Project ApplicationLand Use Department

P.O. Box 660; 333 Calef Hwy, Barrington, NH 03825 ♦ Phone: 603-664-5798 ♦ Fax: 603-664-0188

Case Number: 264-63-612-23-C	Name: Solar Tracker a	t BS&E Office Date 6-21-23
St	aff Signature required PRIOR to submittal	
PRELIMINARY APPLICATION: Preliminary C	onceptual Review Design Revie	w Development of Regional Impact
Change of Use Extens		ine Adjustment Special Permit
Project Name: Solar Tracker at	BS&E Office	Area (Acres or S.F) _70.27
Project Address: 335 Second Cro	wn Point Road	
Current Zoning District(s): GR	Map(s) _	204 Lot(s) 3
Request: To install a Solar '	Tracker.	
The property owner shall designate an agent for the project. The agenda, recommendations, and case reports, and will communicate the contacts for the contact	his person (the applicant) shall attend pre-applic cate all case information to other parties as requ is project will be made through the <i>Applican</i>	ired.
Owner: Berry Family Revocable	Trust, Sylvia Berry	Trustee
Company		
Phone: 603-781-8620	_ Fax:	E-mail:
Address: 337 Second Crown Point	Road, Barrington, Nh	03825
Applicant (Contact): Berry Survey: Company Phone: 603-781-3403 Address: 335 Second Crown Point Developer: Company Phone: Address:	_Fax: _Road, Barrington, NH	_E-mail: <u>Crberry@metrocast.ne</u> t 03825
Address:	_ 1 u	_ L-man.
Architect: Company Phone: Address:		_E-mail:
Engineer: Berry Surveying & Engineers Company Phone: 603-781-3403 Address: 335 Second Crown Poir	ineering, Christopher Fax: The Road, Barrington, N	_E-mail: <u>crberry@metrocast.ne</u>
Owner Signature Staff Signature	Applicant Signature Date	RECEIVED JUN 2 1 2023
		LAND USE OFFICE

TOWN OF BARRINGTON - LAND USE DEPARTMENT

PROJECT NARRATIVE

PROJECT NAME Solar Tracker at BS&E Office CASE FILE NUMBER 204-03-GR-23-CUP

PROJECT LOCATION 335 Second Crown Point Road

DATE OF APPLICATION 6-21-23

Property Details:

Single-Family Residential Multi-Family Residential Commercial x Industrial

Current Zoning: GR Lot Area Size 70 Ac.

Setbacks: Front 40 Side 30 Rear 30

Parking Spaces Required: Parking Spaces Provided: 22

Please describe your project and its purpose and intent. You may attach a typed description.

Installing a Solar Tracker in the side/rear yard to offset the power needs of the office.

Being that this is for a commercial use and is non-residential it falls under the Commercial-Industrail catagory and requires a CUP be permitted by the Planning Board.



IUN 2 1 2023

LAND USE OFFICE



Application \$150.00	Public Notice	75.00 per submission
Abutters @ 100 x \$8.00 e	each 80	Other
Total Received: \$Cash	Check#11019	A CONTRACT
Date Received (0/2)/	23	

SECTION 3.4 CONDITIONAL USE PERMIT APPLICATION

TOWN OF BARRINGTON PO Box 660; 333 Calef Highway Barrington, New Hampshire 03825

A CONDITIONAL USE PERMIT (CUP) allows the Town of Barrington to permit uses which may be essential or desirable to a particular community, but which are not allowed as a matter of right within a zoning district, but rather only through a CUP. A public hearing is required. A conditional use permit can provide flexibility within a zoning ordinance.

