Central Vermont Regional Planning Commission

Project Review Committee

November 2, 2022 at 5:00 pm

To join Zoom meeting:
https://us02web.zoom.us/j/89464685159?pwd=QU84VWVrNUZXNEFrMk5DU2pOWTFPQT09
Meeting ID: 894 6468 5159, Passcode: 792027
One tap mobile [1]+1 (309) 205-3325 or +1 (312) 626-6799
Download the app at least 5 minutes prior to the meeting start: www.zoom.com
Physical meeting location: 29 Main Street, Suite 4, Montpelier (Facial coverings required.)

Persons with disabilities who require assistance or alternate arrangements to participate in programs or activities are encouraged to contact Nancy Chartrand at 802-229-0389 or chartrand@cvregion.com at least 3 business days prior to the meeting for which services are requested.

AGENDA

pg	5:00 pm[2]	Adjustments to the Agenda
		Public Comment
2-16 17-31 32- 37	**5:05 pm**	**Act 250 / Section 248 Applications & Projects of Substantial Regional Impact** a) Consider significant regional impact and conformance with regional plan for the following projects: 1) Lowery Road Solar LLC – proposed 4.999 MW solar project occupying 29 acres (10,295+/- solar panels) in Barre Town and Orange. 2) I Love Cows LLC – proposed 2.5 MW solar project occupying 12 acres (5,000 solar panels) of Allen Street in Barre City. b) Review *Project Review Summary* Sheet
38	**6:00 pm**	**Minutes & upcoming meeting dates** a) Approve August 2, 2022 meeting minutes b) Discuss upcoming meeting dates: No meeting November 24, 2022 (Thanksgiving), tentative next meeting: December 22, 2022.
	9:45 am	**Adjourn**

[1] Dial-in telephone numbers are "Toll" numbers. Fees may be charged to the person calling in dependent on their phone service.
[2] All times are approximate unless otherwise advertised

Central Vermont Regional Planning Commission

MEMO

Date: November 1, 2022
To: Project Review Committee
From: Clare Rock, Senior Planner
Re: Lowery Road Solar LLC – Section 248

☒ ACTION REQUESTED: The committee is charged with determining whether the proposed project is:

- ☐ a project with Substantial Regional Impact (SRI);

And if so, determine if it is:

- ☐ in conformance with the Regional Plan; and
- ☐ consider submitting comments to the applicant.

Project Information

Applicant is proposing a 4.999 MW solar project that will consist of 10,295 +/- solar panels across 29 acres on two parcels of land which total 291 acres located off Lowery Road in Barre Town and Orange. Lowery Road Solar choose the site based upon "solar exposure, accessibility to existing roads and distributions lines, its limited visibility and minimal impacts on natural resources and the character of the area." Preliminary aesthetic findings conclude that the project would not result in undue impacts to the area. The attached 45-day pre-application notice was filed on 8/19/2022. Notice deadline was 10/3/2022.

Substantial Regional Impact

Development projects of Substantial Regional Impact (SRI) are those that will have substantial and ongoing impact on two or more municipalities, including the host municipality. Based upon CVRPC's SRI definition, staff has identified the following component to be most relevant to this proposal:

- *Will likely impact on a resource within the Region which is widely used or appreciated by people outside of the locality in which it is located.*

Impacts may be positive or negative. Staff identified the following potential resources which may be impacted by the proposal to include:

- ☐ Rural character and natural resources
- ☐ Aesthetic and scenic resources

- ☐ Energy resources

  - ➢ Staff suggestion:
    - o Does the Committee agree with this assessment?
    - o Are there any other resources to consider?

Conformance with the Regional Plan

Rural Character and Natural Resources

The proposed project is located within the Rural Land Use Planning Area. These areas encompass much of the Region's large forest blocks, sand/gravel/mineral deposits, and prime agricultural soils that, when in productive use, contribute to the working landscape and have significant economic value. Rural areas also include residential, small-scale commercial and industrial, and recreational uses.

Policies related to the Rural planning areas include:

- Minimize impact to the viability of agricultural operations and forest fragmentation.
- Encourage location of development outside of farms and along the edges of forests, preferably with buffers between such development and the ag/forest resource.
- Supports and encourages the protection and continued productivity of viable primary agricultural soils.
- Support enabling owners of farm and forestland to bear the financial responsibility of resource protection
- through design and siting of structures make a concerted effort to preserve access to and enjoyment of scenic views for the public.
- Provide direction on development principles to be used related to:
  - o compact development as it related to power and transportation infrastructure,
  - o protecting wildlife corridors from fragmentation,
  - o limiting the number and size of non-residential uses.

Specific relative Rural Land Use Policies:

> *7. Non-residential uses, including small service businesses, small professional offices and inns are acceptable land uses for Rural Areas provided that such uses are planned as relatively small in size or scale, are not primary or dominant uses in an area, do not unduly conflict with existing or planned residential, forestry or agricultural uses, and do not unduly affect rural character.*

CVRPC staff reviewed the site on the State's Natural Resource Atlas and found that it is not located within a highest priority forest block, there are no wetlands, vernal pools, agricultural soils or Rare, Threatened or Endangered Species in the vicinity. Primary agricultural soils are present across the site.

Aesthetic and scenic resources

The Regional Plan identifies the peaks of the Worcester and Green Mountain ranges as important scenic areas, along with other high elevation areas. In more general terms it identifies mountain vistas, pastoral scenes, fertile valleys, historic villages, Interstate 89 (which has received awards for its scenery), remote back roads, and woodlands as scenic areas and as viewed from public roads and public right of ways.

The Preliminary Aesthetic Review contained within the 45-Day Notice and indicates the site is minimally visible from off-site locations.

Energy Resources

The Regional Plan's Energy Element contains the following guiding principle:

> *The Central Vermont Regional Planning Commission will support the state's comprehensive energy plan goal of having 90% of the state's energy needs generated from renewable sources by the year 2050.*

The Chapter also includes the following Goal and Policy:

> *GOAL: Renewable energy generation is sited to maximize potential while minimizing locally identified impacts.*
> *Policy: Evaluate generation from potential renewable energy generation by municipality including the identification of constraints, resource areas, and existing infrastructure by energy type.*

Additional guidance on energy generation is contained within the Regional Plan's Utilities and Facilities Element:

> *ELECTRIC POWER GOAL: Improvement, and expansion of electric power generation methods and infrastructure so as to provide adequate service, conserve energy, maximize benefits of public investment, minimize impacts on aesthetic, ecological and recreational resources, and protect public health.*
> *Policies:*
>
> *2. CVRPC encourages the development and use of renewable energy sources to meet the region's electrical power needs, while minimizing impacts on aesthetic, ecological and recreational resources (see Energy element of this Plan).*
> *3. CVRPC encourages diversity in the region's future power supply so as to establish flexibility and avoid reliance on any single source.*
> *8. Utility infrastructure and corridors shall be sited so as to minimize aesthetic impacts, particularly in areas of local and regional scenic importance.*
>
> *A. Wherever practicable, utility lines will be installed underground or behind structures in downtowns and village centers.*
> *B. The use of wood support structures, appropriate conductor colors for the background, and landscape compatibility techniques are encouraged.*

C. Municipalities, in their plans, should consider the visual impacts of the siting of utility poles. Traffic safety and water quality issues may also be pertinent in certain locations.

Based upon a staff assessment this project will contribute approximately 6% of the Regional Target for electric generation for 2025 (and about 48% percent of the Barre Town Municipal Target.)

At the local level, the Barre Town Select Board and the Barre Town Planning Commission have reviewed this project and have chosen not to submit comments on this project at this time.

As stated above, the one constraint identified from the regional level is the presence of primary agricultural soils. Agricultural soils are considered to be a "Possible Constraint" based upon a regional analysis and is an area where additional analysis will need to occur in order to determine if development of renewable energy resources is appropriate.

The Regional Energy Plan also reiterates the need to ensure the development will *not result in an undue adverse impact on the built or natural environment or conflict with identified regional policies.*

Other Goals and Policies of the Regional Plan

Beyond Land Use Planning Areas, the Regional Plan uses its goals and policies to address other impacts and to direct development and conservation. However, nearly all policies in the Regional Plan use advisory language (should, encourage, discourage, where feasible). Advisory policies do not offer substantial guidance in development review because they can be interpreted in different ways for different developments and may be interpreted inconsistently. The following policies provide directive language that could be used effectively in Section 248 development review:

- Light sources shall be shielded and not directly visible from public roads or adjacent residences.
- Utility infrastructure and corridors shall be sited so as to minimize aesthetic impacts, particularly in areas of local and regional scenic importance.
- Wherever practicable, utility lines will be installed underground or behind structures in downtowns and village centers
- Municipalities, in their plans, should consider the visual impacts of the siting of utility poles.

