SPA2021-07

Received at the Office of the City Clerk
Date: FEB 04 2021
Time: 9:35 AM
Received by: Deborah M. Pedercini
Fee: $150.00

CITY OF NORTH ADAMS, MASSACHUSETTS

Planning Board

SPECIAL PERMIT APPLICATION

ALL REQUIRED INFORMATION MUST BE SUBMITTED BY THE APPLICATION DUE DATE OR THE APPLICATION WILL NOT BE PROCESSED.

1. Name of applicant: No. Berkshire EMS
2. Name of property owner (if different): North Adams Ambulance Service Inc.
3. Name of legal counsel (if appropriate): _____
4. Address of project: 10 Harris St, North Adams MA 01247
5. Zoning district(s) of project: B-2
6. Use classification of project (consult use schedule): _____
7. The record title to project address stands in the name(s), address(es): _____

   North Adams Ambulance Service Inc

   10 Harris Street, North Adams

   by a deed duly recorded in the Northern Berkshire Registry of Deeds in Book 874 Page 556

   A COPY OF THE PROPERTY DEED MUST BE ATTACHED TO THIS APPLICATION FOR THE APPLICATION TO BE PROCESSED.

8. Type of special permit:

   a. Use permits:

   - ☐ Nursery schools/day care
   - ☐ Theaters, taverns
   - ☐ Shopping centers
   - ☐ Industrial uses
   - ☐ Solid waste facilities
   - ☐ Research, experimental and testing laboratories
   - ☑ Other: Solar Panels

   b. Site plan approval:

   - ☐ A change of use
   - ☐ A change of land use
   - ☐ New construction
   - ☐ Addition to an existing use of a building or structure greater than 200 square feet
   - ☑ Other: Alteration - Rooftop solar panels

9. If the site plan approval is required:

- ☑ Site plan materials are attached with application. See application checklist.
- ☐ Narrative is attached. See attached checklist for criteria to be explained within narrative.
- ☐ Please check here if the property in any district* will be creating or maintaining more than ten (10) new parking spaces. If yes, please provide detailed parking plan pursuant to Section 6 "Off Street Parking" in the North Adams Zoning Ordinance.
- ☐ Please check here if the proposed project will require additional signage. Please provide color elevation renderings of proposed signage. Please note if the dimensions, setback, duration, scale, or components of the signage will require a special permit by the Zoning Board of Appeals.
- ☐ Please check here if any part of the new construction will be sited within two hundred (200) feet of a river.** If yes, please provide a drainage plan for the site that ensures that safe runoff into catch basins, culverts, swales, etc.

10. Determination of applicability from the Conservation Commission is:

- ☐ Attached
- ☐ In progress. Hearing is scheduled for: _____
- ☑ Not required. Please explain why: not applicable - no change to building footprint. No demolition, landscaping, or curring of trees or brush is involved in this project.

11. Is a request for a Determination of Applicability from the Massachusetts Department of Environmental Protection necessary? No If yes, request was filed (date): _____

12. Are there other boards to which this proposed project would be providing information? If yes, please list board and date of hearing/meeting:
No

13. Would you be willing to add a bike rack to the exterior of your business? No If yes, please show on your site plan where the bike rack would be located.

John Meaney Jr

Signature of Property Owner (REQUIRED)
Application will not be processed without it.

John Meaney Jr
Signature of Applicant

1/19/2021
Date

John Meaney Jr
Printed Name

4136646680
Phone Number

164 Corinth Street, North Adams, MA 01247
Address of Applicant

*Excluding CBD districts
**A river is defined as any natural flowing body of water that empties to any ocean, lake, or other river and which flows throughout the year. For additional information, please consult the Office of Community Development for information on the "Rivers Protection Act", Chapter 258, MGL c.131 40.

VSE Project Number: U2115.0758.201

November 19, 2020

SolarFlair Energy, Inc.
ATTENTION: James Abshire
190 Pleasant St.
Ashland, MA 01721

REFERENCE: N. Berkshire Ems Building: 10 Harris Street, North Adams, MA 01247
Solar Array Installation

To Whom It May Concern:

Per your request, we have reviewed the existing structure at the above referenced site. The purpose of our review was to determine the adequacy of the existing structure to support the proposed installation of solar panels on the roof as shown on the panel layout plan.

Based upon our review, we conclude that the existing structure is adequate to support the proposed solar panel installation. Our conclusions are based upon information regarding the existing roof framing provided by SolarFlair Energy.

Design Parameters

Code: Massachusetts State Building Code (780 CMR Chapter 16, 9th Edition (2015 IBC))
Risk Category: IV
Design wind speed: 120 mph (3-sec gust) per ASCE 7-10
Wind exposure category: C
Ground snow load: 60 psf
Flat roof snow load, Pf: 50 psf
Seismic design category: C

Existing Roof Structure

Roof structure: 2x4 manufactured trusses @ 16" O.C.
Roofing material: asphalt shingles
Roof slope: 16°

Connection to Roof

Mounting connection: (1) 5/16" lag screw w/ min. 2.5" embedment into framing at max. 72" o.c. along rails
(2) rails per row of panels, evenly spaced; panel length perpendicular to the rails not to exceed 40 in

Conclusions

Based upon our review, we conclude that the existing structure is adequate to support the proposed solar panel installation. The gravity loads and; thus, the stresses of the structural elements, in the area of the solar array are either decreased or increased by no more than 5%. Therefore, the requirements of Section 807.4 of the 2015 IEBC as referenced in 780 CMR Chapter 34, 9th Edition are met and the structure is permitted to remain unaltered.

The solar array will be flush-mounted (no more than 6" above the roof surface) and parallel to the roof surface. Thus, we conclude that any additional wind loading on the structure related to the addition of the proposed solar array is negligible. The attached calculations verify the capacity of the connections of the solar array to the existing roof against wind (uplift), the governing load case. Regarding seismic loads, we conclude that any additional forces will be small. Conservatively neglecting the weight of existing wall materials, the installation of the solar panels represents an increase in the total weight (and resulting seismic load) of 5.6%. Because the increase in lateral forces is less than 10%, this addition meets the requirements of the exception in Section 807.5 of the 2015 IEBC as referenced in 780 CMR Chapter 34, 9th Edition. Thus the existing lateral force resisting system is permitted to remain unaltered.

Limitations

Installation of the solar panels must be performed in accordance with manufacturer recommendations. All work performed must be in accordance with accepted industry-wide methods and applicable safety standards. The contractor must notify Vector Structural Engineering, LLC should any damage, deterioration or discrepancies between the as-built condition of the structure and the condition described in this letter be found. Connections to existing roof framing must be staggered, except at array ends, so as not to overload any existing structural member. The use of solar panel support span tables provided by others is allowed only where the building type, site conditions, site-specific design parameters, and solar panel configuration match the description of the span tables. The design of the solar panel racking (mounts, rails, etc.) and electrical engineering is the responsibility of others. Waterproofing around the roof penetrations is the responsibility of others. Vector Structural Engineering assumes no responsibility for improper installation of the solar array.

VECTOR STRUCTURAL ENGINEERING, LLC

Jacob S Proctor

Digitally signed by Jacob S Proctor
Date: 2020.11.19 16:36:21 -07'00'

11/19/2020

Jacob Proctor, P.E.
MA License: 54953 - Expires: 06/30/2022
Project Engineer

Enclosures

JSP/sam

VECTOR
ENGINEERS

JOB NO.: U2115.0758.201
SUBJECT: SEISMIC LOADS

PROJECT: N. Berkshire Ems Building

CHECK INCREASE IN OVERALL SEISMIC LOADS

Estimated Roof Dead Load	10.7	psf
Solar Dead Load	3.0	psf
% Roof Covered	20%	
Equiv. Total Dead Load	11.3	psf
Addt'l Seismic Weight	5.6%	

Conservatively neglecting the weight of existing wall materials, the installation of the solar panels represents an increase in the total weight (and resulting seismic load) of 5.6%. Because the increase is less than 10%, this addition meets the requirements of the exception in Section 807.5 of the 2015 IEBC as referenced in 780 CMR Chapter 34, 9th Edition. Thus the existing structure is permitted to remain unaltered.

VECTOR ENGINEERS

JOB NO.: U2115.0758.201
SUBJECT: WIND PRESSURE

PROJECT: N. Berkshire Ems Building

Components and Cladding Wind Calculations

Label: Solar Panel Array

Note: Calculations per ASCE 7-10

SITE-SPECIFIC WIND PARAMETERS:

Basic Wind Speed [mph]:	120
Exposure Category:	C
Risk Category:	IV

Notes:

ADDITIONAL INPUT & CALCULATIONS:

Height of Roof, h [ft]:	25	(Approximate)	Hip?
Comp/Cladding Location:	Gable/Hip Roofs 7° < θ ≤ 27°		No
Enclosure Classification:	Enclosed Buildings		
Zone 1 GC_p:	0.9	Figure 30.4-2B (enter negative pressure coefficients)	
Zone 2 GC_p:	1.7		
Zone 3 GC_p:	2.6		
α:	9.5	Table 26.9-1	
z_g [ft]:	900	Table 26.9-1	
K_h:	0.95	Table 30.3-1	
K_{zt}:	1	Equation 26.8-1	
K_d:	0.85	Table 26.6-1	
Velocity Pressure, q_h [psf]:	29.6	Equation 30.3-1	
GC_{pi}:	0	Table 26.11-1	

PRESSURES:

$$p = q_h\left[(GC_p) - (GC_{pi})\right]$$ Equation 30.9-1

Zone 1, p [psf]:	26.7	psf (1.0 W, Interior Zones, beyond 'a' from roof edge)
Zone 2, p [psf]:	50.4	psf (1.0 W, End Zones, within 'a' from roof edge)
Zone 3, p [psf]:	77.0	psf (1.0 W, Corner Zones, within 'a' from roof corner) (a= 5 ft)