This application may not be used for those seeking a Special Permit for Construction in a Wetland Buffer pursuant to Section 9.6 of the town zoning ordinance. There is a separate application for a Special Permit in a Wetland Buffer, which is also available at the town Land Use office.

s the proposed use related to a Site Plan or Subdivision Application? Yes No_X_
Name of Project_48 Panel Solar Tracker at Berry Surveying and Engineering
Address of Property 335 Second Crown Point Road, Barrington, NH 03825
Wetlands
Tax Map 204 Lot 3 Zoning District(s) GR Overlay Total Area of Site 70.27
Name of Applicant/Agent Christopher R. Berry Berry Surveying & Engineering
Mailing Address of Applicant/Agent 335 Second Crown Point Road, Barrington, NH 03825
crberry@metrocast.net
Felephone: 603-332-2863 Email: Fax:
Name of Property Owner_Berry Family Revocable Trust, Sylvia Berry
Mailing Address of Property Owner 337 Second Crown Point Road, Barrington, NH 03825
Telephone: 603-781-8620 Email: Fax:
etter of Authorization Provided
State A Second
Signature of Owner The DEREY
Deed Provided
Describe in detail all existing uses and structures on the subject property (Vou may attack a congrate
Describe in detail all existing uses and structures on the subject property (You may attach a separate typed sheet):
The property contains the two story office structure and a parking lot. The septic system is to the side yard (east) There is a wetland at the rear of the building.
PROPERTY OF THE PROPERTY OF TH
RECHIVE
Manager B V Research Manager

JUN 2 1 2023

Describe in detail all proposed uses, structures, construction, or modifications requiring a Conditional Use Permit:
We are proposing a 48 Panel Solar Tracker which is considered a Commercial/Industrial use being that this is for consumption onsite for the business. The tracker will be placed between the septic system and the 50' wetlands buffer. The total height of the tracker is 35' tall. The installation is in the side/rear yard and not the front yard, and is reasonably screened by the building as well as two large maple trees from the roadway Describe in detail how the following conditions of the Town of Barrington Zoning Ordinance under Section 3.4 "Conditional Use Permits Issued by the Planning Board" have been satisfied by your proposal. (You may attach a separate sheet.) The building, structure or use is specifically authorized under the terms of this Ordinance. Ground Mounted Solar Units are permitted with a CUP under Article 21 2. If completed, the development in its proposed location will comply with all requirements of this Ordinance, and with specific conditions or standards established in this Section for the particular building, structure or use. The tracker will comply with Article 21 3. The building, structure or use will not materially endanger the public health or safety. There is no public health or safety detriment involved with a solar tracker 4. The building, structure or use will not substantially de-value abutting property. The tracker is screened to the east by a woods line along the boundary line. 5. The building, structure or use will be compatible with the neighborhood and with adjoining or abutting uses in the area in which it is to be located. All abutting land uses are active farms. 6. The building, structure or use will not have a substantial adverse impact on highway or pedestrian safety. There is no change in safety as a result of the tracker 7. The building, structure or use will not have a substantial adverse impact on the natural and environmental resources of the town. The tracker will be outside of the wetland buffer and no vegetation is required to be removed for the installation 8. Adequate public utilities, community facilities, and roadway capacity are available to the property to ensure that the proposed use will not necessitate excessive public expenditures in providing public There is no need for public expenditures for the tracker

9. Where deemed necessary when considering an application for Conditional Use approval, the Planning Board may require that adequate visual buffers be established.

As noted above the tracker will be to the side and rear of the building. There are two large maple trees at the street that will remain and will block the view of the tracker during most periods of the year.



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Statement of Assurance and Agreement:

I hereby certify that to the best of my knowledge this submitted application information is true and correct. All proposed development will be in conformance with the information contained on the application and in the approved plan as well as the provisions of the Town of Barrington ordinances and regulations.

The Owner/Agent, by filing an application, hereby grants permission for members of the Board and staff to enter one the subject property for the purposes of this review.

Applicant Agent Signature

Owner Signature

Owner Signature

Date

Date

Date

Date

Date

Date

Date

Date

Date



LAND USE OFFICE







FAK_C8G / 144 cells 430W - 450 W Mono-Crystalline Bifacial PV Module

URE Peach module uses URE state-of-the-art cell cut technology on high efficiency p-PERC mono-crystalline bifacial cell, and advanced module manufacturing experiences.