Staff Suggestion: It would be beneficial for the Committee to consider the following in deciding if the project is on conformance with the Regional Plan:

- ask about impacts to primary agricultural soils, are these impacts detrimental to the viability of the resource? How will the resource be protected or conserved for future use?

- decide whether the proposed project unduly affects rural character;
- decide if the proposal is in conflict with the Rural Land Use Area;
- is the proposed projects conflict with any of the other identified regional policies?

➢ Staff suggestion: if the Committee finds the project not to conform with areas of the Regional Plan, it would beneficial for the Committee to provide comment possible changes to the project which would help bring the project into conformance.

Lowery Road Solar LLC
170 Bonnet Street
Manchester Center, VT 05255

August 19, 2022

AUG 2 2 2022

Via First-Class Mail and Email

Town of Barre Selectboard
PO Box 124
Websterville, VT 05678

Town of Orange Selectboard
392 US Route 302
Orange, VT 05641

Town of Barre Planning Commission
PO Box 124
Websterville, VT 05678

Town of Orange Planning Commission
392 US Route 302
Orange, VT 05641

Central Vermont Regional Planning Commission
29 Main Street, Suite 4
Montpelier, VT 05602

RE: Lowery Road Solar LLC's Proposed 4.999 MW Solar Project in Barre and Orange, VT 45-Day Notice of Petition to be filed with Vermont Public Utility Commission

Dear Selectboard Members and Commissioners,

Pursuant to 30 V.S.A. § 248 and Public Utility Commission Rule 5.402, Lowery Road Solar LLC ("Lowery Road Solar") is pleased to submit the following pre-petition notice concerning its proposed 4.999 megawatt (MW) solar project ("the Project"), to be sited on two parcels of land located off Lowery Road in Barre and Orange, Vermont. Lowery Road Solar is owned by MHG Solar LLC, which has developed a number of projects in southwestern Vermont.

I. Introduction

Lowery Road Solar is preparing to file an application for a Certificate of Public Good ("CPG") with the Vermont Public Utility Commission ("PUC"), requesting approval to install and operate a 4.999 MW solar electric generation facility in Barre and Orange, Vermont (the "Project"). The electricity from the Project will be sold to Green Mountain Power.

The remainder of this letter briefly describes: (1) Lowery Road Solar's plans for construction and operation of the Project, including how equipment and materials will be transported to the site; (2) the expected benefits of the Project; (3) the preliminary assessment of potential impacts; (4) the expected date a petition will be filed with the PUC; and (5) the rights of entities receiving this notice to comment on the Project in accordance with PUC Rule 5.107(B).

II. Project Description and Construction Plans

The 4.999 MW (alternating current, or "AC") solar electric generation facility will occupy 29 (±) acres on two parcels of land which total 291 acres (±), located off Lowery Road in Barre and Orange, Vermont. *See* Location Map/Site Plan – *Attachment A.*

The Project will consist of solar modules mounted on metal racks, string inverters, electrical collector system components consisting of underground conduit, wire, AC combiner panel, and AC disconnects. The interconnection equipment will include a pad-mounted three-phase transformer to step up the voltage, after which the power will run along a new overhead and underground line across the Project parcel to interconnect with the existing GMP distribution line located on Lowery Road. The new 3 phase power line that will connect the Project to the existing GMP distribution lines along Lowery Road will be located entirely on the Project Parcel and will be owned by Lowery Road Solar. Given the presence of an underground line, Lowery Road Solar will join Dig Safe.

A preliminary Site Plan is included in *Attachment A.* It illustrates the anticipated location of the Project's components in relation to the surrounding area. Lowery Road Solar chose the proposed location for this solar array based upon its solar exposure, accessibility to existing roads and distribution lines, its limited visibility and minimal impacts on natural resources, and the character of the area.

While the attached site plan represents the current preferred layout, the layout that will be contained in the final application may vary somewhat based upon further engineering, environmental, or other siting considerations. The final layout will be within the overall site area where environmental and other impacts have been evaluated for the purposes of this 45-day notice. The basic parameters of the site plan include the following working assumptions:

- Access to the solar site will make use of the existing roads within the area, including Lowery Road. A new 1,900-foot (±) long, 12-foot-wide gravel access road will also be constructed to reach the transformer location.

- Electrical interconnection will require a new, project owned, 6,000-foot (±) long 3 phase line that will connect to the existing GMP 3 phase grid.

- Construction will be performed in accordance with the Vermont Standards & Specifications for Erosion Prevention and Sediment Control (February 2020).

- Year-round daily access to the array is not required. Therefore, no on-site septic or water supply systems will be constructed. The solar project's energy production will be monitored remotely and, if any abnormal conditions are detected, technicians will be dispatched as required.

- The solar array for the Project will be enclosed by a perimeter fence that will meet applicable electric safety code standards.

Site Access & Equipment Delivery

Standardized trucking methods will be used to transport the panels and other project components to the site. Typical tractor-trailer and box truck vehicles will be used to transport materials to the site for construction. The Project will not require any oversized loads. A new access road coming off Lowery Road will be used for bringing in all construction-related equipment and machinery. Construction equipment will likely include a light duty crane or similar equipment to lift the transformer in place, trucks to move racking around the site, and a small trencher to install underground electrical wiring.

Solar Panels and Electrical Collection System

The Project will utilize 10,295 (±), 650-watt solar panels, or the equivalent, mounted on fixed tilt racking oriented due south. The bottom of the solar panels will be at approximately three feet above existing grade and the top at approximately 12 feet above grade.

The panels will be arranged in rows running east-west and set out in arrays designed to minimize impacts to natural resources. The rows will be connected via a combination of underground and above ground electrical cable to string inverters, which convert the electricity from DC to AC. From the inverters, the electrical line will run underground to a three-phase transformer. GMP's existing distribution line along Lowery Road will be tapped for the interconnection.

The final selection of all equipment will be made after a CPG is issued and contractors and vendors are selected.

III. Project Benefits

The Lowery Road Solar Project will provide economic benefits including: (i) payment of State educational and municipal property taxes; (ii) purchasing project equipment from Vermont businesses, when commercially feasible; and (iii) employing Vermont businesses for pre-application, construction, and operation and maintenance work, when commercially feasible.

In addition to these economic benefits, the proposed solar electric facility will also result in important environmental benefits. The 2022 Vermont Comprehensive Energy Plan set a goal for the State to receive 90% of its energy from renewable resources by the year 2050, and solar power is needed to meet that goal. The solar energy produced by this Project will result in less electricity needed in the New England region from plants that likely use fossil fuel. It will emit no air pollutants (including CO_2) in generating electricity, and thus will help in a small but measurable way to reduce global warming, acid rain, and the negative public health effects associated with the combustion of fossil fuels.

IV. Preliminary Impact Assessment

Based upon the initial review performed by Lowery Road Solar and its consultants, including review of the State's environmental databases, the siting of the Project will either entirely avoid, or not cause undue adverse impacts to, environmental resources. Nor will it create public health or safety concerns. Key elements of our assessment include the following:

- The Project will utilize a corn field, and has been sited to minimize impacts to wetlands and streams.
- No rare/endangered plants, significant natural communities, or critical wildlife habitat are known to exist within the Project footprint.
- The Project will be designed to meet electric safety and utility interconnection standards for safe and reliable operation of solar electric facilities.
- The Project will require no new municipal services and will not pose undue burdens on town fire, police, or water/sewer services. The Project will not impact the ability of the town to provide educational services.
- As the preliminary aesthetic review provided in *Attachment B* indicates, the Project site is in an obscured location that is separated from development to the north and east by vegetated hedgerows, and from other surrounding areas by woodland and/or landform. Due to the low profile of the solar arrays, and because the Project location is already highly screened from Lowery Road, VT Route 110 and other nearby areas, the need for supplemental landscape plantings for mitigation is not anticipated at this time. A full aesthetic impact review will be included with Lower Road Solar's 248 Petition.

V. Assessment of On-site Alternatives

Lowery Road Solar and its consultants reviewed various configurations within the portions of the two parcels that it has rights to, in order to avoid and/or minimize environmental, aesthetic, or other impacts while maximizing energy output. The result of that process is a proposed configuration that utilizes a low impact mounting system and locates the solar array so as to avoid sensitive environmental resources.

VI. Expected Petition Filing Date with Vermont Public Utility Commission

Lowery Road Solar intends to file a Section 248 petition with the PUC soon after the 45-day notice period expires, which would be no sooner than October 2022.

