 4.33 ac(5A2/25); 3.67(5A/26)		
Petitioner's Phone No. 774-479-9870			Frontage 686.75FT (5A2/2		5); 677.24FT (5A2/26)	
Petitioner's address 1 MERCANTILE ST, SUITE 630, WORCESTER, MA 01808				Zone INDUSTRIAL		
Email_TCORBETT@ZPEENERGY.COM						
Project	Project Summary & Decision Sought: CONSTRUCTION OF SOLAR ENERGY STORAGE SYSTEM WITH ASSOCIATED					
SITE IMPROVEMENTS						
Name and Address of the Owner, where			Name of the last o	And the second s		
/ L L	and the second of the second o		1		CONTRACTOR AND PARTY.	
I hereby certify that the information provided in this application, and the accompanying drawing(s) of the property as well as any supporting datea are accurate, true and correct to the best of my knowledge and belief.						
propert	y as well as any supporting dated a	re accu	irate, true ani	a correct to the best of my k	nowleage and belief.	
Tisms Collet						
Signatu	re of Applicant (or their representa	lavite		Date		
Date 11/1/23						
Jel Jalon 7/10/2						
Signature of Property Owner Date 4/10/23						
Millian Jacon "110/23						
Tay Cor	rtification (Treasurer has up to 10	danc to	complete thi	ir cortification).		
Tax Certification (Treasurer has up to 10 days to complete this certification): Pursuant to the provisions of Massachusetts General Law, Chapter 40, Section 57, the Town Bylaw, Licenses and Permits of						
Delinquent Taxpayer, Section 21.1: "Any Board shall deny application for any person, corportation or busienss enterprise						
who has neglected to pay any local taxes, fees, assessments, betterments or any municipal charge."						
I hereby certify that the applicant or the owner of record owes no debt to the Town of Winchendon for a period						
of time	greater than twelve (12) months.					
•						
Winche	endon Treasurer			Date		



300 feet Abutters List Report

Winchendon, MA March 22, 2023

Subject Properties:

Parcel Number: CAMA Number: 5A2-0-25

5A2-0-25

Property Address: MURDOCK AV

Mailing Address: SALOOM, PETER F. + LINDA B. TR OF

BOSTWICK REALTY TRUST

256 MURDOCK AVENUE WINCHENDON, MA 01475

Parcel Number:

5A2-0-26

CAMA Number:

5A2-0-26

Property Address: MURDOCK AV

Mailing Address:

SALOOM, PETER F. + LINDA B. TR OF

BOSTWICK REALTY TRUST

256 MURDOCK AVENUE WINCHENDON, MA 01475

PAN AM SOUTHERN LLC

1700 IRON HORSE PARK

BOSTWICK REALTY TRUST 256 MURDOCK AVENUE

BOSTWICK REALTY TRUST

256 MURDOCK AVENUE

256 MURDOCK AVENUE WINCHENDON, MA 01475

GARDNER, MA 01440

109 FRONT STREET

MICHELLE 857 ALGER ST

TOWN OF WINCHENDON

WINCHENDON, MA 01475

WINCHENDON, MA 01475 TOWN OF WINCHENDON

WINCHENDON, MA 01475

PETERSON, ERIK PETERSON,

WINCHENDON, MA 01475

BOSTWICK REALTY TRUST

WINCHENDON, MA 01475

NORTH BILLERICA, MA 01862-1641

SALOOM, PETER F. + LINDA B. TR OF

SALOOM, PETER F. + LINDA B. TR OF

SALOOM, PETER F. + LINDA B. TR OF

NEW ENGLAND WOODEN WARE CORP

205 SCHOOL STREET SUITE 201

Abutters:

Parcel Number: CAMA Number: 1-0-242

1-0-242

Property Address:

WINCHENDON

2D1-0-27

Parcel Number: CAMA Number:

2D1-0-27

Property Address:

SCHOOL ST

Parcel Number:

2D2-0-11

CAMA Number:

2D2-0-11

Property Address: 256 MURDOCK AV

Parcel Number:

2D2-0-12 CAMA Number:

2D2-0-12

Property Address: OFF SCHOOL ST

Parcel Number:

2D2-0-14

CAMA Number:

2D2-0-14

Property Address: LINCOLN AV

Parcel Number:

5A2-0-21 5A2-0-21

CAMA Number: Property Address: REAR PEARL ST

Parcel Number:

5A2-0-22

CAMA Number:

5A2-0-22

Property Address: 63 PEARL ST

Parcel Number:

5A2-0-24

CAMA Number:

5A2-0-24

Property Address: PEARL ST

Mailing Address:

WINCHENDON HOUSING AUTHORITY

Parcel Number:

5A2-0-27

CAMA Number: Property Address: 23 PEARL DR

5A2-0-27

Mailing Address:

IPSWICH DRIVE

109 FRONT STREET

WINCHENDON, MA 01475

Therrica Di Pasquale 3-22-2023



www.cai-tech.com

3/22/2023

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300 feet Abutters List Report

Winchendon, MA March 22, 2023

Parcel Number: CAMA Number: 5A2-0-33

5A2-0-34

5A2-0-33

Property Address: 234 LINCOLN AV

Parcel Number:

CAMA Number:

5A2-0-34

Property Address: LINCOLN AV

Parcel Number: CAMA Number:

5A2-0-35

5A2-0-35 Property Address: JACKSON AV

Parcel Number: CAMA Number:

Property Address: SCHOOL ST

Parcel Number:

CAMA Number:

Property Address: 275 SCHOOL ST

5A2-0-4

5A2-0-4

5A2-0-5

5A2-0-5

Mailing Address: BRADLEY, JOHN T. HIETALA, BRUCE R.

234 LINCOLN AVENUE WINCHENDON, MA 01475

Mailing Address:

NORTHEAST GAS + OIL HAULER INC

C/O PETRO

9 W BROAD ST STE 3 STAMFORD, CT 06902

Mailing Address: NEW ENGLAND WOODEN WARE, CORP.

205 SCHOOL STREET SUITE 201 GARDNER, MA 01440

Mailing Address:

EUGENE M. CONNOR POST 193, INC.

SCHOOL STREET

WINCHENDON, MA 01475

Mailing Address: KOWALESKI, SUZAN L.

275 SCHOOL STREET WINCHENDON, MA 01475 BRADLEY, JOHN T. HIETALA, BRUCE R. JR. 234 LINCOLN AVENUE WINCHENDON, MA 01475

WINCHENDON HOUSING AUTHOR IPSWICH DRIVE WINCHENDON, MA 01475

EUGENE M. CONNOR POST 193, INC. SCHOOL STREET WINCHENDON, MA 01475

KOWALESKI, SUZAN L. 275 SCHOOL STREET WINCHENDON, MA 01475

NEW ENGLAND WOODEN WARE C 205 SCHOOL STREET SUITE 201 GARDNER, MA 01440

NEW ENGLAND WOODEN WARE, 205 SCHOOL STREET SUITE 201 GARDNER, MA 01440

NORTHEAST GAS + OIL HAULE C/O PETRO 9 W BROAD ST STE 3 STAMFORD, CT 06902

PAN AM SOUTHERN LLC 1700 IRON HORSE PARK NORTH BILLERICA, MA 01862-1641

PETERSON, ERIK PETERSON, MICHELLE 857 ALGER ST WINCHENDON, MA 01475

SALOOM, PETER F. + LINDA TR OF BOSTWICK REALTY TRU 256 MURDOCK AVENUE WINCHENDON, MA 01475

TOWN OF WINCHENDON 109 FRONT STREET WINCHENDON, MA 01475