((





Key Features



Positive power tolerance +0 ~ +4.99 watt



Withstand heavy loading front load 5400 Pa & rear load 2400 Pa



Excellent low light performance 3.5% relative eff. Reduction at low (200W/m²)



100% EL inline inspection Better module reliability



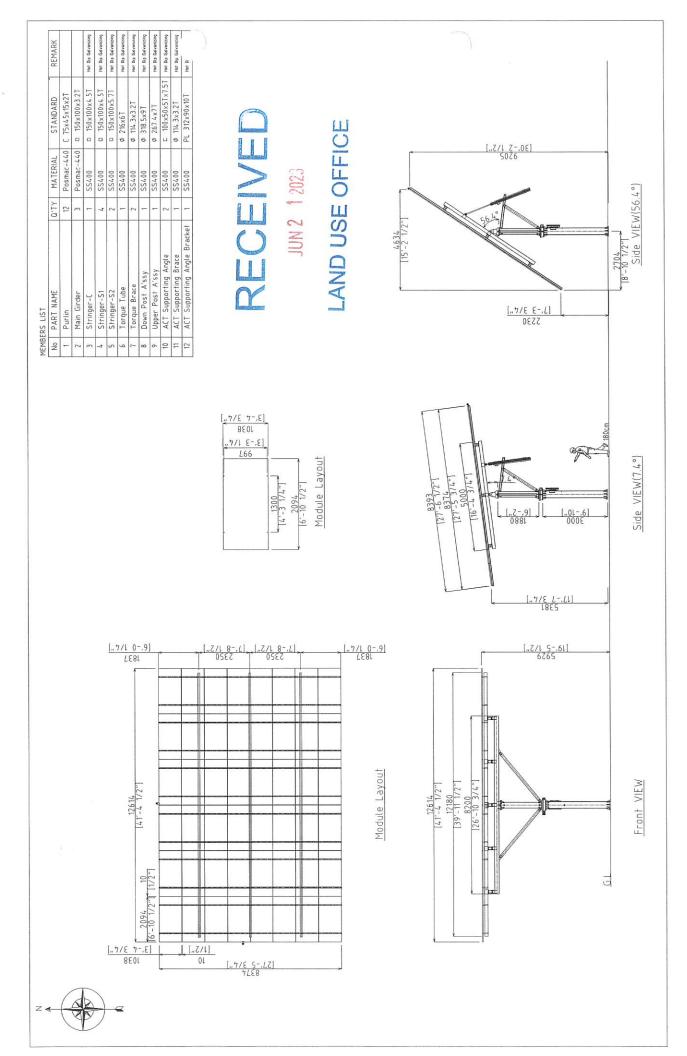
Design for 1500 VDC Reduce the system BOS effectively



JUN 2 1 2023

LAND USE OFFICE





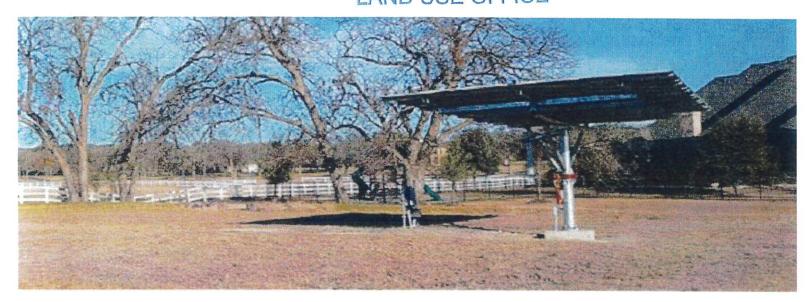




JUN 2 1 2023

DualTrack 16/24/42

LAND USE OFFICE Residential Dual Axis Solar Trackers



Advantages vs. Rooftop Systems

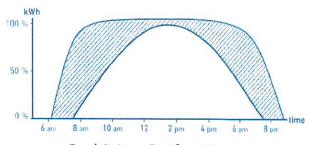
No Increase in Insurance premiums to protect a roof not suitable for Solar Installation

No additional stress on rooftop

No risk of breaking water lines

Much smaller footprint as opposed to rooftop systems Ground level inspections vs. rooftop inspections

Opportunity for shading and rain cover in your existing property



Dual Axis vs. Rooftop Output

Get The Most From Your System

The DualTrack 16/24/42 captures the most optimal energy for your home, thanks to our Real-Time Sensors (RTS) that guide our systems to the maximum point of sunlight throughout the day. This results in up to 60% increased production with bofacial solar modules and up to 45% increased production with standard mono-facial modules.