VECTOR ENGINEERS

JOB NO.: U2115.0758.201
SUBJECT: CONNECTION

PROJECT: N. Berkshire Ems Building

Calculate Uplift Forces on Connection

	Pressure (0.6 Dead -0.6 Wind) (psf)	Max Connection Spacing[1] (ft)	Max Trib. Area[2] (ft^2)	Max Uplift Force (lbs)
Zone 1	16.0	6.0	10.0	141
Zone 2	30.2	6.0	10.0	283
Zone 3	46.2	6.0	10.0	443

Calculate Connection Capacity

Lag Screw Size [in]:	5/16	
C_d:	1.6	NDS Table 2.3.2
Embedment[3] [in]:	2.5	
Grade:	SPF (G = 0.42)	
Nominal Capacity [lbs/in]:	205	NDS Table 12.2A
Number of Screws:	1	
Prying Coefficient:	1.4	
Total Capacity [lbs]:	586	

Determine Result

Maximum Demand [lbs]:	443
Lag Screw Capacity [lbs]:	586

Result: **Capacity > Demand, Connection is adequate.**

Notes

1. 'Max Connection Spacing' is the spacing between connections along the rails.
2. 'Max Trib Area' is the product of the 'Max Connection Spacing' and 1/2 the panel width/height perpendicular to the rails. (2) rails per row of panels. Length of panels perpendicular to the rails shall not exceed 67".
3. Embedment is measured from the top of the framing member to the beginning of the tapered tip of the lag screw. Embedment in sheathing or other material is not effective. The length of the tapered tip is not part of the embedment length.

VECTOR ENGINEERS

JOB NO.: U2115.0758.201
SUBJECT: GRAVITY LOADS

PROJECT: N. Berkshire Ems Building

CALCULATE ESTIMATED GRAVITY LOADS

Roof Pitch: 3.4 :12

ROOF DEAD LOAD (D)	Design material weight [psf]	Increase due to pitch	Material weight [psf]
Asphalt Shingles	2.1	1.04	2.0
1/2" Plywood	1.0	1.04	1.0
Framing	3.0		3.0
Insulation	1.0		1.0
1/2" Gypsum Clg.	2.1	1.04	2.0
M, E & Misc	1.5		1.5
Total Original Roof DL	10.7		
PV Array DL	3.1	1.04	3

ROOF LIVE LOAD (Lr)

Existing Design Roof Live Load [psf]	20	ASCE 7-10, Table 4-1
Roof Live Load With PV Array [psf]	20	

SNOW LOAD (S):	Existing	w/ Solar Array	
Roof Slope [x:12]:	3.4	3.4	
Roof Slope [°]:	16	16	
Snow Ground Load, p_g [psf]:	60	60	ASCE 7-10, Section 7.2
Terrain Category:	C	C	ASCE 7-10, Table 7-2
Exposure of Roof:	Fully Exposed	Fully Exposed	ASCE 7-10, Table 7-2
Exposure Factor, C_e:	0.9	0.9	ASCE 7-10, Table 7-2
Thermal Factor, C_t:	1.1	1.1	ASCE 7-10, Table 7-3
Risk Category:	IV	IV	ASCE 7-10, Table 1.5-1
Importance Factor, I_s:	1.2	1.2	ASCE 7-10, Table 1.5-2
Flat Roof Snow Load, p_f [psf]:	50	50	ASCE 7-10, Equation 7.3-1
Minimum Roof Snow Load, p_m [psf]:	0	0	ASCE 7-10, Section 7.3.4
Unobstructed Slippery Surface?	No	No	ASCE 7-10, Section 7.4
Slope Factor Figure:	Figure 7-2b	Figure 7-2b	ASCE 7-10, Section 7.4
Roof Slope Factor, C_s:	1.00	1.00	ASCE 7-10, Figure 7-2
Sloped Roof Snow Load, p_s [psf]:	50	50	ASCE 7-10, Equation 7.4-1
Design Snow Load, S [psf]:	50	50	

VECTOR ENGINEERS

JOB NO.: U2115.0758.201
SUBJECT: LOAD COMPARISON

PROJECT: N. Berkshire Ems Building

Summary of Loads

	Existing	With PV Array
D [psf]	11	14
Lr [psf]	20	20
S [psf]	50	50

Maximum Gravity Loads:

	Existing	With PV Array	
(D + Lr) / Cd [psf]	25	27	ASCE 7-10, Section 2.4.1
(D + S) / Cd [psf]	53	55	ASCE 7-10, Section 2.4.1

(Cd = Load Duration Factor = 0.9 for D, 1.15 for S, and 1.25 for Lr)

Maximum Gravity Load [psf]:	53	55

Maximum Member Forces:

GEOMETRY

Span(ft)	52.0	(Approximate)
Solar Panel Array Start, a (ft)	12.3	(Approximate)
Solar Panel Array Length, b (ft)	13.3	(Approximate)
Framing Spacing (ft)	1.3	

MEMBER FORCES

	Existing	With PV Array	Ratio	
Vertical Reaction, V_1 (lbs)	1827	1857	**102%**	**OK**
Vertical Reaction, V_2 (lbs)	1827	1844	**101%**	**OK**
	Existing	With PV Array	Ratio	
Moment @ Center, M (lbs-ft)	23747	24200	**102%**	**OK**

The gravity loads and; thus, the stresses of the structural elements, in the area of the solar array are either decreased or increased by no more than 5%. Therefore, the requirements of Section 807.4 of the 2015 IEBC as referenced in 780 CMR Chapter 34, 9th Edition are met and the structure is permitted to remain unaltered.

solarflair
CLEAN ENERGY SOLUTIONS

SOLARIZE plus MASS
Electricity Solar Hot Water House Batteries
WILLIAMSTOWN • NORTH ADAMS

SOLAR PV INSTALLATION AGREEMENT

Installer:

SolarFlair Energy, Inc.

190 Pleasant St.
Ashland, MA 01721
508-293-4293
projcoor@solarflair.com

Owner:

No. Berkshire EMS (John Meaney)
North Adams Ambulance Service, Inc.
10 Harris St
North Adams , MA 01247
413-664-4933
jmeaney@northadamsambulance.com

PV Facility Site:

10 Harris St
North Adams , MA 01247

1. **Facility.** Installer agrees to install a solar photovoltaic generating system (the "Facility") at the PV Facility site indicated above. The Facility will have the following characteristics:

Basics

Number of Panels:	16	Mounting Method:	Flush Mount on Roof
Panel Type/Size:	Trina 305 TSM-DD05A.05	Inverter Type:	SolarEdge Inverter
Approximate Panel tilt(s)	16	Monitoring type:	SolarEdge
Approximate Panel Azimuth(s)	110	System Size (kW DC):	4.88

Adders

Donated System.

2. **Purchase Price & Payment.** This is a Donated System. The value of the system is:

Base Facility Price		$12,834.40
Adders		$0.00
	Total Value	**$12,834.40**

3. **Scope of Installer's Work.**

(a) General. Subject to any obligations which are placed upon Owner by this Agreement, Installer is responsible for designing, engineering, procuring, and constructing the Facility and assuring that it meets the requirements of the material Specifications set out above. Subject to the requirements and cooperation of the local electricity distribution utility, Installer will turn over to Owner a fully-functional Facility. Installer will provide all labor, materials, equipment and services to be incorporated into the Facility. The Facility designs shall conform to applicable industry standards/practices and to applicable law, including applicable National Electrical Code standards, jurisdictional requirements, the requirements of the local electricity distribution utility, and applicable requirements of the Massachusetts Clean Energy Center.

(b) Facility Site Conditions; Investigation. Owner has provided information to Installer regarding existing conditions on the Facility Site and Installer has relied on such information in determining the nature and location of the Facility Site and its suitability for the Facility. A formal Site Assessment with a qualified technician and a Structural Analysis by a Licensed Structural Engineer will be necessary to detect, define and address unknown site conditions. If material unanticipated site conditions are discovered prior to or during installation, Installer may suspend work until Owner and Installer modify this agreement to reflect such conditions. If Owner and installer are unable to reach an agreement in such circumstances, Installer shall return any money paid by Owner, less expenses incurred by Installer, and this agreement shall terminate without further obligation of either Owner or Installer.

(c) Stamped Drawings, Etc. Unless it has been included as an adder, the Facility purchase price does not include the cost for stamped structural drawings, letters, or structural/electrical modifications to the building if required by the municipality.

(d) Construction. Installer shall construct the Facility according to the requirements of this agreement. Installer is responsible for installing all equipment and following manufacturers' specifications, directions and product installation instructions. In accessing the site, Installer shall provide Owner with reasonable advance notice and shall reasonably endeavor to minimize any disruption to activities occurring on the Facility site.

(e) Supervision. Installer shall supervise and direct the work of installation. Installer shall be solely responsible for all construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the work. Installer shall supervise its employees and subcontractors.

(f) Use of Property. Installer at all times shall keep the Facility site reasonably free from accumulation of waste caused by the work. After completing the work, Installer shall leave the work areas as neat as they were before beginning construction.

(g) MA SMART Filings. Installer shall coordinate with the Owner and will file the necessary SMART application documentation.

(h) Coordination with the Local Electric Utility. Installer shall connect the Facility to the local electricity distribution utility's distribution system and shall assure that the Facility and its connection to the electricity distribution system conform to all applicable requirements of the local electricity distribution utility and all other persons with authority over the Facility.