VII. Comments of the Municipal Bodies to the Public Utility Commission

Under 30 V.S.A. § 248(f), the Town and Regional Planning Commissions "shall make recommendations, if any, to the Public Utility Commission and to the petitioner at least 7 days prior to filing of the petition with the Public Utility Commission." PUC Rule 5.402(A). In addition, the Planning Commissions are entitled to provide revised recommendations "within 45 days of the date on which petitioner has filed a petition with the Commission if the petition contains new or more detailed information that was not previously included in the petitioner's filing with the municipal and regional planning commissions pursuant to Section 248(f)." PUC Rule 5.402(A)(2).

For additional information regarding this process, including your Planning Commission's right to participate in PUC proceedings, please refer to the PUC's website at https://puc.vermont.gov/public-participation.

We here at Lowery Road Solar hope that you will support this Project given the benefits it will provide to the town and the State, and given its extremely limited impacts. In the meantime, I invite you to contact me with any questions or comments you have at the contact information below, as we welcome your input and suggestions to make this a successful project.

Sincerely,

Thomas Hand

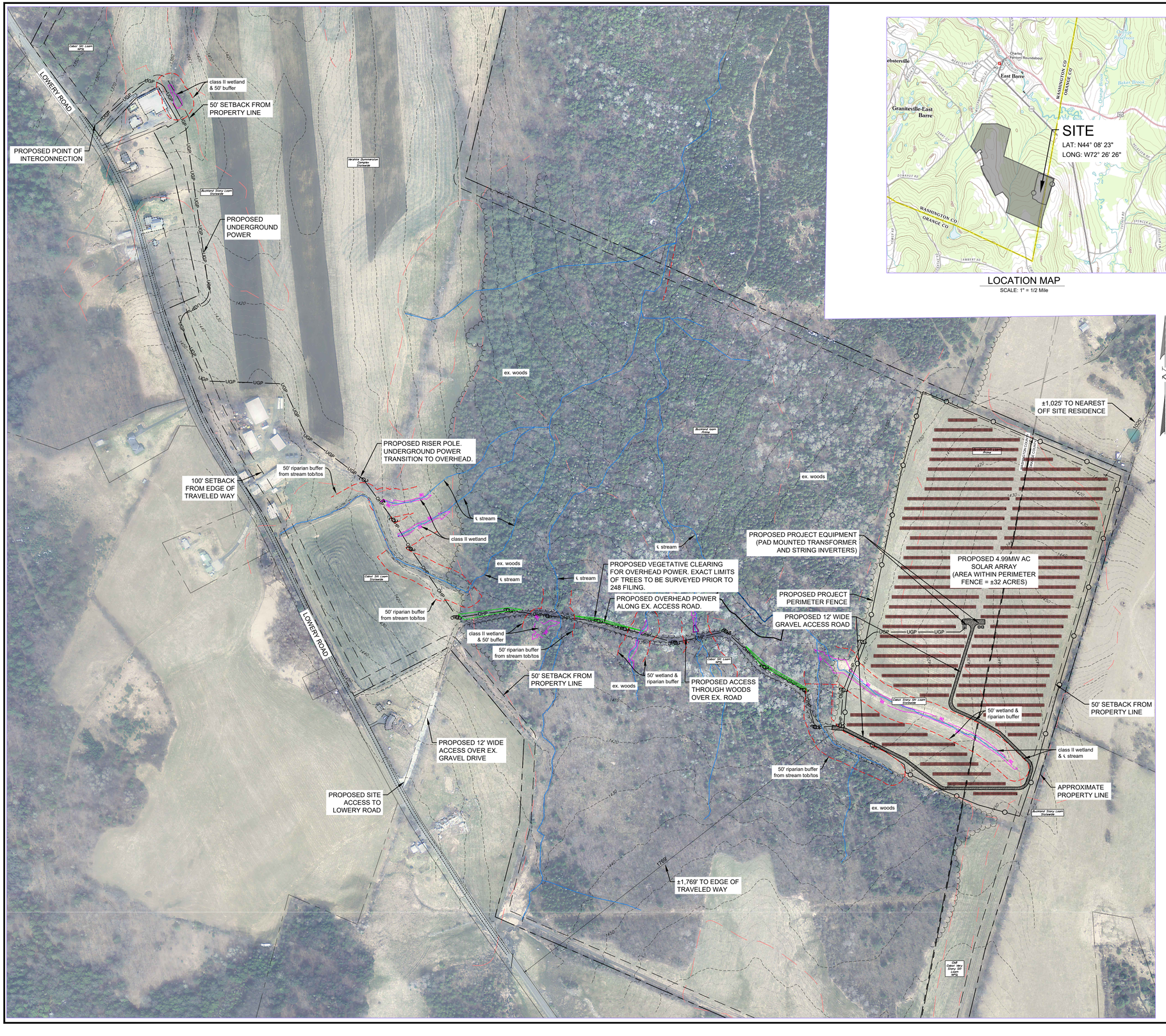
Thomas Hand
Lowery Road Solar LLC
thomas@MHGsolar.com
802-688-3776

Enclosures:
Attachment A – Location Map and Site Plan
Attachment B – Preliminary Aesthetics Analysis

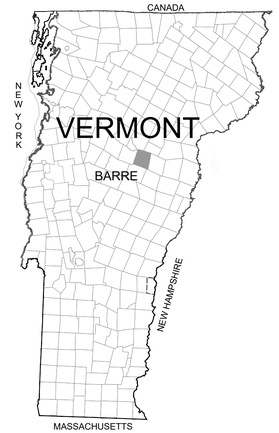
cc: Vermont Public Utility Commission (via ePUC)
Department of Public Service (courtesy copy via email)
Agency of Natural Resources (courtesy copy via email)
Division for Historic Preservation (courtesy copy via email)
Agency of Agriculture, Food & Markets (courtesy copy via email)

PRC

Attachment A



LOCATION MAP
SCALE: 1" = 1/2 Mile



NOTES:

1. ASPECTS OF PLAN ARE APPROXIMATE AND DERIVED FROM AERIAL PHOTOGRAPHY.
2. THE HORIZONTAL COORDINATE SYSTEM IS BASED ON NAD83 VERMONT STATE PLANE 4400 (US SURVEY FEET). ELEVATIONS ARE BASED ON THE NAVD88 (US SURVEY FEET).
3. EXISTING GROUND CONTOUR ELEVATIONS ARE BASED ON A LIDAR DATA PROVIDED BY THE VERMONT CENTER FOR GEOGRAPHIC INFORMATION.
4. UTILITIES ARE NOT WARRANTED TO BE COMPLETE OR ACCURATE. CONTRACTOR SHALL CONTACT DIG SAFE BEFORE BEGINNING ANY EXCAVATION.
5. THIS IS IN NO WAY A BOUNDARY SURVEY. PROPERTY LINES FOR PROPERTY ARE FROM TAX MAP INFORMATION PROVIDED BY THE TOWN.
6. THIS IS A PRELIMINARY DESIGN PLAN. FINAL DESIGN WILL BE MODIFIED TO MATCH EQUIPMENT PURCHASED AND POSSIBLE PERMIT CONSTRAINTS REVEALED DURING PROJECT'S REVIEW.

LEGEND

- EXISTING/PROPOSED POWER POLE
- APPROXIMATE PROPERTY LINES
- EXISTING TREELINE/VEGETATION
- PROJECT PARCEL PROPERTY LINE
- PRIMARY AGRICULTURAL SOIL BOUNDARY
- STREAM CENTERLINE
- STREAM TOB/TOS
- OHP — EXISTING OVERHEAD POWER
- EXISTING GRADE CONTOUR LINES (10 FOOT INTERVALS)
- EXISTING GRADE CONTOUR LINES (2 FOOT INTERVALS)
- SOLAR SETBACKS
- WETLAND
- ENVIRONMENTAL BUFFER
- OHP — PROPOSED OVERHEAD POWER
- UGP — PROPOSED UNDERGROUND POWER LINES
- PROPOSED PERIMETER FENCING
- PROPOSED FIXED SOLAR PANEL RACKING
- PROPOSED GRAVEL DRIVE
- PROPOSED VEGETATIVE CLEARING FOR OVERHEAD POWER INTERCONNECTION

LOWERY ROAD SOLAR

Lowery Road
Barre, Vermont

Lowery Road Solar, LLC

MHG Solar
PO Box 1204
Manchester Center, VT 05255
www.mhgsolar.com

KREBS & LANSING CONSULTING ENGINEERS
164 Main Street, Suite 201
Colchester, Vermont 05446
P: (802) 878-0375
www.krebsandlansing.com

ISSUED FOR PERMIT REVIEW
NOT FOR CONSTRUCTION

SOURCE DATA LEGEND

MAPPING SOURCE DATA USED FOR PLAN COMPILATION

Civil Engineering:

Krebs and Lansing Consulting Engineers, Inc.
164 Main Street, Suite 201
Colchester, Vermont 05446

Environmental:

0' 100' 200' 400' 600'
0" 1" 2" 3"
STANDARD GRAPHIC SCALE (1" = 200')
VALID WHEN PLOTTED ON 24" BY 36" MEDIA

0' 218.2' 436.4' 545.5'
0" 0.5" 1" 1.25"
REDUCED GRAPHIC SCALE (1" = 436.4')
VALID WHEN PLOTTED ON 11" BY 17" MEDIA

Proposed 4.999 MW AC Solar Array

REV. NO.	REVISIONS/COMMENTS	DATE

Drawing Title:

45-DAY
SITE PLAN

DATE of Issue: 8/17/22

Drawn by: EJM — Checked by: SDG

Project No.: 22213 — Scale: 1" = 200'

Drawing No.: C-100

Rev No.:

T.J. BOYLE ASSOCIATES
LANDSCAPE ARCHITECTURE & PLANNING

MEMORANDUM

To: Thomas Hand, Lowery Road Solar LLC

From: Jeremy B. Owens

Date: August 18, 2022

Re: Lowery Road Solar Project – Preliminary Aesthetic Review

Per Lowery Road Solar LLC's request, T.J. Boyle Associates has conducted a preliminary review of potential aesthetic impacts as a result of the proposed Lowery Road Solar Project ("Project"), a 4.999 MW photovoltaic electric generation facility proposed in the towns of Barre and Orange, Vermont. The Project site is located on an existing field approximately 1,769 feet northeast of Lowery Road and 1,285 feet west of VT Route 110.

The Project will utilize approximately 10,295 650-watt solar panels, or the equivalent, mounted on a fixed racking system within a fenced area of approximately 32 acres. The bottom of the solar panels will be at approximately 3 feet above existing grade and the top at approximately 12 feet above grade. The Project will utilize approximately 3,000 feet of overhead power and approximately 3,100 feet of underground power, which together lead west and then northwest to an interconnection point along Lowery Road. A 12'-wide gravel access road totaling approximately 1,900 feet in length will be constructed, most of which will be located along an existing farm road that leads west to Lowery Road. Vegetation clearing is proposed where the access road and overhead power will be constructed through an existing wooded area.

Our preliminary review revealed that the Project site is in an obscured location that is separated from development to the north and east by vegetated hedgerows, and from other surrounding areas by woodland and/or landform. Panoramic photographs from the site are provided below, illustrating the limited off-site visibility in all directions (see Figure 1 for the preliminary Project layout and Viewpoint A). Based on conditions at the site, the Project is expected to be minimally visible from surrounding areas, if visible at all.

Due to the low profile of proposed Project elements, and because the Project location is already highly screened from view from Lowery Road, VT Route 110 and other nearby areas due to existing vegetation and topography at and around the site, the need for supplemental landscape plantings for mitigation is not anticipated at this time. Our preliminary findings indicate that the Project will not result in undue adverse impacts to the aesthetic and scenic and natural beauty of the area.

T.J. Boyle Associates will complete a full aesthetic impact review for inclusion with the petition for a Certificate of Public Good. Any impacts will be evaluated under the so-called Quechee Analysis and the need for potential mitigation will be further assessed.

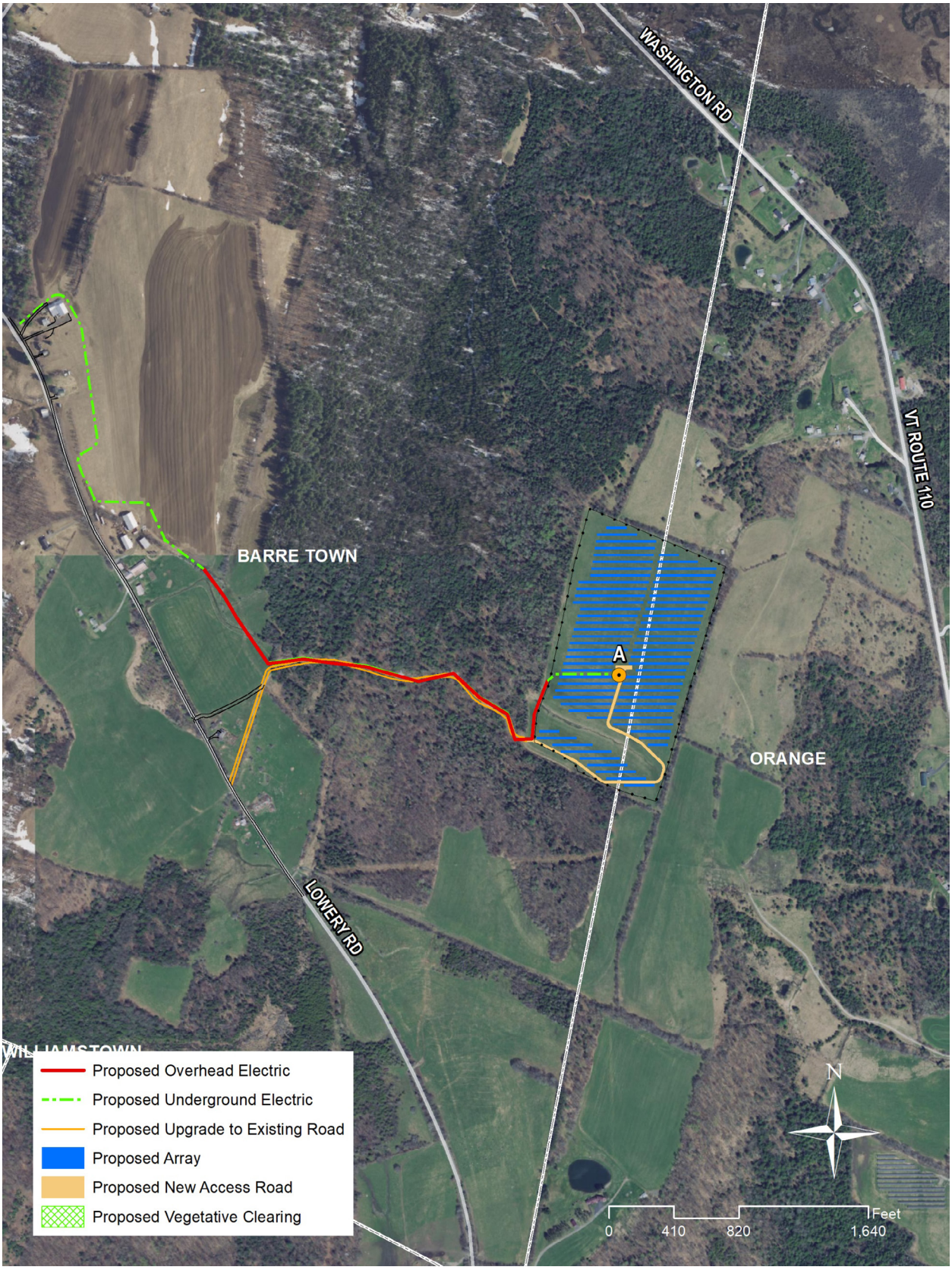


Figure 1: Preliminary map of the proposed Project and viewpoint location

Viewpoint A1: Panoramic view from the Project location, panning from east (left) to south (right).

Viewpoint A2: Panoramic view from the Project location, panning from west (left) to north (right).

Central Vermont Regional Planning Commission

MEMO

Date: November 2, 2022
To: Project Review Committee
From: Clare Rock, Senior Planner
Re: I Love Cows LLC – Section 248

☒ ACTION REQUESTED: The committee is charged with determining whether the proposed project is:

- ☐ a project with Substantial Regional Impact (SRI);

And if so, determine if it is:

- ☐ in conformance with the Regional Plan; and
- ☐ consider submitting comments to the applicant.

Project Information

Applicant is proposing a 2.5 MW solar project that will consist of 5,000 solar panels across 12 acres. The project will be located on a 45-acre parcel off of Allen Street in Barre, Vermont. The project is proposed in an existing agricultural field, and would be setback 430 feet from Allen St. The site was selected due to proximity to substation infrastructure, access to three phase infrastructure, workable topography, and limited environmental impacts. Preliminary aesthetic findings conclude that the project would not result in undue impacts to the area. The attached 45-Day pre-application notice was filed on 10/13/2022. Notice deadline is 11/27/2022.

Substantial Regional Impact

Development projects of Substantial Regional Impact (SRI) are those that will have substantial and ongoing impact on two or more municipalities, including the host municipality. Based upon CVRPC's SRI definition, staff has identified the following component to be most relevant to this proposal:

- *Will likely impact on a resource within the Region which is widely used or appreciated by people outside of the locality in which it is located.*

Impacts may be positive or negative. Staff identified the following potential resources which may be impacted by the proposal to include:

- ☐ Rural character and natural resources

- ☐ Aesthetic and scenic resources
- ☐ Energy resources

  - ➢ Staff suggestion:
    - o Does the Committee agree with this assessment?
    - o Are there any other resources to consider?