Sun Action Trackers

3660 Thousand Oaks Blvd Suite 316 San Antonio, TX 78232 www.sat-energy.com info@sat-energy.com

Installation Flexibility

Simple electrical Plug N' Play connections with the use of RTS (Real Time Sensing) Technology. No pre-programming or skilled technicians required.

Can be installed on any terrain.

Flexible system that can accommodate any commercially available solar modules.

Low Maintenance

Low voltage DC motors which require low maintenance and minimum downtime

No skilled technicians are required

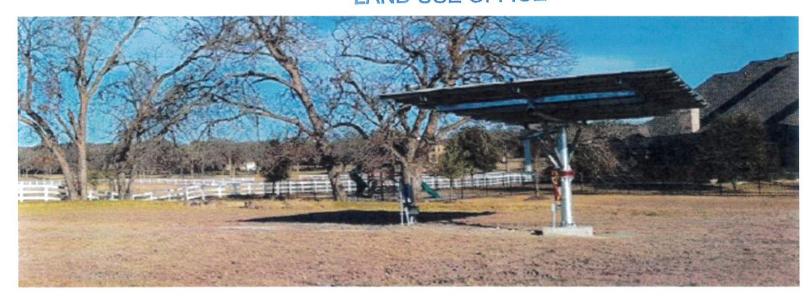




JUN 2 1 2023

DualTrack 16/24/42

LAND USE OFFICE Residential Dual Axis Solar Trackers



Advantages vs. Rooftop Systems

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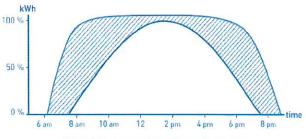
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DualTrack 16/24/42

Residential Dual Axis Solar Trackers

Key System Advantages

LAND USE OFFICE

JUN 2 1 2023



Real Time Sensing

Real Time Sensing Technology (RTS) is a patented solar tracking sensor developed to provide a more efficient way of solar tracking than traditional solar tracking methods. Key advantages to RTS:

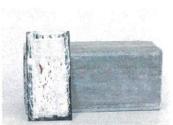
No calibration required No wasted energy during low light

Guaranteed Maximum Production based on light conditions

MAC Steel

Magnesium Alloy Coated (MAC) Steel is tested and engineered to be 5-10 times more resistant to corrosive environments compared to standard galvanized steel.

The self-healing properties of MAC steel can extend the life of your project and provide further bankability to your investment.



Wind/Stow Mode

When defined wind speed is triggered, Sun Action Trackers move to STOW MODE to protect project investment. Once the wind speed has returned to normal operational tolerances, Sun Action Trackers will return to work.

Opertational Wind Loads Support up to 56 Mph (25 m/s) before STOW MODE initiates.

Once STOW MODE has been initiated, wind loads up to 105 Mph (47 m/s) can be sustained by the tracker safely.







Snow Mode

Certain environments require the use of snow shedding and other accomodations to keep trackers working year round.

With the use of Real Time Sensing, Sun Action Trackers can determine snowy and overly cloudy conditions and move to snow mode.

Snow Mode sends the tracker into a 60 degree tilt to easily shed snow from the solar panels and keep snow from accumulating.

Remote Monitoring and Control [Optional]

Use communication protocol programmed with wireless capabilities to remotely control and to check your tracker status from anywhere with a WIFI connection. You can track production, current weather conditions and much more.