(i) Insurance. At its own expense, Installer shall procure and maintain during this agreement's term insurance policies which include the following coverages:

(i) Worker's Compensation insurance for its employees as required by Chapter 152 of the Massachusetts General Laws with Employers' Liability limits of $500,000 each accident, $500,000 disease-each employee and $500,000 disease-policy limit;

(ii) Commercial General Liability Commercial general liability insurance in a limit of not less than $1,000,000 per occurrence, $1,000,000 per occurrence for personal injury, and $2,000,000 general aggregate;

(iii) Minimal additional $1,000,000 umbrella or excess liability coverage; and

(iv) Commercial automobile liability with a combined single limit of $1,000,000.

(j) Beginning Work. Installer shall notify Owner when Installer is ready to begin the installation of the Facility and shall advise Owner of the anticipated construction schedule.

(k) Conditions. It is a condition to Installer's beginning and continuing work that Owner shall have fulfilled all responsibilities required of Owner at the time the work is to be performed. If payment is not made when due, Contractor may suspend work until such time as all payments then due have been made. A failure to make payment for a period in excess of 15 days from the due date of the payment shall be deemed a material breach of this agreement. Installer shall also be excused from performance of this agreement to the extent performance is precluded or made unreasonably burdensome by circumstances beyond Installer's control.

4. **Owner Responsibilities, Etc.**

(a) Owner Responsibilities. In addition to paying the Contract Price as provided in Section 2, Owner:

(i) shall make the Facility site available to Installer, including areas for laydown and storage;

(ii) shall cooperate with Installer in obtaining all requisite permits, and approvals necessary to construct and install the Facility;

(iii) shall, to the extent any state sales tax exemption is available, execute any documents and take any additional actions reasonably requested by Installer to obtain such exemption;

(iv) shall promptly review any drawings provided by Installer to Owner for comment; and

(v) shall provide any existing as-built and record drawings of any existing structures at the Property.

(vi) The Owner is required to provide an Internet connection (standard RJ45 Ethernet jack) dedicated to the data monitoring system. This internet access must be via broadband cable, DSL, fiber-optic, or cellular.

(b) Change in Law, Etc. The risk of any change in applicable law enacted after or coming into effect after the Effective Date, which change affects the environmental attributes generated by the Facility or other financial incentives, or affects Owner's ability to receive or monetize such environmental attributes or obtain financial incentives, shall be borne by Owner. The risk of qualification in the Massachusetts SMART program shall be borne by the Owner.

(c) Land License. Owner hereby grants to Installer a license to enter upon and use the Facility site to carry out its obligations under this agreement, including ingress into, on, and egress from it, for storage of materials, tools, and equipment, and for other purposes consistent with the intent of this agreement.

5. **Cooperation**. The parties acknowledge that the performance of each party's obligations under this agreement may require the assistance and cooperation of the other party. Each party therefore agrees, that in addition to those provisions in this Agreement specifically providing for assistance from one party to the other, that it will at all times during the term of the agreement cooperate with the other party and provide all reasonable assistance to the other party to help the other party perform its obligations under this agreement.

6. **Warranties & Remedies.**

(a) Installer Workmanship Warranty; Standards. Installer warrants that the Facility shall be installed with due care by Installer's qualified employees, representatives, agents or contractors. Installer warrants that the Facility and all work and materials, equipment and supplies incorporated into the Facility shall be new, warranted by their manufacturers to be free from defects in design, materials and workmanship, and that the Facility and the Work shall be free from defects in design, materials and workmanship. Installer warrants (i) that at the time the Facility is completed, it shall comply with all industry standards and practices, this agreement, and Federal, State and local laws, regulations and codes then in effect, and (ii) that the Facility design, engineering and construction shall conform to all applicable electric utility industry standards. In the interest of being clear: INSTALLER ***DOES NOT*** WARRANT PV PANELS OR INVERTERS. See item (d) below for panel and inverter warranties.

(b) Installer Warranty Period. The period of Installer's warranty is two hundred, fourty (240) months, commencing when the Facility is energized. Installer disclaims any liability for direct or indirect damages due to improper modifications, alterations or repair attempts, or inappropriate use or operation of the Facility by Owner or third parties, insufficient ventilation of electrical equipment, non-compliance with relevant safety standards or regulations, flood, lightning, over-voltage, storm, fire, or other acts of nature.

(c) Remedies. If Installer fails to meet any of the warranties set forth in Section 6(a), Installer shall perform, at its own cost, the services necessary to make the warranties correct, including any necessary materials and equipment replacement.

(d) Suppliers'/Manufacturers' Warranties. Installer shall procure PV panels manufacturers' and inverter manufacturers' standard limited warranties on behalf of Owner.

(e) Exclusive Warranties. THE WARRANTIES SET FORTH IN THIS AGREEMENT ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, OF PERFORMANCE, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, CUSTOM, USAGE OR OTHERWISE. THERE ARE NO OTHER WARRANTIES, AGREEMENTS OR UNDERSTANDINGS THAT EXTEND BEYOND THOSE SET FORTH IN THIS AGREEMENT WITH RESPECT TO THE FACILITY OR THE WORK. NO OTHER WARRANTY, ORAL OR WRITTEN, WHICH MIGHT OSTENSIBLY HAVE BEEN OFFERED BY AN EMPLOYEE, AGENT OR REPRESENTATIVE OF INSTALLER, IS AUTHORIZED BY INSTALLER AND SHALL NOT BE EFFECTIVE.

7. **System Monitoring.** Installer will monitor Owner's solar production to the best of its abilities. This monitoring is included in the purchase price, and includes the monitoring platform, but does not include or indicate live 24-hour monitoring. Owner agrees to (a) notify the Installer immediately upon discovery of any loss of connection or production; (b) use the platform provided to monitor the system production; (c) be available to coordinate with the Installer to be on-site to troubleshoot connection issues over the phone and/or allow Installer to come to the site to troubleshoot or make any necessary repairs; and (d) ensure that internet access is working properly so the Installer is able to view your monitoring.

8. **Signatures; Terms.** This agreement shall not be valid unless and until signed by both Owner and Installer. The terms included in the form of this agreement presented to Owner by Installer constitute an offer which may be changed or revoked at any time before its acceptance, which offer in any event shall expire 14 days after the date of its presentation. If authorization to commence the installation is not provided by the Owner within 90 days of execution of this agreement, the Installer reserves the right to cancel the agreement and return the deposit to the Owner less the amount spent to that date.

9. **Modifications**. No modification of this agreement will be effective unless set out in a writing signed by both parties.

10. **Counterparts.** This Agreement may be executed in multiple counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

11. **Owner Cancellation Right. You may cancel this agreement if it has been signed by a party thereto at a place other than an address of the seller, which may be his main office or branch thereof, provided you notify the seller in writing at his main office or branch by ordinary mail posted, by telegram sent or by delivery, not later than midnight of the third business day following the signing of this agreement. See the attached notice of cancellation form for an explanation of this right.**

    In the event the project is cancelled later than the third business day following the signing of this agreement, the owner is entitled to a refund of the deposit less any costs incurred to date.

AGREED:

SolarFlair Energy, Inc.

By: DocuSigned by: Rachel Barll 2F250B13E24F427...

Printed: Rachel Barll

Title: Project Coordinator

Date: 12/4/2020

Owner(s):

By: DocuSigned by: John Meaney 25AC9380464B44C...

Printed: John Meaney

Date: 12/4/2020

By:

Printed:

Date:

NOTICE OF CANCELLATION

Date of Transaction: _____ ___, 20___ (Enter date of transaction)

You may cancel this transaction, without any penalty or obligation, within three business days from the above date.

If you cancel, any property traded in, any payments made by you under the agreement, and any negotiable instrument executed by you will be returned within ten business days following receipt by the seller of your cancellation notice, and any security interest arising out of the transaction will be cancelled.

If you cancel, you must make available to the seller at your residence, in substantially as good condition as when received, any goods delivered to you under this agreement; or you may if you wish, comply with the instructions of the seller regarding the return shipment of the goods at the seller's expense and risk.

If you do make the goods available to the seller and the seller does not pick them up within twenty days of the date of your notice of cancellation, you may retain or dispose of the goods without any further obligation. If you fail to make the goods available to the seller, or if you agree to return the goods to the seller and fail to do so, then you remain liable for performance of all obligations under the contract.

To cancel this transaction, mail or deliver a signed and dated copy of this cancellation notice or any other written notice, or send a telegram, to SolarFlair Energy, Inc. at 190 Pleasant Street, Ashland, MA 01721, no later than

I hereby cancel this transaction.

Signature: _____
Printed Name: _____
Date: _____ ____, 20___

Signature: _____
Printed Name: _____
Date: _____ ____, 20___

BK0874PG0556

We, STEPHEN A. MERANTI and WILLIAM E. MERANTI, of North Adams, Berkshire County, Massachusetts, in consideration of the sum of One (1.00) DOLLARS paid, grant to the NORTH ADAMS AMBULANCE SERVICE, INC. a Massachusetts corporation duly organized by law with a usual place of business at American Legion Drive, P.O. Box 1081, North Adams, Berkshire County, Massachusetts 01247, with WARRANTY COVENANTS, the land with any and all buildings thereon, situate on the northerly side of River Street in said North Adams, bounded and described as follows, viz:

Beginning at a point on the north line of River Street where a wire fence is now located;
thence running westerly along the north line of said River Street about sixty-three (63) feet to where said River Street intersects the east line of Harris Street;
thence running northerly about one hundred sixty-eight and one half (168.5) feet to the southerly line of Hathaway Street;
thence easterly along the southerly line of Hathaway Street one hundred and eighteen (118) feet;
thence southerly to the place of beginning. Being a portion of Lot Nos. 19 and 20 on plan of lots of Houghton and Gallup of the Hathaway Farm.

SUBJECT TO easement recited in deed of Kronick Realty Company, Inc. to Martha M. Myers and Winthrop M. Todd dated March 20, 1947 and recorded with said Registry of Deeds in Book 458, Page 205.