Conformance with the Regional Plan

Rural Character and Natural Resources

- **See Lowery Road memo for Regional Plan Info.**

Same as the Lowery Road project, CVRPC staff reviewed the site on the State's Natural Resource Atlas and found that it is not located within a highest priority forest block, there are no wetlands, vernal pools, agricultural soils or Rare, Threatened or Endangered Species in the vicinity. Primary agricultural soils are present across the site.

Aesthetic and scenic resources

- **See Lowery Road memo for Regional Plan Info.**

An aesthetic impact analysis is referenced but not included in the 45-day Notice materials.

Energy Resources

- **See Lowery Road memo for Regional Plan Info.**

Based upon a staff assessment this project will contribute approximately 3% of the Regional Target for electric generation for 2025 (Barre City Municipal Target has not been calculated.)

At the local level, it is unknown if the municipality has provided comments on input on local constraints.

As stated above, the one constraint identified from the regional level is the presence of primary agricultural soils. Agricultural soils are considered to be a "Possible Constraint" based upon a regional analysis and is an area where additional analysis will need to occur in order to determine if development of renewable energy resources is appropriate.

The Regional Energy Plan also reiterates the need to ensure the development will *not result in an undue adverse impact on the built or natural environment or conflict with identified regional policies.*

Other Goals and Policies of the Regional Plan

- **See Lowery Road memo for Regional Plan Info.**

Staff Suggestion: It would be beneficial for the Committee to consider the following in deciding if the project is on conformance with the Regional Plan:

- ask about impacts to primary agricultural soils, are these impacts detrimental to the viability of the resource? How will the resource be protected or conserved for future use?
- decide whether the proposed project unduly affects rural character;
- decide if the proposal is in conflict with the Rural Land Use Area;
- is the proposed projects conflict with any of the other identified regional policies?

➢ Staff suggestion: if the Committee finds the project not to conform with areas of the Regional Plan, it would beneficial for the Committee to provide comment possible changes to the project which would help bring the project into conformance.

October 13, 2022

City of Barre
City of Barre Planning Commission
Central Vermont Regional Planning Commission

Re: **I Love Cows Solar, LLC's 45-Day Notice to Persons and Entities Entitled to Notice Pursuant to Public Utility Commission Rule 5.402(A), for a Proposed 2.5 MW Solar Array to be located off Allen Street in Barre, VT.**

Dear Sir or Madam:

I Love Cows Solar, LLC (the "Applicant"), is pleased to provide you with this 45-Day notice in advance of filing a petition for a Certificate of Public Good with the Vermont Public Utility Commission ("Commission" or "PUC"), for a 2.5 MW solar electric generation facility to be known as the "I Love Cows Solar Project" (the "Project"). The Applicant proposes to construct the Project on property located off of Allen Street in the City of Barre, Vermont (the "Site"). This notice is provided in accordance with 30 VSA § 248, Vermont Statutes Annotated ("Section 248"), and Public Utility Commission Rule 5.402.

Pursuant to Commission Rule 5.402, the following letter includes information sufficient to understand the overall Project including the location of the facility, a description of the proposed Project, construction plans and equipment to be used. This letter also describes the rights of the noticed parties to comment on the Project plans and participate in the Section 248 review process.

This letter contains descriptions of the following:

I. 30 V.S.A. § 248 Process Information;
II. Project Description;
III. Site Selection and Consideration of Alternatives
IV. Construction and Transportation
V. Preliminary Assessment of Environmental and Aesthetic Impacts;
VI. Project Benefits;
VII. Expected Filing Date.

Included as attachments to this letter are:

I. Location Map / Preliminary Site Plan

II. Preliminary Natural Resources Map
II. Representative Equipment Specifications

I. 30 V.S.A. Section 248 Petition and Notice

The state permitting process for electric generation facilities requires the Applicant to provide notice to certain entities and persons 45-days prior to a formal filing with the PUC. These include:

- The affected municipal legislative bodies;
- The affected municipal and regional planning commissions; and
- The Public Utility Commission.

The Applicant has also provided this 45-day notice to:

- The Department of Public Service
- The Agency of Natural Resources

Per Commission Rule 5.402(A), the municipal and regional planning commissions shall make recommendations, if any, at least seven (7) days prior to the intended filing date, which filing date is expected to be 45 days from the date of this notice.

Affected municipal and regional planning commissions may also provide revised recommendations within 45 days of the date on which the Applicant files its petition with the Commission, if the petition contains new or more detailed information that was not previously included in the original filing with the municipal and regional planning commissions pursuant to Section 248(f).

Recommendations made to the Commission pursuant to Section 248(f), or the lack of such recommendations, shall not preclude municipal or regional planning commissions from presenting evidence during technical hearings if granted party status.

Please send all recommendations during this 45-Day notice period to:

Vermont Public Utility Commission
c/o Clerk of the Commission
112 State Street
Montpelier, VT 05620-2701

AND

Encore Renewable Energy
Attn: Phillip D. Foy
PO Box 1072
Burlington, VT 05402

Tel: (802) 861-3023
phillip@encorerenewableenergy.com

For additional information regarding this process, including your commission's right to participate in the Public Utility Commission proceeding, please refer to the "Citizen's Guide to the Vermont Public Utility Commission's Section 248 Process," which can be found at https://puc.vermont.gov/document/citizen-guide-public-utility-commission.

II. Project Description

The Applicant is proposing a 2.5 MW solar project on property located off of Allen Street in Barre, Vermont. The array will occupy roughly 12 acres of the greater 45-acre parcel. The electricity generated by this Project will flow to GMP's electric grid.

The Site location, array footprint, and approximate property boundaries are shown in the preliminary site plan attached as Exhibit 1. Portland St is to the west and Allen St is to the east of the Project. In summary, the Project will consist of:

- Approximately 5,000 solar panels installed on ground-mounted racking systems across roughly 12 acres of the Site:
  - Coated with non-reflective glazing;
  - Approximately 10-15 feet off the ground at their highest point.
  - Modules are to be mounted on Fixed Tilt racking systems with rows running east-west
- A network of string inverters dispersed across the array connected with underground cables installed in protective conduit;
- A 7-8 ft agricultural style perimeter fence;
- Temporary laydown area for delivery and short-term storage of materials; and
- An approximate 430 ft extension of 3-phase power to the Site for interconnection into GMP's grid, from the existing three phase service on Allen St; and
- Necessary transformer(s) and associated interconnection equipment

III. Site Selection and Consideration of Alternatives

This site was selected because of the site's proximity to substation infrastructure, access to three phase transmission infrastructure, workable topography, and limited environmental impacts.

The applicant worked with its consultants to configure the Project in a way that would maximize the potential energy generation benefits while minimizing environmental and aesthetic impacts. The Applicant will continue working with all stakeholders prior to filing the CPG petition and thereafter to address any concerns.

IV. Construction & Transportation

The Applicant proposes to deliver materials for the Project using trucks, and state and local roads, which are accustomed to the type of traffic representative of the proposed daily delivery of materials. Deliveries will be made to a temporary construction staging area on the Site, located off the proposed access drive. Most transportation activity will occur during the construction phase, which would last between three and five months.

The Project is not expected to require oversize or overweight deliveries. Access to and from the Site will be restricted by perimeter fencing in order to secure the Site and prevent the public from entering the facility. All equipment associated with the Project will be installed in accordance with all applicable regulations and electrical codes.

V. Preliminary Impact Assessment

i. Aesthetics

In preparation for this 45-Day Notice, the Applicant engaged T.J. Boyle Associates of Burlington, Vermont to perform a preliminary review of potential aesthetic impacts resulting from the Project. The Project is proposed within an existing agricultural field and would be setback approximately 430 feet from Allen St, which is east of the Project.

Overall, preliminary findings by TJ Boyle indicated that the Project would not result in undue impacts to the aesthetic and scenic and natural beauty of the area. The Applicant will continue to work with the City of Barre, adjoining property owners, and T.J. Boyle Associates in order to address any potential aesthetic impacts. The Applicant will file the complete TJ Boyle aesthetic report, and final mitigation measures, where warranted, with the complete petition.

ii. Environmental

The Applicant has engaged VHB, Inc. to perform preliminary due diligence as well as detailed natural resource assessments and delineations, including both database and field surveys. Results of those studies will be provided in the final petition.

Given that the project is located within an existing agricultural field, the likelihood of impacts to most natural resources is low. VHB will conduct natural resource assessments, and impact analyses (where applicable) will be completed for criteria considered under Section 248 and as relevant to any additional necessary environmental permitting.