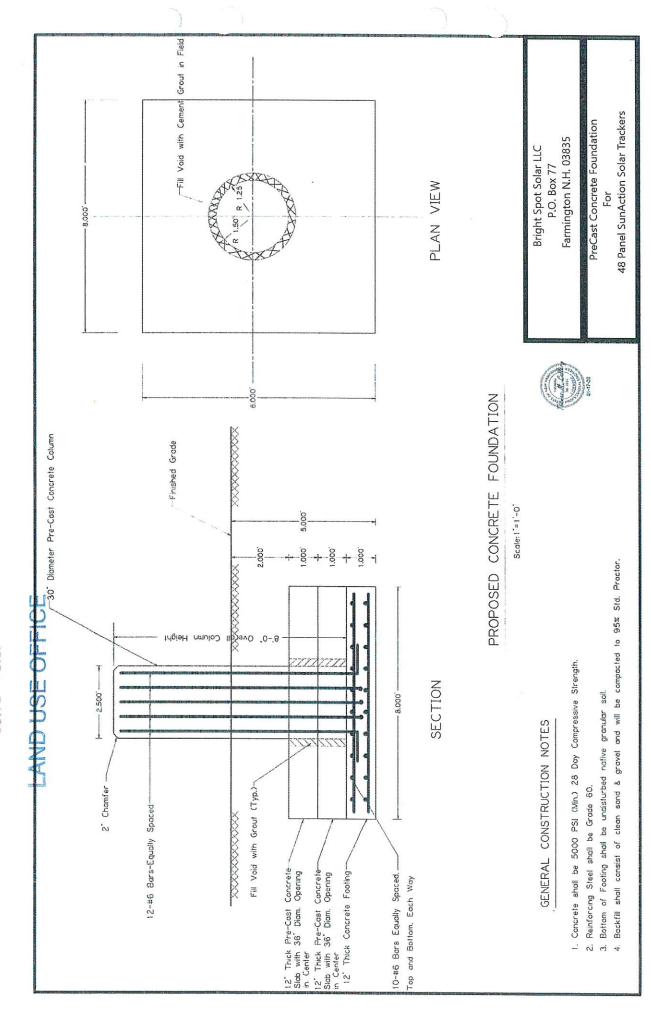


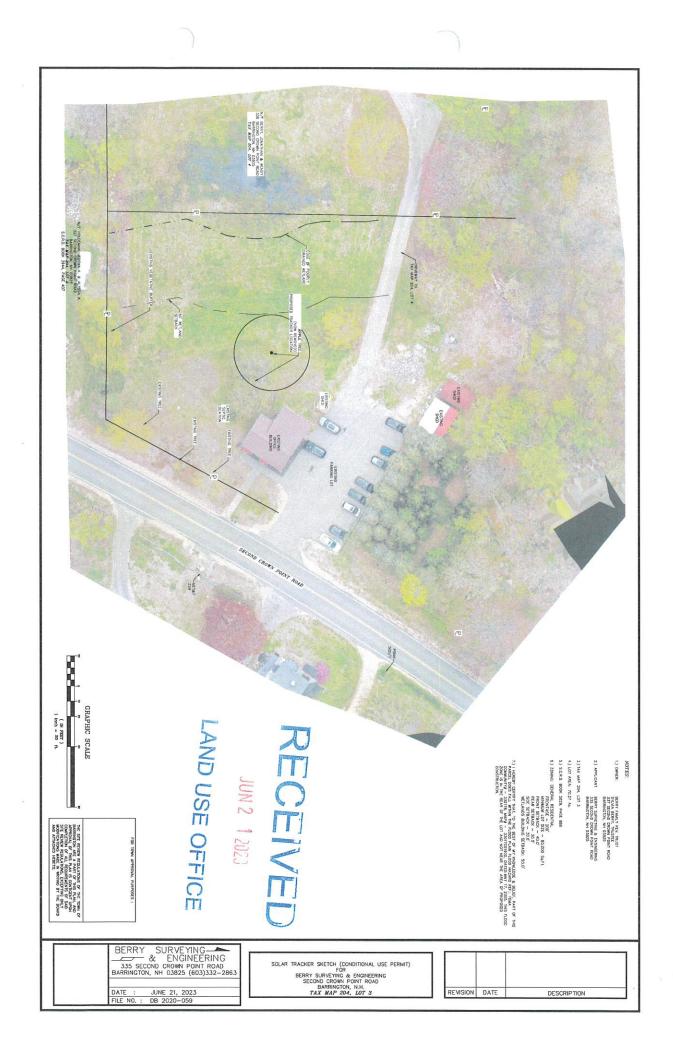


System Specifications

System Specifications		DualTrack 16	DualTrack 24	DualTrack 42
Tracking Type	Dual Axis	✓	✓	✓
Model	DualTrack 16/24/42	DT-16	DT-24	PST-2AL
		/	\checkmark	✓
Tracking Range of Motion	Azimuth: -120° to $+120^{\circ}$ Vertical: 0° to 60°	V	✓	✓
Azimuth Rotation	Slew Drive	✓	/	✓
Vertical Tilt	Linear Actuator	✓	✓	√
Power Supply to Controller	100-240VAC / 50~60Hz	✓	✓	✓
Materials	MAC Steel / Hot Dipped Galv	✓	✓	✓
Max Wind Speed	47 m/s 105 Mph	/	✓	V
Stow Mode (Auto Horizontal)	Wind Mode Less Than 3000 Lux	✓	✓	V
Safey Mode (Tilted Position)	Snow Mode	✓	✓	✓
Operating Temperature Range	-35° to 55°C (-13° to 131°F)	✓	✓	√

Datasheet	MIN 8200TL-XH-US	MIN 9000TL-XH-US	MIN 10000TL-XH-US	MIN 11400TL-XH-US	
Input Data (PV)		Control of the second		5. 数 20 5 数 20 5 数 数	
Max, Recommended PV Power(STC)	16400W	18000W	20000W	22800W	
DC/AC Ratio			2		
Max, DC System Voltage Startup Voltage			VOV		
Nominal Voltage		36	OV		
Operating Voltage Range			550V		
No. of MPP Trackers No. of PV Strings per MPP Trackers			4 2		
Max. Input Current per MPP Trackers			.5A		
Max. Short-circuit current per MPP trackers		16	.9A		
Input/Output Data (DC)					
Battery Voltage Range			~550V		
Nominal DC Voltage		40			
VO DC Current VO DC Power		500	.3A		
Battery Technology		LF			
Battery Capacity per Module		9.9			
Scalability		Up t	o 2		
Output Data (AC)					
AC Nominal Power@208V AC	7280W	7900W	8735W	9880W	
AC Nominal Power@240V AC	8200W	9000W	10000W	11400W	
Max. AC Apparent Power	8200VA	9000VA	10000VA	11400VA	
Nominal AC Voltage			/240V		