MEANING and INTENDING to convey and hereby expressly conveying, all and singular, the same premises conveyed to the grantors herein by deed of Martha M. Myers dated November 4, 1988 and recorded with said Registry of Deeds in Book 871, Page 925.

Real estate taxes for the current fiscal period have been apportioned between the parties hereto and the grantee herein assume and agree to pay the same.

Location of Property: River Street, North Adams, Massachusetts

WITNESS our hands and seals this 24th day of November, 1993.

In the presence of:

Witness

Witness

Stephen A. Meranti

William E. Meranti

COMMONWEALTH OF MASSACHUSETTS

Berkshire, ss. November 24, 1993

Then personally appeared the above-named Stephen A. Meranti and William E. Meranti and acknowledged the foregoing instrument to be their free act and deed, before me

Notary Public

My commission expires: 7-21-2027

TM/lab
112393-2

S. A. M. etal 11-24-93

EXMPT 0.00
CNSH 0.00

EXCISE TAX

Received & entered for record
Nov. 24 1993 at 2 H 17 M P M.

City of North Adams, Massachusetts

PLANNING BOARD
City Hall
North Adams, Massachusetts 01247

North Adams Planning Board: Case No: SPA2009-13
Meeting Date: July 13, 2009

2009 00007651
Bk: 1382 Pg: 637 Doc: DECIS NB
Page: 1 of 1 08/21/2009 11:22 AM

NOTICE OF DECISION (to be registered at the Registry of Deeds)

Notice is hereby given that a special permit for new construction has been granted in compliance with the statutory requirements of Massachusetts General Law, Chapter 40A as awarded to: North Adams Ambulance Service, Inc., 10 Harris Street, North Adams, MA 01247

By the North Adams Planning Board affecting the rights of the owner with respect to the use of the premises located at:

10 Harris Street, North Adams, MA 01247

The record standing in the name of:

North Adams Ambulance Service, Inc.

By deed recorded in the Northern Berkshire Registry of Deeds in Bk874/Pg556.

The Decision of said Board is on file with all relevant documentation in the Office of Community Development and the Office of the City Clerk under case reference number Case No: SPA2009-13.

Signed this 28th day of July 2009

Michael Leary, Chairman North Adams Planning Board
Filing Date: 7/29/09

CERTIFICATION:

I Marilyn Gomeau, duly appointed, qualified and acting City Clerk of the City of North Adams, Massachusetts do hereby certify that the decision hereabove stated was filed in the Office of the City Clerk on July 29, 2009 and that twenty (20) days have elapsed since the filing of said decision and that no appeal has been filed in its regard.

IN WITNESS WHEREOF I hereunto set my hand and the seal of the City of North Adams, Massachusetts this 21st day of August in the year Two Thousand and Nine

City Clerk

R

END OF DOCUMENT
Northern Berkshire Registry of Deeds

R.A. Granton,
P.O. Box 1045
North Adams, MA 01247

CAI Property Card

North Adams, MA

GENERAL PROPERTY INFORMATION

LOCATION: 10 HARRIS ST
ACRES: 0.32695
PARCEL ID: 81-0-2
LAND USE CODE: 959
CONDO COMPLEX:
OWNER: N ADAMS AMBULANCE SERVICE
CO - OWNER:
MAILING ADDRESS: PO BOX 1045
NORTH ADAMS, MA 01247
ZONING:
PATRIOT ACCOUNT #: 4795

SALE INFORMATION

SALE DATE: 11/24/1993
BOOK & PAGE: 874-556
SALE PRICE:
SALE DESCRIPTION:
SELLER: MERANTI STEPHEN + WILLIAM

PRINCIPAL BUILDING AREAS

GROSS BUILDING AREA: 6,688
FINISHED BUILDING AREA: 6,688
BASEMENT AREA: 0
 # OF PRINCIPAL BUILDINGS: 1

ASSESSED VALUES

LAND: 21,600
YARD: 8,600
BUILDING: 412,100
TOTAL: $442,300

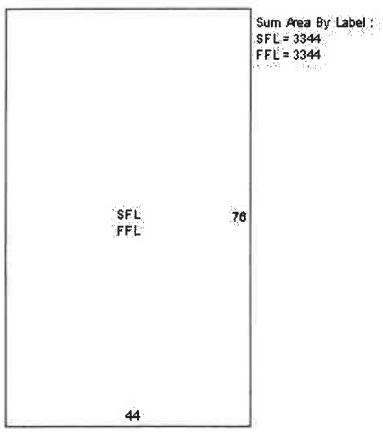
BUILDING EXTERIOR

BUILDING STYLE: GARAGE
UNITS: 1
YEAR BUILT: 1993
FRAME: WOOD
EXTERIOR WALL COVER: VINYL
ROOF STYLE: GABLE
ROOF COVER: ASPHALT

BUILDING INTERIOR

INTERIOR WALL: DRYWALL
FLOOR COVER: CARPET
HEAT TYPE: FORCED H/A
FUEL TYPE: OIL
PERCENT A/C: 50
 # OF ROOMS: 0
 # OF BEDROOMS: 0
 # OF FULL BATHS: 2
 # OF HALF BATHS: 0
 # OF ADDITIONAL FIXTURES: 0
 # OF KITCHENS: 1
 # OF FIREPLACES: 0
 # OF METAL FIREPLACES: 0
 # OF BASEMENT GARAGES: 0

SKETCH



PHOTO

81	0	2			1 of 1	INDUSTRIAL	TOTAL ASSESSED:	433,700
Map	Block	Lot	Lot	Lot	CARD		!4795!	

City of North Adams

PROPERTY LOCATION

No	Alt No	Direction/Street/City
10		HARRIS ST, NORTH ADAMS

OWNERSHIP

Unit #:

Owner 1:	N ADAMS AMBULANCE SERVICE			
Owner 2:				
Owner 3:				
Street 1:	PO BOX 1045			
Street 2:				
Twn/City:	NORTH ADAMS			
St/Prov:	MA	Cntry	Own Occ:	Y
Postal:	01247		Type:	

PREVIOUS OWNER

Owner 1:			
Owner 2:			
Street 1:			
Twn/City:			
St/Prov:		Cntry	
Postal:			

NARRATIVE DESCRIPTION

This Parcel contains .327 ACRES of land mainly classified as CHARITABLE with a(n) GARAGE Building Built about 1993, Having Primarily VINYL Exterior and ASPHALT Roof Cover, with 1 Units, 0 Baths, 0 HalfBaths, 2 3/4 Baths, 0 Rooms, and 0 Bdrms.

OTHER ASSESSMENTS

Code	Descrip/No	Amount	Com. Int

IN PROCESS APPRAISAL SUMMARY

Use Code	Building Value	Yard Items	Land Size	Land Value	Total Value
959	404,600	8,900	0.327	20,200	433,700
Total Card	404,600	8,900	0.327	20,200	433,700
Total Parcel	404,600	8,900	0.327	20,200	433,700

Source: Market Adj Cost | Total Value per SQ unit /Card: 64.85 | /Parcel: 64.85

Legal Description

Entered Lot Size
Total Land:
Land Unit Type:

User Acct

GIS Ref

GIS Ref

Insp Date
03/06/15

Patriot Properties Inc.

PREVIOUS ASSESSMENT

Parcel ID 81 0 2

Tax Yr	Use	Cat	Bldg Value	Yrd Items	Land Size	Land Value	Total Value	Asses'd Value	Notes	Date
2021	959	FV	404,600	8900	.327	20,200	433,700	433,700	Year End Roll	12/16/2020
2020	959	FV	398,800	8900	.327	21,400	429,100	429,100	Year End Roll	12/30/2019
2019	959	FV	380,700	8500	.327	21,400	410,600	410,600	Year End Roll	1/4/2019
2018	959	FV	373,500	8500	.327	22,500	404,500	404,500	Year End Roll	1/2/2018
2017	959	FV	369,800	8400	.327	22,300	400,500	400,500		11/7/2016
2016	959	FV	362,600	8200	.327	22,300	393,100	393,100	year end	12/3/2015
2015	959	FV	285,900	0	.327	23,000	308,900	308,900	Year End Roll	12/18/2014
2014	959	FV	285,900	0	.327	23,000	308,900	308,900		10/7/2013

PRINT

Date	Time
02/04/21	09:29:56

LAST REV

Date	Time
06/19/18	14:40:47
kbriggs	
4795	

USER DEFINED

Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
Prior Id # 1:	
Prior Id # 2:	
Prior Id # 3:	
ASR Map:	
Fact Dist:	
Reval Dist:	
Year:	
LandReason:	
BldReason:	

SALES INFORMATION

TAX DISTRICT

PAT ACCT.