The Applicant will consult with state and federal agency staff as necessary pending results of detailed natural resource studies, which will inform Project design to avoid resources where possible and/or secure necessary permits, reviews, and approvals.

VI. Project Benefits

The Project is being developed in cooperation with GMP to provide locally generated renewable energy to a Vermont based GMP customer. The Project will contribute to the customer's achievement of its renewable energy objectives by providing a mechanism for the customer to procure locally generated renewable energy. The Project will also contribute to the achievement of GMP's and the State of Vermont's renewable energy objectives.

VII. Conclusion

The Project is not expected to result in undue adverse impacts to the applicable criteria. The Applicant looks forward to submitting the full Section 248 petition package, which will contain all of the information required by the PUC to evaluate the merits of the Project for potential award of a Certificate of Public Good and inform others of the Project's impacts and value.

The Applicant intends to file a Section 248 Petition and supporting materials with the PUC soon after the expiration of this 45-day notice period, which is expected to be no sooner than November 30th, 2022.

We look forward to receiving any input or suggestions you may have as we move through the Section 248 process. If you have any questions you may direct them to the Applicant by phone at 802-861-3023 or by email at phillip@encorerenewableenergy.com.

Sincerely,

Phillip D. Foy
General Counsel
Encore Renewable Energy

Attachment 1 – Preliminary Site Plan
Attachment 2 – Preliminary Natural Resources Map
Attachment 3 – Representative Equipment Specifications

Copy to:

Vermont Public Utility Commission
112 State Street
Montpelier, Vermont 05620-2701

Department of Public Service
James Porter, Director for Public Advocacy
112 State Street - Third Floor
Montpelier, Vermont 05620-2601

Agency of Natural Resources
Secretary's Office
1 National Life Drive, Davis 2
Montpelier, Vermont 05620-3901

Green Mountain Power
163 Acorn Lane
Colchester, VT 05446

Central Vermont Regional Planning Commission
29 Main St, Suite 4
Montpelier, VT 05602

The Barre City Council
6 North Main Street
PO Box 418
Barre, VT 05641

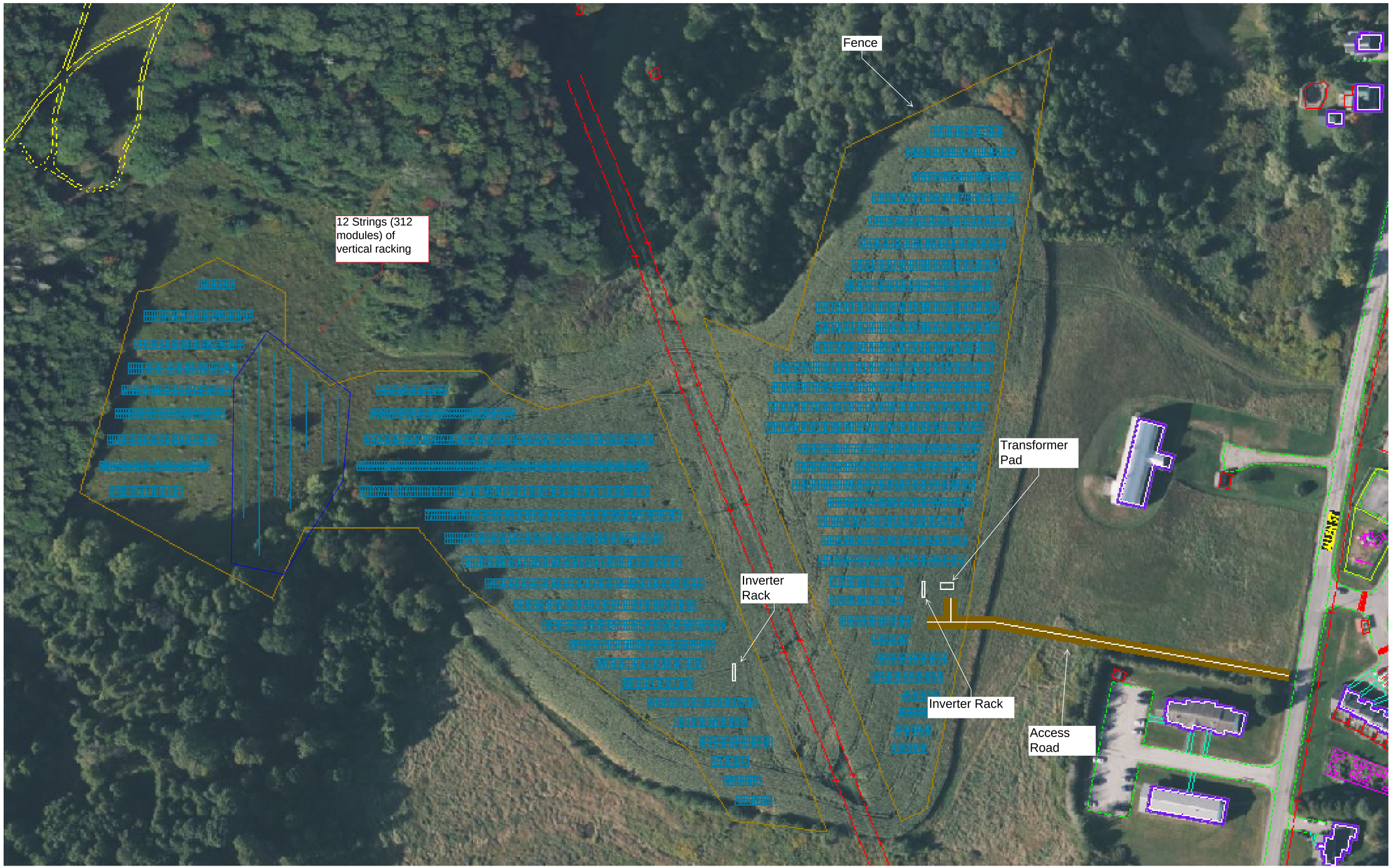
The Barre City Planning Commission
c/o Janet E. Shatney, Director
Planning, Permitting, & Assessing Services
6 North Main St. Ste 7
Barre, VT 05641

Natural Resources Board
District #5 Environmental Commission
10 Baldwin Street
Montpelier, VT 05633-3201

Agency of Agriculture and Food Markets
Secretary Anson Tebbetts
116 State Street
Montpelier, Vt 05620-2901

Encore Renewable Energy
PO Box 1072
Burlington, VT 05402

Department of Historic Preservation
Laura V. Trieschmann
1 National Life Drive
Deane C. Davis Building, 6th Floor
Montpelier, VT 05620-0501



encore RENEWABLE ENERGY
Leaders in Distributed Energy Generation.
110 Main Street, Suite 2E
Burlington, VT 05401
802-861-3023
www.encorerenewableenergy.com

PROFESSIONAL SEAL

ENGINEER'S SEAL APPLIES TO DESIGN OF STRUCTURAL COMPONENTS ONLY

I Love Cows

Concept Plan

Type	Fenced Area
FT	12.5 acres

Intrarow Spacing	Tilt	Azimuth
variable	25°	180°

Module Rating / Count
Astronergy 540W 6162

DC Rating	AC Rating
3.33 MW	2.475 MW

Interconnection

Existing line	Line Extension	Site Extension
x ft	y ft	z ft

RELEASE RECORD

	DATE	DESCRIPTION
1	8/4/2022	
2	10/7/2022	

PROJECT INFORMATION

TITLE & ADDRESS:
91 Allen Street, Barre VT, 05641

ER PROJECT No.:

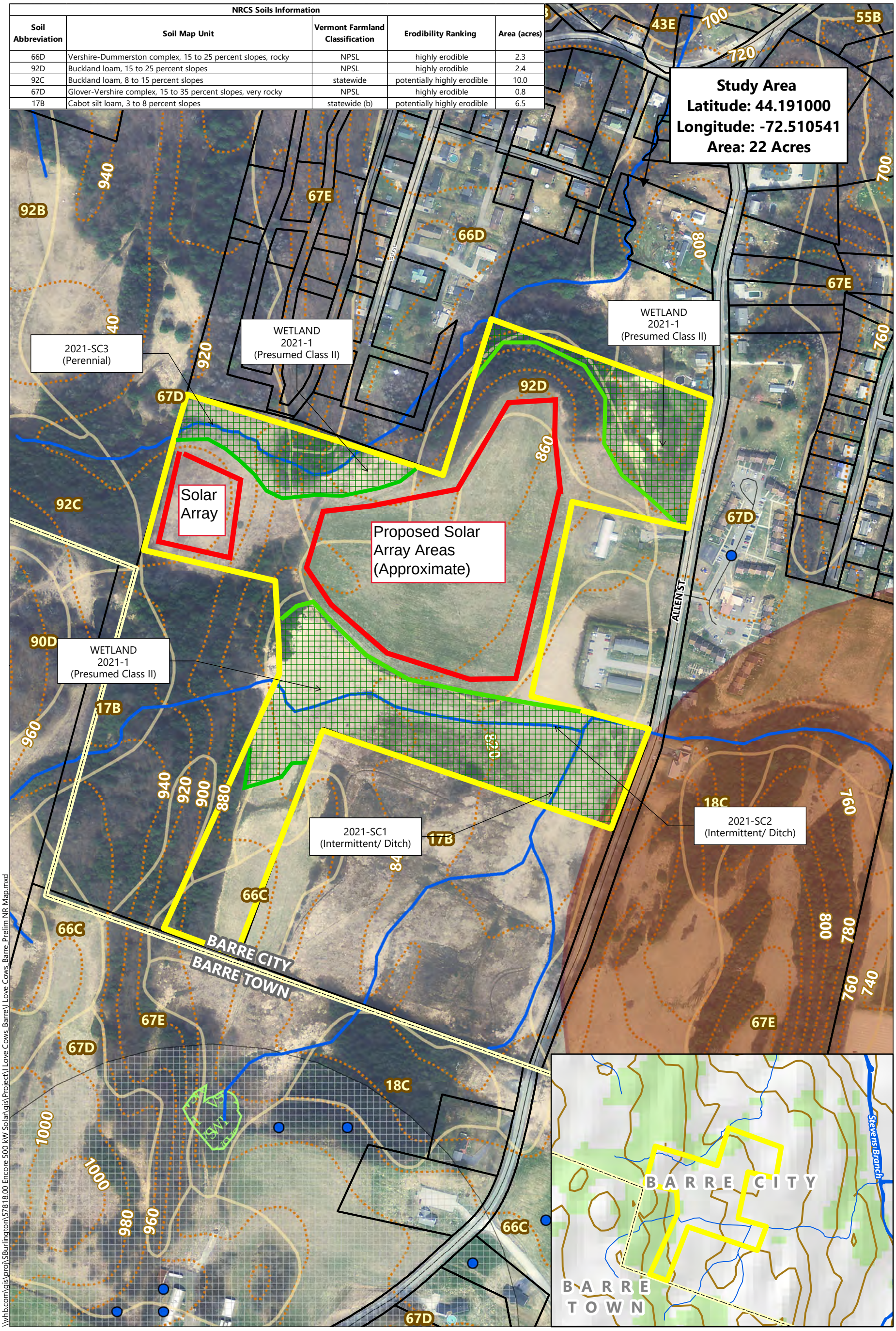
DRAWN BY:	REVIEWED BY:
LWK	

SHEET TITLE:
Concept

SHEET No.:
P-102

A1
SCALE: N/A

NRCS Soils Information				
Soil Abbreviation	**Soil Map Unit**	**Vermont Farmland Classification**	**Erodibility Ranking**	**Area (acres)**
66D	Vershire-Dummerston complex, 15 to 25 percent slopes, rocky	NPSL	highly erodible	2.3
92D	Buckland loam, 15 to 25 percent slopes	NPSL	highly erodible	2.4
92C	Buckland loam, 8 to 15 percent slopes	statewide	potentially highly erodible	10.0
67D	Glover-Vershire complex, 15 to 35 percent slopes, very rocky	NPSL	highly erodible	0.8
17B	Cabot silt loam, 3 to 8 percent slopes	statewide (b)	potentially highly erodible	6.5



0 150 300 600 Feet

- Study Area (VHB)
- Approximate Wetland (VHB)
- Approximate Wetland Buffer (VHB)
- VSWI Wetland (ANR)
- VHD Stream (VCGI)
- Deer Wintering Area (ANR)*
- Bear Habitat (FWD)*
- Bear Crossing (FWD)*
- NHI Uncommon Occurrence (FWD)
- River Corridor (ANR)*
- VHD Waterbody (VCGI)*
- Public Well (ANR)*
- Private Well (ANR)
- FEMA Zone A (VHB/FEMA)*
- Ground Water Protection Area (ANR)
- Surface Water Protection Area (ANR)*
- NRCS Soil Boundary (VCGI)
- 50' Contours (VCGI)
- Interstate*
- US Highway*
- State Highway*
- Town Road

** Not present within map extent.*

Encore Renewable Energy
I Love Cows Solar Project | Barre, Vermont

Preliminary Natural Resources Map

Sources:
Background Imagery by VCGI (Collected in 2016)
VCGI (Vermont Center for Geographic Information - Various Dates)
ANR (Vermont Agency of Natural Resources - Various Dates)
FWD (Vermont Fish and Wildlife Department - 2018)
VHB (2021)
Wetland Boundary is approimxate via desktop screening.

\\vhb.com\gis\proj\SBurlington\57818.00 Encore 500 kW Solar\gis\Project\I Love Cows_Barre_Prelim NR Map.mxd

100/125kW, 1500Vdc String Inverters for North America

CPS SCH100/125KTL-DO/US-600

The 100 & 125kW high power CPS three phase string inverters are designed for ground mount applications. The units are high performance, advanced and reliable inverters designed specifically for the North American environment and grid. High efficiency at 99.1% peak and 98.5% CEC, wide operating voltages, broad temperature ranges and a NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications. The CPS 100/125kW products ship with the Standard or Centralized Wire-box, each fully integrated and separable with AC and DC disconnect switches. The Standard Wire-box includes touch safe fusing for up to 20 strings. The CPS FlexOM Gateway enables communication, controls and remote product upgrades.

Key Features

- NFPA 70, NEC 2014 and 2017 compliant
- Touch safe DC Fuse holders adds convenience and safety
- CPS FlexOM Gateway enables remote FW upgrades
- Integrated AC & DC disconnect switches
- 1 MPPT with 20 fused inputs for maximum flexibility
- Copper and Aluminum compatible AC connections
- NEMA Type 4X outdoor rated, tough tested enclosure
- Advanced Smart-Grid features (CA Rule 21 certified)
- kVA Headroom yields 100kW @ 0.9PF and 125kW @ 0.95PF
- Generous 1.87 and 1.5 DC/AC Inverter Load Ratios
- Separable wire-box design for fast service
- Standard 5 year warranty with extensions to 20 years

100/125KTL Standard Wire-box

100/125KTL Centralized Wire-box

C SP US

This device complies with part 15 of the FCC Rules

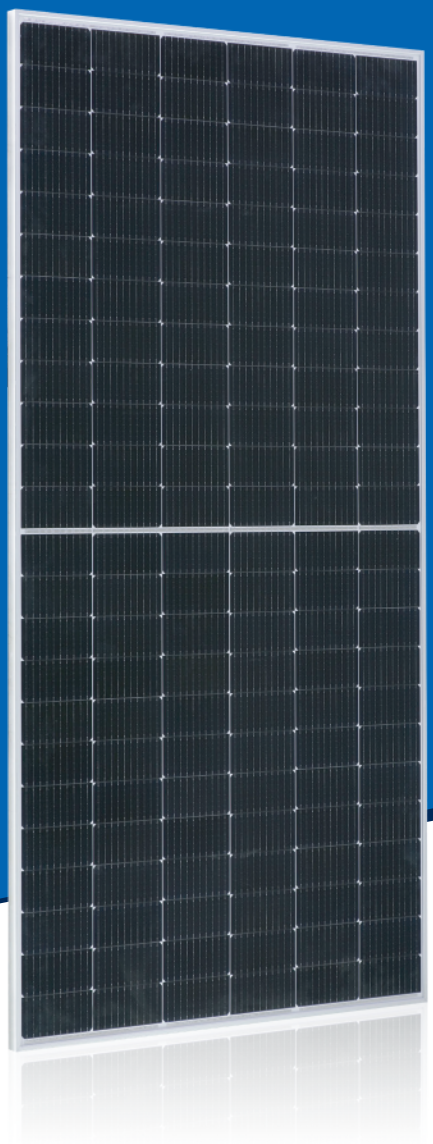
Chint Power Systems America
6800 Koll Center Parkway, Suite 235 Pleasanton, CA 94566
Tel: 855-584-7168 Mail: AmericaSales@chintpower.com Web: www.chintpowersystems.com