AC Voltage Range @208V AC @240V AC			/211V~264V		
AC Grid Frequency			50Hz		
AC Grid Frequency Range			65Hz		
Max, Output Current	35A	38A	42A	48A	
Power Factor(@Nominal Power) Adjustable Power Factor			1.99 ~0.8 lagging		
THDi			3%		
AC Grid Connection Type			2/N/PE		
Output Data (Backup)					
AC Nominal Power		500	DOW		
			OOVA		
Max. AC Power Output Nominal AC Voltage			10V		
Max. Output Current			5A		
THD			%		
Efficiency			76	CONCUSTOMENTO CONTRACTO	
Max. Efficiency					
CEC Efficiency@208V AC	98.3%	98.3%	98.3%	98.5%	
CEC Efficiency@240V AC	97.5%	97.5%	97.5%	97.5%	
	97.5%	97.5%	97.5%	98.0%	
Protection Devices					
DC Reverse-polarity Protection DC Switch			es		
DC Surge Protection			es pe II		
Insulation Resistance Monitoring			es es		
AC Surge Protection		Тур	e III		
AC short-circuit Protection			es		
Ground Fault Monitoring Grid Monitoring			es es		
Anti-islanding Protection			55 55		
Residual-current Monitoring Unit			es		
AFCI Protection		Y	es		
General Data					
Dimensions (W / H / D)		15.8/25.2/7.4inch	(400/638/187mm)		
Welght		45.2 lbs	/20.5kg		
Operating Temperature Range	-13°F~+140°F (-25°C ~ +60°C)de-rating above 113°F				
Attitude Internal Consumption at Night		9843ft (3000m) <1W (for PV inverter)/ <5W (for storage inverter)			
Cooling			Convection		
Electronics Protection Degree		NEMA	4X (IP65)		
Relative Humidity	WHAT I A DOLLAR WAS A STATE OF THE STATE OF	0~	95%		
Interfaces					
RS485			/es		
WIFI/4G Communication Warranty: 10 Years			tional d 15 and 20 years warranty	Elin I J M Emind and	
Revenue Grade Meter		ANSI C12.20 (me	et 0.5% accuracy		
			41SA,CSA C22.2, UL1699B, U		