Grantor	Legal Ref	Type	Date	Sale Code	Sale Price	V	Tst	Verif	Assoc PCL Value	Notes
MERANTI STEPHEN	874-556		11/24/1993			No	No			
	795-349		11/4/1988			No	No			

BUILDING PERMITS

Date	Number	Descrip	Amount	C/O	Last Visit	Fed Code	F. Descrip	Comment
6/19/2018	33154	MANUAL	2,800					NEW SIGNAGE
8/17/2009	29741	MANUAL	200,000					CONSTRUCT 2 STORY
6/10/2008	29266	MANUAL	10,000					SECOND FLOOR EMERG
4/1/1995	24332	MANUAL	1,300					SHED
10/1/1994	24188	MANUAL	3,500					SIGN
11/1/1993	23896	MANUAL	186,651					NEW BLDG

ACTIVITY INFORMATION

Date	Result	By	Name
3/6/2015	ENTRY DENIED	111	JIM KING
3/6/2015	MEASURED	111	JIM KING
8/27/2004	CYC INSP	102	R. BRIGGS

PROPERTY FACTORS

Item	Code	Descip	%	Item	Code	Descrip
Z				U		
o				t		
n				l		
Census:				Exmpt		
Flood Haz:						
D				Topo		
s				Street		
t				Traffic		

Sign: _____ / / _____

LAND SECTION (First 7 lines only)

Use Code	Description	LUC Fact	No of Units	Depth / PriceUnits	Unit Type	Land Type	LT Factor	Base Value	Unit Price	Adj	Neigh	Neigh Influ	Neigh Mod	Infl 1	%	Infl 2	%	Infl 3	%	Appraised Value	Alt Class	%	Spec Land	J Code	Fact	Use Value	Notes
959	CHARITABLE		14242		SQUARE FESITE			0	0.58	2.447 5										20,212						20,200	

Total AC/HA:	0.32695	Total SF/SM:	14241.94	Parcel LUC:	959	CHARITABLE	Prime NB Desc	CODE 5

Total:	20,212	Spl Credit		Total:	20,200

Disclaimer: This Information is believed to be correct but is subject to change and is not warranteed. Database: AssessPro

rvivori

2022

EXTERIOR INFORMATION

Type:	30 - GARAGE		
Sty Ht:	2 - 2		
(Liv) Units:	1	Total:	1
Foundation:	1 - CONCRETE		
Frame:	1 - WOOD		
Prime Wall:	4 - VINYL		
Sec Wall:		%	
Roof Struct:	1 - GABLE		
Roof Cover:	1 - ASPHALT		
Color:	GRAY		
View / Desir:			

GENERAL INFORMATION

Grade:	B - GOOD		
Year Blt:	1993	Eff Yr Blt:	
Alt LUC:		Alt %:	
Jurisdict:		Fact:	
Const Mod:			
Lump Sum Adj:			

INTERIOR INFORMATION

Avg Ht/FL:	STD		
Prim Int Wal	1 - DRYWALL		
Sec Int Wall:		%	
Partition:	T - TYPICAL		
Prim Floors:	4 - CARPET		
Sec Floors:	12 - CONCRET	50 %	
Bsmnt Flr:			
Bsmnt Gar:			
Electric:	3 - TYPICAL		
Insulation:	2 - TYPICAL		
Int vs Ext:	S		
Heat Fuel:	1 - OIL		
Heat Type:	1 - FORCED H/A		
# Heat Sys:	1		
% Heated:	100	% AC:	50
Solar HW:	NO	Central Vac:	NO
% Com Wal		% Sprinkled	

BATH FEATURES

Full Bath		Rating:	
A Bath:		Rating:	
3/4 Bath:	2	Rating:	AVERAGE
A 3QBth		Rating:	
1/2 Bath:		Rating:	
A HBth:		Rating:	
OthrFix:		Rating:	

OTHER FEATURES

Kits:	1	Rating:	AVERAGE
A Kits:		Rating:	
Frpl:		Rating:	
WSFlue:		Rating:	

CONDO INFORMATION

Location:	
Total Units:	
Floor:	
% Own:	
Name:	

DEPRECIATION

Phys Cond:	VG - Very Good	13.	%
Functional:			%
Economic:			%
Special:			%
Override:			%
	Total:	13.5	%

CALC SUMMARY

Basic $ / SQ:	34.00
Size Adj.:	1.19808602
Const Adj.:	0.99000001
Adj $ / SQ:	40.328
Other Features:	12170
Grade Factor:	1.33
Neighborhood Inf:	1.00000000
LUC Factor:	1.00
Adj Total:	466375
Depreciation:	62961
Depreciated Total:	403414

COMMENTS

NORTH ADAMS AMBULANCE SERVICE

RESIDENTIAL GRID

1st Res Grid	Desc:	# Units

Level	FY	LR	DR	D	K	FR	RR	BR	FB	HB	L	O
Other												
Upper												
Lvl 2												
Lvl 1												
Lower												

Totals	RMs:	BRs:	Baths:	HB

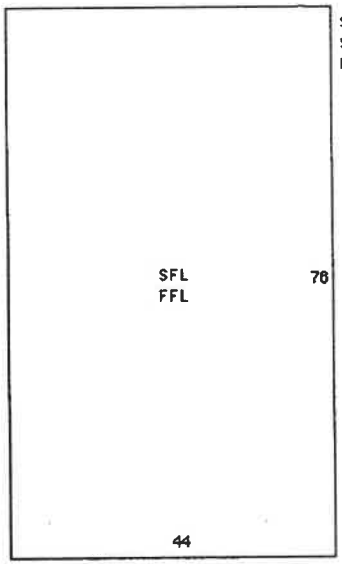
REMODELING

Exterior:	
Interior:	
Additions:	
Kitchen:	
Baths:	
Plumbing:	
Electric:	
Heating:	
General:	

RES BREAKDOWN

No Unit	RMS	BRS	FL
Totals			

SKETCH



Sum Area By Label :
SFL = 3344
FFL = 3344

COMPARABLE SALES

Rate	Parcel ID	Typ	Date	Sale Price

WtAv$/SQ:		AvRate:		Ind.Val	
Juris. Factor:			Before Depr:	53.64	
Special Features:	1200		Val/Su Net:	60.50	
Final Total:	404600		Val/Su SzAd	60.50	

SUB AREA

Code	Description	Area - SQ	Rate - AV	Undepr Value
FFL	1ST FLOOR	3,344	48.390	161,827
SFL	2ND FLOOR	3,344	52.830	176,661

SUB AREA DETAIL

Sub Area	% Usbl	Descrip	% Type	Qu	# Ten
FFL	100	OFC	25	G	0
SFL	100	APT	50	G	0

Net Sketched Area:	6,688	Total:	338,487
Size Ad	6688	Gross Area	6688	FinArea	6688
---	---	---	---	---	---

SPEC FEATURES/YARD ITEMS

Code	Description	A	Y/S	Qty	Size/Dim	Qual	Con	Year	Unit Price	D/S	Dep	LUC	Fact	NB Fa	Appr Value	JCod	JFact	Juris. Value
30	FIRE ESC	D	S	1	1	G	GD	2008	1,250.00	T	7.5	959			1,200			1,200
85	PAVING	D	Y	1	6100	G	GD	1993	1.88	T	22.4	959			8,900			8,900

PARCEL ID 81 0 2

IMAGE

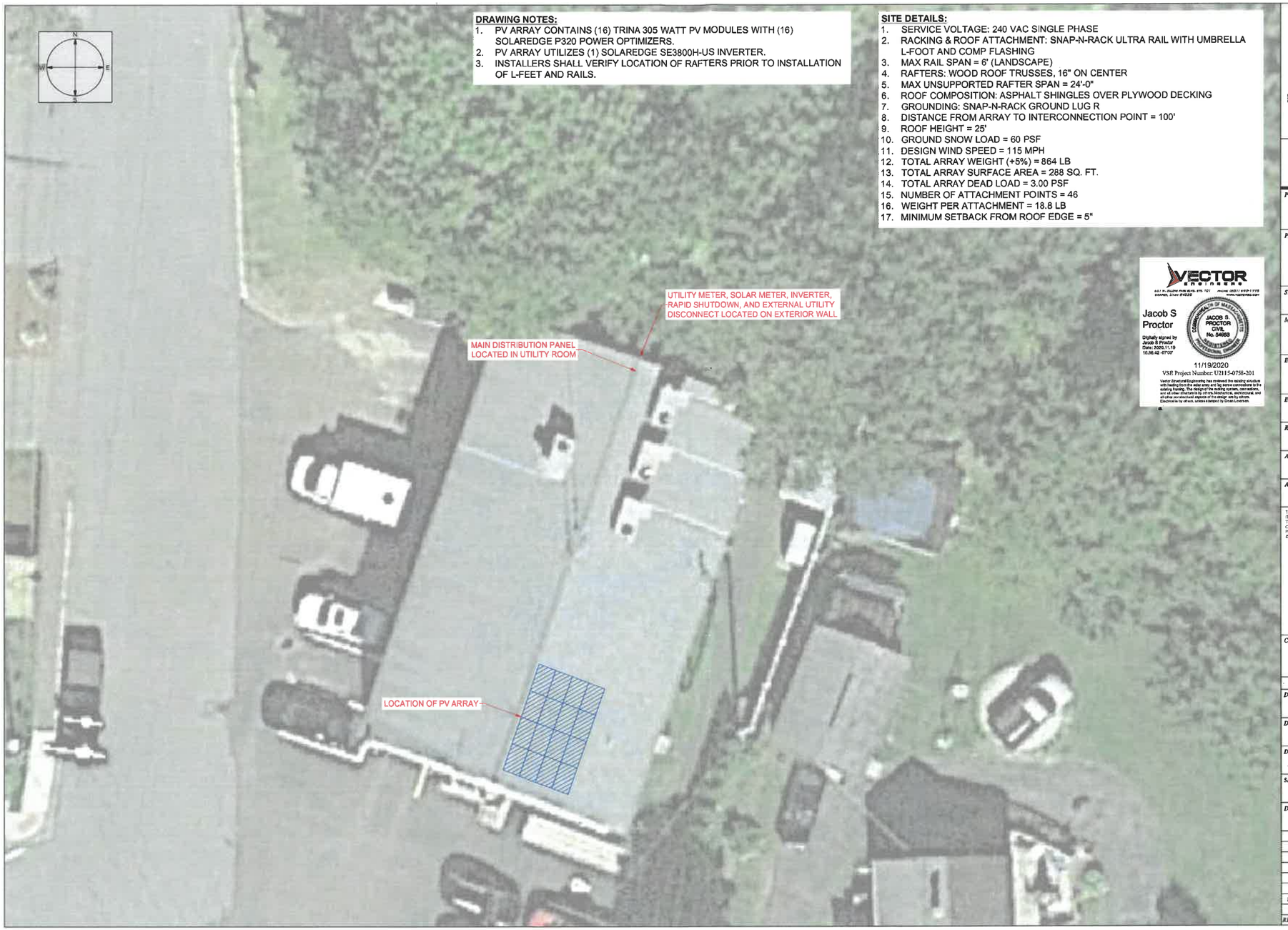
AssessPro Patriot Properties, Inc

More:	N

Total Yard Items:	8,900

Total Special Featues:	1,200

Total:	10,100



DRAWING NOTES:

1. PV ARRAY CONTAINS (16) TRINA 305 WATT PV MODULES WITH (16) SOLAREDGE P320 POWER OPTIMIZERS.
2. PV ARRAY UTILIZES (1) SOLAREDGE SE3800H-US INVERTER.
3. INSTALLERS SHALL VERIFY LOCATION OF RAFTERS PRIOR TO INSTALLATION OF L-FEET AND RAILS.

SITE DETAILS:

1. SERVICE VOLTAGE: 240 VAC SINGLE PHASE
2. RACKING & ROOF ATTACHMENT: SNAP-N-RACK ULTRA RAIL WITH UMBRELLA L-FOOT AND COMP FLASHING
3. MAX RAIL SPAN = 6' (LANDSCAPE)
4. RAFTERS: WOOD ROOF TRUSSES, 16" ON CENTER
5. MAX UNSUPPORTED RAFTER SPAN = 24'-0"
6. ROOF COMPOSITION: ASPHALT SHINGLES OVER PLYWOOD DECKING
7. GROUNDING: SNAP-N-RACK GROUND LUG R
8. DISTANCE FROM ARRAY TO INTERCONNECTION POINT = 100'
9. ROOF HEIGHT = 25'
10. GROUND SNOW LOAD = 60 PSF
11. DESIGN WIND SPEED = 115 MPH
12. TOTAL ARRAY WEIGHT (+5%) = 864 LB
13. TOTAL ARRAY SURFACE AREA = 288 SQ. FT.
14. TOTAL ARRAY DEAD LOAD = 3.00 PSF
15. NUMBER OF ATTACHMENT POINTS = 46
16. WEIGHT PER ATTACHMENT = 18.8 LB
17. MINIMUM SETBACK FROM ROOF EDGE = 5"

VECTOR ENGINEERS

Jacob S Proctor

Digitally signed by Jacob S Proctor
Date: 2020.11.19 16:36:42 -07'00'

COMMONWEALTH OF MASSACHUSETTS
JACOB S. PROCTOR
CIVIL
No. 54069
REGISTERED PROFESSIONAL ENGINEER

11/19/2020
VSE Project Number: U2115-0758-201

Vector Structural Engineering has reviewed the racking structure with leading from the solar array and lag screw connections to the existing framing. The design of the racking system, connections, and all other structure is by others. Mechanical, electrical, and plumbing recommended aspects of the design are by others. Electrical is by others, unless stamped by Omah Lawson.

solarflair
CLEAN ENERGY SOLUTIONS
190 Pleasant St.
Ashland, MA 01721
Phone: 508-293-4293
Fax: 508-293-4003
www.solarflair.com

N. Berkshire EMS

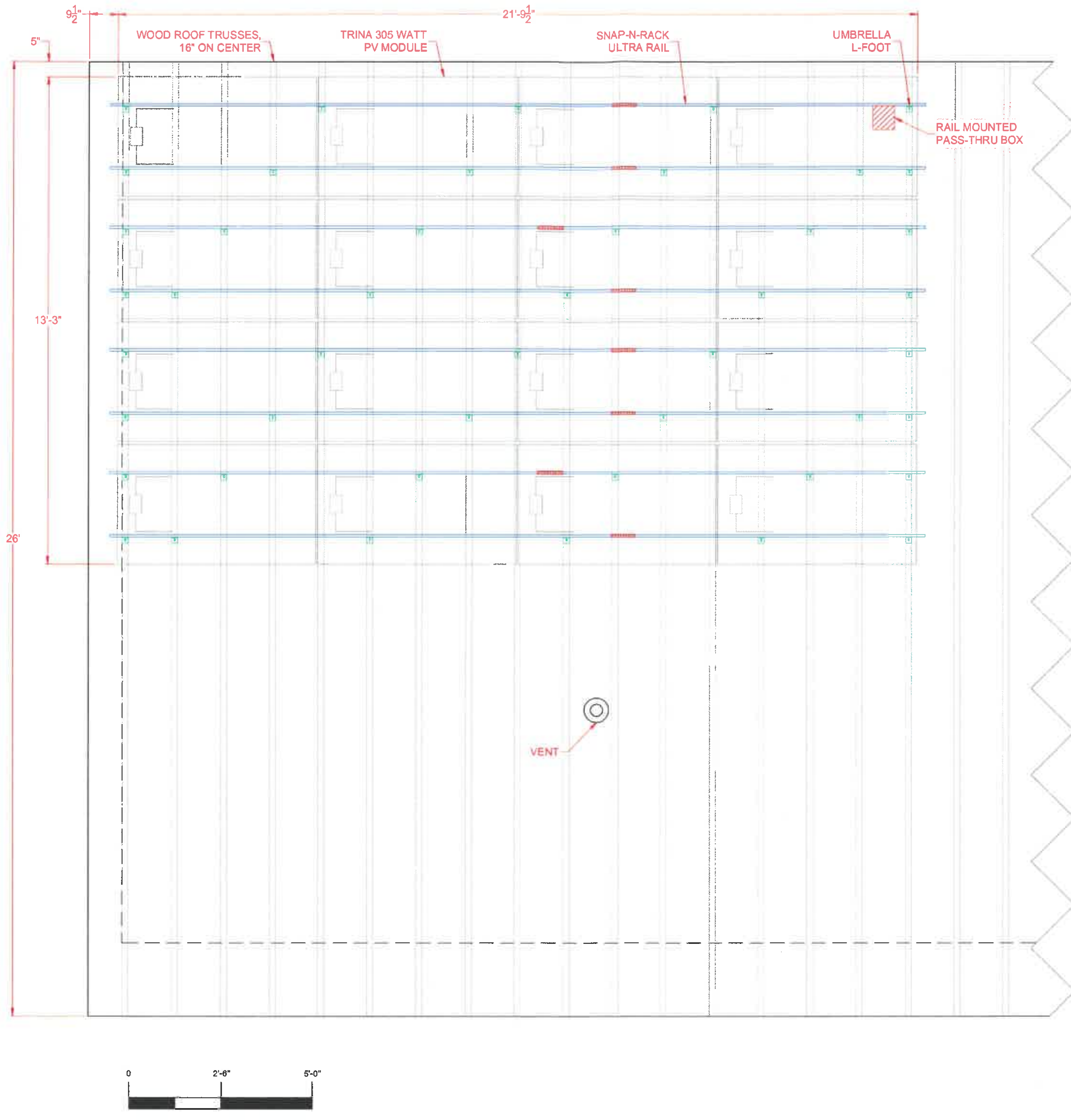
PROJECT NUMBER / NAME	RES PV 1870 N. BERKSHIRE EMS
PROJECT LOCATION	10 HARRIS ST. NORTH ADAMS, MA 01247
SYSTEM SIZE (MODULE QTY)	4.88 kW (16)
MODULE MANUF. & MODEL	TRINA TSM-305-DD05A.05(II)
INVERTER MANUF & MODEL (QTY)	SOLAREDGE SE3800H-US (1)
INV DIRECT MONITORING	SOLAREDGE
REV GRADE AUTO REPORTING	NONE
AC VOLTAGE / *AC CURRENT*	240 VAC / 16.0A
ARRAY AZIMUTH / *ARRAY TILT*	110° / 16°

CUSTOMER SIGNATURE REQUIRED HERE:

THIS DRAWING IS NOT FOR CONSTRUCTION UNTIL ISSUED FOR CONSTRUCTION BY SOLARFLAIR ENERGY, INC.

DRAWING NUMBER:	PV-1.0
DRAWING TITLE:	SITE OVERVIEW
DRAWN BY: / *APPROVED BY:*	J. ABSHIRE / J. ABSHIRE
SHEET SIZE: / *SCALE:*	D / NTS
DATE: / *REV:*	11/18/20 / 1

REV	DATE	DESCRIPTION	APP'D
1	11/18/20	PERMIT SET	JMA
		INITIAL ISSUE	



Jacob S Proctor

Digitally signed by Jacob S Proctor
Date: 2020.11.19 16:36:36 -07'00'

VECTOR ENGINEERS
651 W. GALENA PARK BLVD. STE. 101 DRAPER, UTAH 84020
PHONE (801) 990-1775 WWW.VECTORSE.COM

COMMONWEALTH OF MASSACHUSETTS
JACOB S. PROCTOR
CIVIL
No. 54963
REGISTERED PROFESSIONAL ENGINEER

11/19/2020

VSE Project Number: U2115-0758-201

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Ashland, MA 01721
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N. Berkshire EMS