Tax Map 204, Lot 8

Joseph Crowe 368 Second Crown Point Road Barrington, NH 03825

Tax Map 204, Lot 12

Daniel & Tara Berry 352 Second Crown Point Road Barrington, NH 03825

Tax Map 204, Lot 13

Berry Family Revocable Trust Sylvia Berry Trustee 337 Second Crown Point Road Barrington, NH 03825

Professionals

Kenneth A. Berry PE LLS Christopher R. Berry, Project Manager Berry Surveying & Engineering 335 Second Crown Point Road Barrington, NH 03825

Deidra Benjamin, CWS 100 Leavitt Road Pittsfield, NH 03263



JUN 2 1 2023

LAND USE OFFICE



BERRY SURVEYING & ENGINEERING

335 Second Crown Pt. Rd., Barrington, NH 03825 (603) 332-2863 / (603) 335-4623 FAX www.BerrySurveying.Com



BERRY SURVEYING & ENGINEERING

335 Second Crown Point Road Barrington, NH 03825 Phone: (603) 332-2863 Fax: (603) 335-4623

www.BerrySurveying.Com

June 21, 2023

Abutters List

Owner of Record

Tax Map 204, Lot 3

Berry Family Revocable Trust Sylvia Berry Trustee 337 Second Crown Point Road Barrington, NH 03825

Abutters

Tax Map 204, Lot 4

Jonathan D. & Wendy Berry 336 Second Crown Point Road Barrington, NH 03825

Tax Map 204, Lot 2

Jedtha & Alyssa Holdeman 327 Second Crown Point Road Barrington, NH 03825

Tax Map 205, Lot 4

Ronald & Lauren Cote 81 Rachel Lane Barrington, NH 03825

Tax Map 204, Lot 5

Andrew Knight 578 Strafford Road Strafford, NH 03884

Tax Map 204, Lot 6

Jillian & Damon Dickey 367 Second Crown Point Road Barrington, NH 03825





BERRY SURVEYING & ENGINEERING

335 Second Crown Point Road Barrington, NH 03825 Phone: (603) 332-2863

Fax: (603) 335-4623 www.BerrySurveying.Com

LETTER OF TRANSMITTAL

To:

Town of Barrington

Planning Board

From:

Kenneth A. Berry, PE, LLS, / Christopher R Berry, President

Date:

6-21-23

Subject:

Berry Surveying & Engineering Solar Tracker

335 Second Crown Point Road

We are forwarding to you the following materials for your use for a Conditional Use Permit.

12 – Copies of a Conditional Use Application, Technical Specifications for the Tracker and a CUP Sketch

- 1 Abutters List
- 1 Tri-Set of Labels
- 1 Filing Fee

Additional Instructions:

If you have any questions or comments, please feel free to contact us.

Respectfully submitted,

BERRY SURVEYING & ENGINEERING

Christopher R. Berry Principal, President

RECEIVED
JUN 2 1 2023
LAND USE OFFICE