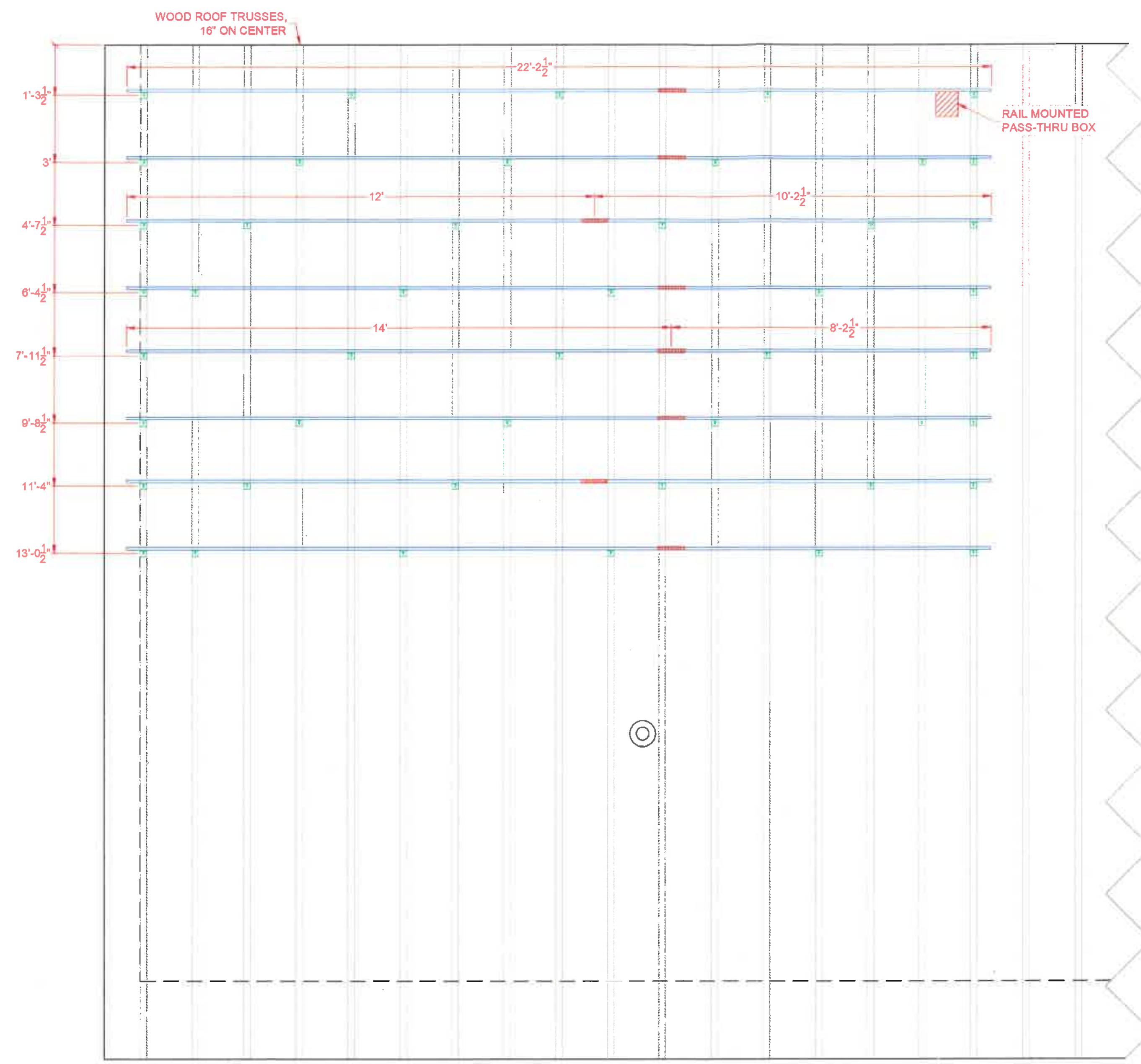
PROJECT NUMBER / NAME RES PV 1870 N. BERKSHIRE EMS	
PROJECT LOCATION 10 HARRIS ST. NORTH ADAMS, MA 01247	
SYSTEM SIZE (MODULE QTY) 4.88 kW (16)	
MODULE MANUF. & MODEL TRINA TSM-305-DD05A.05(II)	
INVERTER MANUF & MODEL (QTY) SOLAREDGE SE3800H-US (1)	
INV DIRECT MONITORING SOLAREDGE	
REV GRADE AUTO REPORTING NONE	
AC VOLTAGE 240 VAC	*AC CURRENT* 16.0A
ARRAY AZIMUTH 110°	*ARRAY TILT* 16°

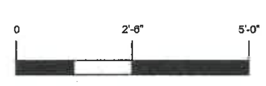
CUSTOMER SIGNATURE REQUIRED HERE:

THIS DRAWING IS NOT FOR CONSTRUCTION UNTIL ISSUED FOR CONSTRUCTION BY SOLARFLAIR ENERGY, INC.

DRAWING NUMBER: PV -1.1	
DRAWING TITLE: PLAN VIEW	
DRAWN BY: J. ABSHIRE	*APPROVED BY:* J. ABSHIRE
SHEET SIZE: D	*SCALE:* SHOWN
DATE: 11/18/20	*REV:* 1

REV	DATE	DESCRIPTION	APP'D.
1	11/18/20	PERMIT SET	JMA
		INITIAL ISSUE	





DRAWING NOTES:

1. PV ARRAY UTILIZES (46) SNAP-N-RACK UMBRELLA L-FEET AND 176' OF SNAP-N-RACK ULTRA RAIL.
   1.1 (16) 168" RAILS
2. L-FEET ARE LAGGED DIRECTLY INTO WOOD ROOF TRUSSES USING 4" SNAP-N-RACK UMBRELLA LAG SCREWS.
3. L-FEET UTILIZE COMP FLASHING FROM SNAP-N-RACK.
4. L-FOOT LOCATION MAY BE SHIFTED N-S BY +/- 2" TO ENSURE PROPER INSTALLATION OF COMP FLASHING.
5. VERIFY LOCATION OF RAFTERS PRIOR TO INSTALLATION OF L-FEET AND RAILS.
6. SNAP-N-RACK REQUIRES A 1/8" THERMAL GAP BETWEEN RAILS IN THE SPLICE BAR.

VECTOR ENGINEERS
651 W. GALENA PARK BLVD. STE. 101 PHONE (801) 990-1775
DRAPER, UTAH 84020

Jacob S Proctor
Digitally signed by Jacob S Proctor Date: 2020.11.19 16:36:29 -07'00'

COMMONWEALTH OF MASSACHUSETTS
JACOB S. PROCTOR
CIVIL
No. 54953
REGISTERED PROFESSIONAL ENGINEER

11/19/2020
VSE Project Number: U2115-0758-201

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N. Berkshire EMS

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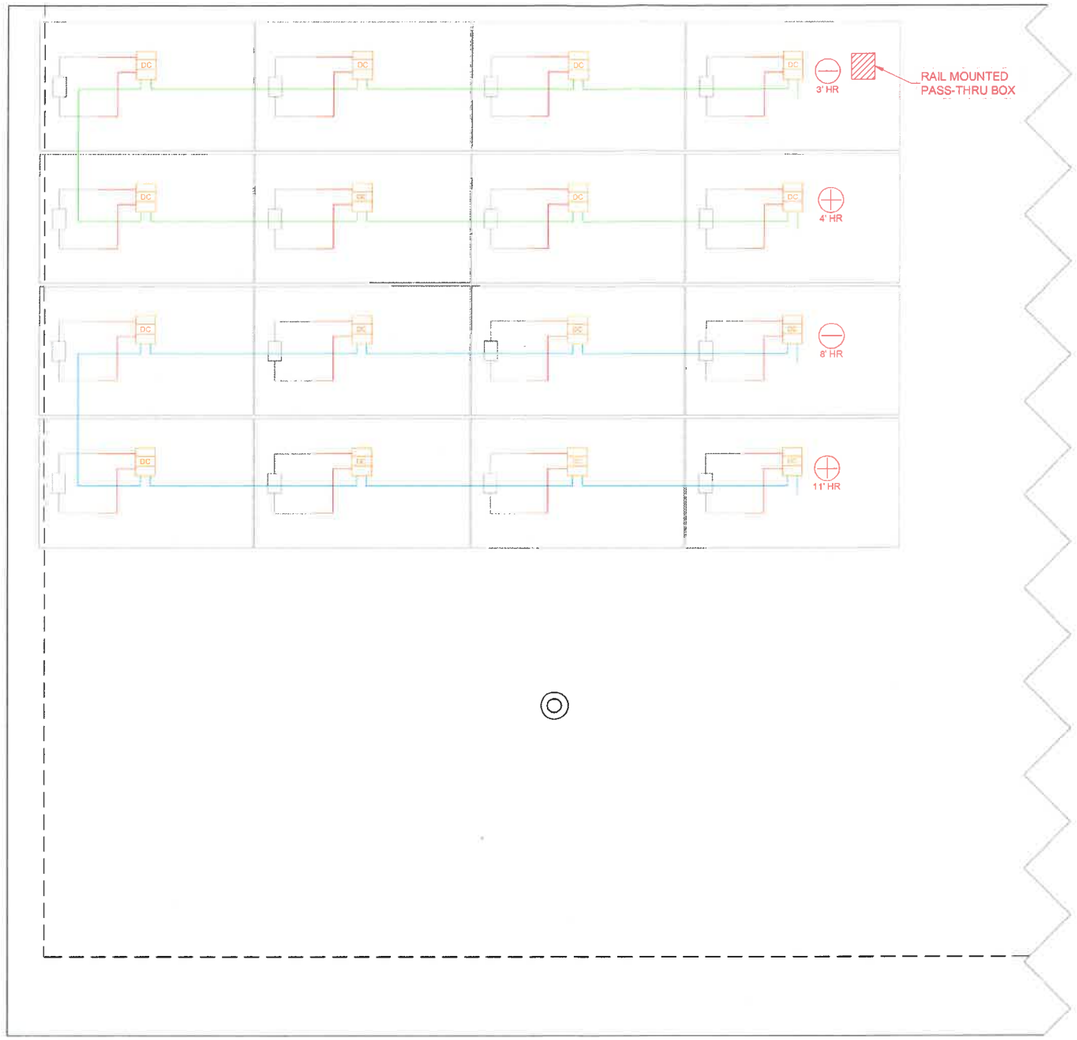
INVERTER MANUF & MODEL (QTY)	SOLAREDGE SE3800H-US (1)
INV DIRECT MONITORING	SOLAREDGE
REV GRADE AUTO REPORTING	NONE
AC VOLTAGE	240 VAC
AC CURRENT	16.0A
ARRAY AZIMUTH	110°
ARRAY TILT	16°

CUSTOMER SIGNATURE REQUIRED HERE:

THIS DRAWING IS NOT FOR CONSTRUCTION UNTIL ISSUED FOR CONSTRUCTION BY SOLARFLAIR ENERGY, INC.

DRAWING NUMBER:	PV -1.2
DRAWING TITLE:	RAILS & L-FEET LAYOUT
DRAWN BY:	J. ABSHIRE
APPROVED BY:	J. ABSHIRE
SHEET SIZE:	D
SCALE:	SHOWN
DATE:	11/18/20
REV:	1

REV	DATE	DESCRIPTION	APP'D.
1	11/18/20	PERMIT SET	JMA
		INITIAL ISSUE	



0 2'-6" 5'-0"

SCALE

solarflair
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www.solarflair.com

N. Berkshire EMS

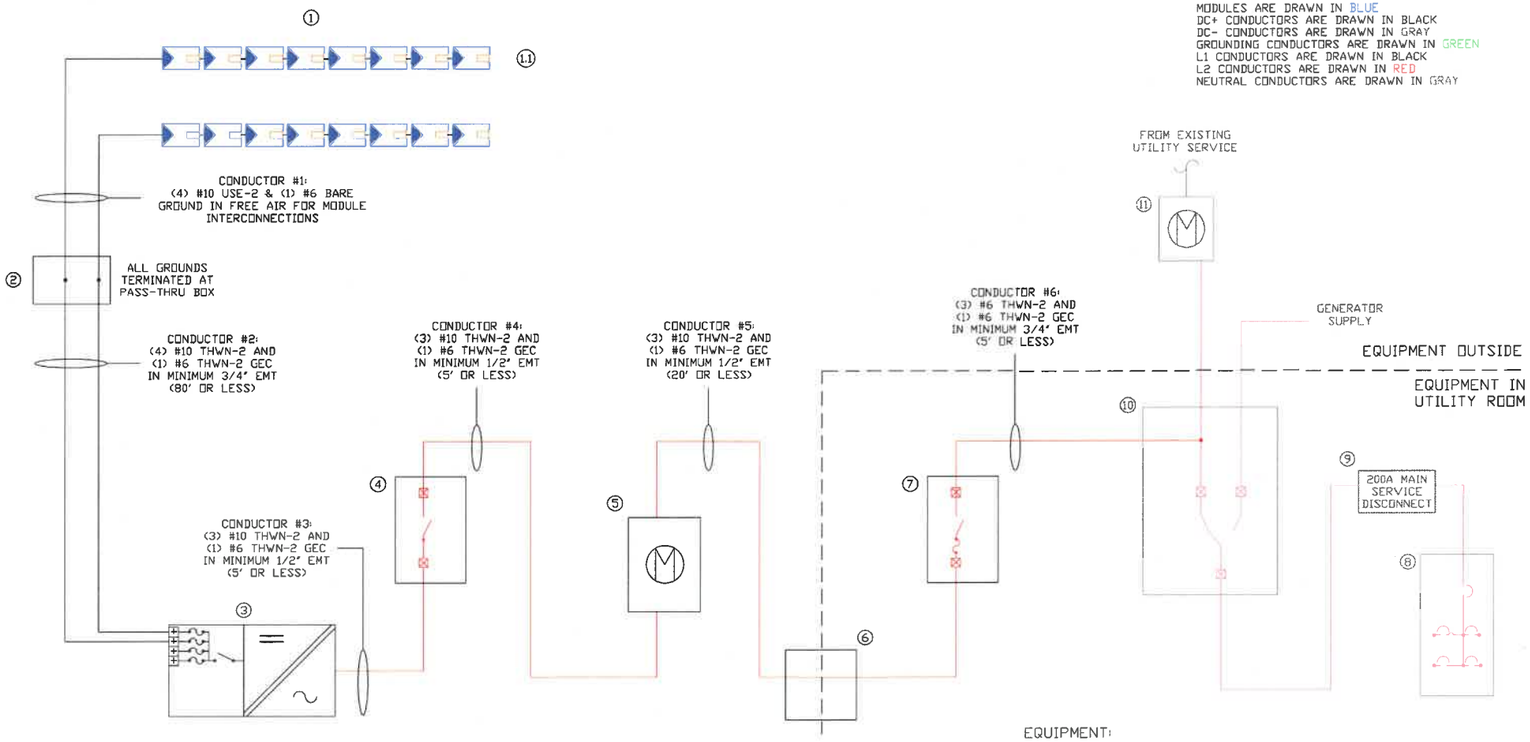
PROJECT NUMBER / NAME	RES PV 1870 N. BERKSHIRE EMS
PROJECT LOCATION	10 HARRIS ST. NORTH ADAMS, MA 01247
SYSTEM SIZE (MODULE QTY)	4.88 kW (16)
MODULE MANUF. & MODEL	TRINA TSM-305-DD05A.05(II)
INVERTER MANUF & MODEL (QTY)	SOLAREDGE SE3800H-US (1)
INV DIRECT MONITORING	SOLAREDGE
REV GRADE AUTO REPORTING	NONE
AC VOLTAGE: 240 VAC	AC CURRENT: 16.0A
ARRAY AZIMUTH: 110°	ARRAY TILT: 16°

CUSTOMER SIGNATURE REQUIRED HERE:

THIS DRAWING IS NOT FOR CONSTRUCTION UNTIL ISSUED FOR CONSTRUCTION BY SOLARFLAIR ENERGY, INC.

DRAWING NUMBER:	PV - 1.3
DRAWING TITLE:	ARRAY WIRING
DRAWN BY: J. ABSHIRE	APPROVED BY: J. ABSHIRE
SHEET SIZE: D	SCALE: NTS
DATE: 11/18/20	REV: 1

REV	DATE	DESCRIPTION	APP'D
1	11/18/20	PERMIT SET	JMA
		INITIAL ISSUE	



COLOR LEGEND

MODULES ARE DRAWN IN BLUE
DC+ CONDUCTORS ARE DRAWN IN BLACK
DC- CONDUCTORS ARE DRAWN IN GRAY
GROUNDING CONDUCTORS ARE DRAWN IN GREEN
L1 CONDUCTORS ARE DRAWN IN BLACK
L2 CONDUCTORS ARE DRAWN IN RED
NEUTRAL CONDUCTORS ARE DRAWN IN GRAY

MODULE SPECIFICATIONS: Pmp: 305W Vmp: 32.9 Vdc Voc: 40.0 Vdc MAX Voc @ -19C: 40.0Vdc X 1.18 = 47.20 Vdc Imp: 9.28A Isc: 9.85A Isc X 1.25: 12.31A Isc X 1.56: 15.37A	STRING 1.1 SPECIFICATIONS: Pmp: 2,440W Vmp: 350 Vdc MAX Voc: 500 Vdc Imp: 9.28A Isc: 9.85A Isc X 1.25: 12.31A Isc X 1.56: 15.37A
INVERTER SPECIFICATIONS: MAX AC OUTPUT POWER: 3800W MAX AC OUTPUT CURRENT: 16.0A OPERATING VOLTAGE: 240 VAC, SINGLE PHASE	

EQUIPMENT:

1: (16) TRINA TSM-305-DD05A.05(II) SOLAR ELECTRIC MODULES
1.1: STRING OF (8) TRINA PV MODULES WITH (8) SOLAREDGE P320 POWER OPTIMIZERS
2: RAIL MOUNTED PASS-THRU BOX
3: SOLAREDGE SE3800H-US GRID-TIED INVERTER, 240 VAC, SINGLE-PHASE
4: EXTERNAL UTILITY DISCONNECT, 60A, 2P, 240 VAC, NEMA 3R, NON-FUSED, ADJACENT TO THE EXISTING UTILITY METER
5: 100A REVENUE GRADE SMART METER AND SOCKET
6: AC PASS-THRU BOX
7: INTERNAL UTILITY DISCONNECT, 60A, 2P, 240 VAC, NEMA 1, 20A FUSES
8: EXISTING 200A MAIN SERVICE PANEL (EASTON)
9: EXISTING 200A MAIN SERVICE DISCONNECT
10: EXISTING AUTOMATIC TRANSFER SWITCH
11: EXISTING UTILITY METER

solarflair
CLEAN ENERGY SOLUTIONS
190 Pleasant St.
Ashland, MA 01721
Phone: 508-293-4293
Fax: 508-293-4003
www.solarflair.com

N. Berkshire EMS

PROJECT NUMBER / NAME: RES PV 1870 N. BERKSHIRE EMS
PROJECT LOCATION: 10 HARRIS ST. NORTH ADAMS, MA 01247
SYSTEM SIZE (MODULE QTY): 4.88 kW (16)
MODULE MANUF. & MODEL: TRINA TSM-305-DD05A.05(II)
INVERTER MANUF & MODEL (QTY): SOLAREDGE SE3800H-US (1)
INV DIRECT MONITORING: SOLAREDGE
REV GRADE AUTO REPORTING: NONE
AC VOLTAGE: 240 VAC
AC CURRENT: 16.0A
ARRAY AZIMUTH: 110°
ARRAY TILT: 16°

CUSTOMER SIGNATURE REQUIRED HERE:

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DRAWING NUMBER: PV-1.4
DRAWING TITLE: SINGLE LINE DIAGRAM
DRAWN BY: J. ABSHIRE
APPROVED BY: J. ABSHIRE
SHEET SIZE: D
SCALE: NTS
DATE: 11/18/20
REV: 1

REV.	DATE	DESCRIPTION	APP'D
1	11/18/20	PERMIT SET	JMA
	X	INITIAL ISSUE	