Model Name	CPS SCH100KTL-DO/US-600	CPS SCH125KTL-DO/US-600
DC Input		
Max. PV Power	187.5kW	
Max. DC Input Voltage	1500V	
Operating DC Input Voltage Range	860-1450Vdc	
Start-up DC Input Voltage / Power	900V / 250W	
Number of MPP Trackers	1	
MPPT Voltage Range[1]	870-1300Vdc	
Max. PV Input Current (Isc x1.25)	275A	
Number of DC Inputs	20 PV source circuits, pos. & neg. fused (Standard Wire-box) 1 PV output circuit, 1-2 terminations per pole, non-fused (Centralized Wire-box)	
DC Disconnection Type	Load-rated DC switch	
DC Surge Protection	Type II MOV (with indicator/remote signaling), Up=2.5kV, In=20kA (8/20uS)	
AC Output		
Rated AC Output Power	100kW	125kW
Max. AC Output Power[2]	100kVA (111KVA @ PF>0.9)	125kVA (132KVA @ PF>0.95)
Rated Output Voltage	600Vac	
Output Voltage Range[3]	528-660Vac	
Grid Connection Type[4]	3Φ / PE / N (Neutral optional)	
Max. AC Output Current @600Vac	96.2/106.8A	120.3/127.0A
Rated Output Frequency	60Hz	
Output Frequency Range[3]	57-63Hz	
Power Factor	>0.99 (±0.8 adjustable)	>0.99 (±0.8 adjustable)
Current THD	<3%	
Max. Fault Current Contribution (1-cycle RMS)	41.47A	
Max. OCPD Rating	200A	
AC Disconnection Type	Load-rated AC switch	
AC Surge Protection	Type II MOV (with indicator/remote signaling), Up=2.5kV, In=20kA (8/20uS)	
System		
Topology	Transformerless	
Max. Efficiency	99.1%	
CEC Efficiency	98.5%	
Stand-by / Night Consumption	<4W	
Environment		
Enclosure Protection Degree	NEMA Type 4X	
Cooling Method	Variable speed cooling fans	
Operating Temperature Range	-22°F to +140°F / -30°C to +60°C (derating from +113°F / +45°C)	
Non-Operating Temperature Range[5]	-40°F to +158°F / -40°C to +70°C maximum	
Operating Humidity	0-100%	
Operating Altitude	8202ft / 2500m (no derating)	
Audible Noise	<65dBA@1m and 25°C	
Display and Communication		
User Interface and Display	LED Indicators, WiFi + APP	
Inverter Monitoring	Modbus RS485	
Site Level Monitoring	CPS FlexOM Gateway (1 per 32 inverters)	
Modbus Data Mapping	SunSpec/CPS	
Remote Diagnostics / FW Upgrade Functions	Standard / (with FlexOM Gateway)	
Mechanical		
Dimensions (WxHxD)	45.28x24.25x9.84in (1150x616x250mm) with Standard Wire-box 39.37x24.25x9.84in (1000x616x250mm) with Centralized Wire-box	
Weight	Inverter: 121lbs / 55kg; Wire-box: 55lbs / 25kg (Standard Wire-box); 33lbs / 15kg (Centralized Wire-box)	
Mounting / Installation Angle	15 - 90 degrees from horizontal (vertical or angled)	
AC Termination	M10 Stud Type Terminal [3Φ] (Wire range:1/0AWG - 500kcmil CU/AL, Lugs not supplied) Screw Clamp Terminal Block [N] (#12 - 1/0AWG CU/AL)	
DC Termination	Screw Clamp Fuse Holder (Wire range: #12 - #6AWG CU) - Standard Wire-box Busbar, M10 Bolts (Wire range: #1AWG - 500kcmil CU/AL [1 termination per pole], #1AWG - 300kcmil CU/AL [2 terminations per pole], Lugs not supplied) - Centralized Wire-box	
Fused String Inputs	20A fuses provided (Fuse values of 15A or 20A acceptable)	
Safety		
Safety and EMC Standard	UL1741-SA-2016, CSA-C22.2 NO.107.1-01, IEEE1547a-2014; FCC PART15	
Selectable Grid Standard	IEEE 1547a-2014, CA Rule 21, ISO-NE	
Smart-Grid Features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-VAr, Freq-Watt, Volt-Watt	
Warranty		
Standard[6]	5 years	
Extended Terms	10, 15 and 20 years	

1) See user manual for further information regarding MPPT Voltage Range when operating at non-unity PF
2) "Max. AC Apparent Power" rating valid within MPPT voltage range and temperature range of -30°C to +40°C (-22°F to +104°F) for 100KW PF ≥0.9 and 125KW PF ≥0.95
3) The "Output Voltage Range" and "Output Frequency Range" may differ according to the specific grid standard.
4) Wye neutral-grounded, Delta may not be corner-grounded.
5) See user manual for further requirements regarding non-operating conditions.
6) 5 year warranty effective for units purchased after October 1st, 2019.

AstroTwins™

Enjoy the Energy of the Universe



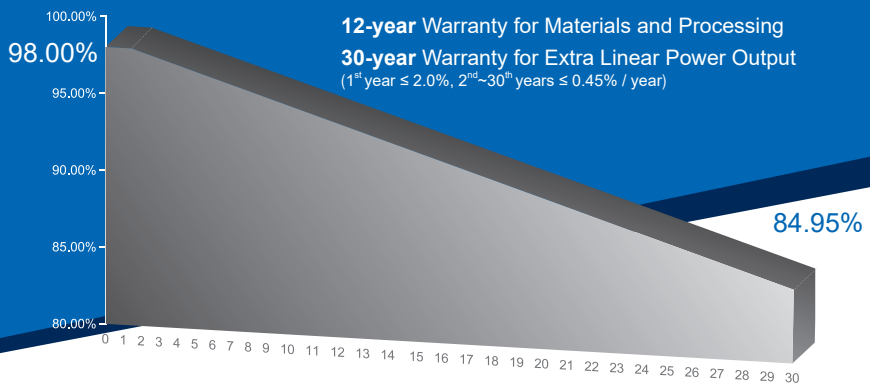
520W~540W

P-type Monocrystalline PV Module

CHSM72M(DG)/F-BH Series (182)

CHSM72M(DG)/F-BH is bifacial module with white glazed glass

Tier 1 Bloomberg | No.1 PHOTON | Underwritten by International Insurer | DNV GL 2020 TOP Performance



12-year Warranty for Materials and Processing

30-year Warranty for Extra Linear Power Output

(1^{st} year ≤ 2.0%, 2^{nd}~30^{th} years ≤ 0.45% / year)

KEY FEATURES

+5W — **OUTPUT POSITIVE TOLERANCE**
Guaranteed 0~+5W positive tolerance ensures power output reliability.

EXCELLENT WEATHER RESISTANCE
Reduces the cell micro-crack and extended product warranty.

BIFACIAL POWER
The backside makes use of the reflected and scattered light from the surroundings, the modules can yield up to 5%~25% power more, depending on the albedo.

REDUCE INTERNAL MISMATCH LOSS
Reduces mismatch loss and improves output.

APPLICABLE FOR MULTI DIFFERENT ENVIRONMENTS
The wide range of applications, such as BIPV, vertical installation, snow area, high humidity area and strong sandstorm area, etc.

SNAIL TRAIL RESISTANCE
Reduces the probability of snail trails with zero water vaper transmittance.

COMPREHENSIVE CERTIFICATES

CE | ISO 9001 | ISO 14001 | OHSAS 18001 | CNAS | SATELLITE Intertek | TÜV NORD IEC TS 62941

First solar company which passed the TUV Nord IEC/TS 62941 certification audit.

Preliminary

For Global Market

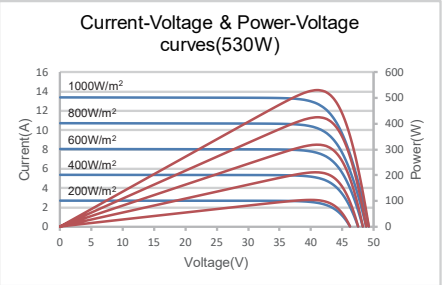
ASTRONERGY
A CHINT COMPANY

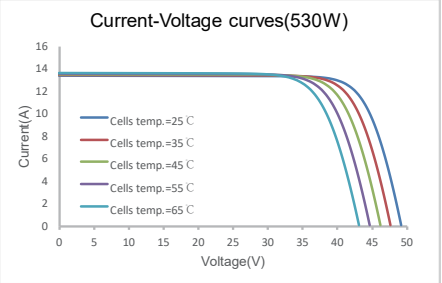
ELECTRICAL SPECIFICATIONS

Power rating (front)	520 Wp		525 Wp		530 Wp		535 Wp		540 Wp	
Testing Condition	Front	Back	Front	Back	Front	Back	Front	Back	Front	Back
STC rated output (P_{mpp}/Wp)*	520	364	525	368	530	371	535	375	540	378
Rated voltage (V_{mpp}/V) at STC	41.26	41.31	41.43	41.48	41.60	41.65	41.76	41.81	41.93	41.98
Rated current (I_{mpp}/A) at STC	12.60	8.82	12.67	8.87	12.74	8.92	12.81	8.97	12.88	9.01
Open circuit voltage (V_{oc}/V) at STC	49.10	49.05	49.30	49.25	49.50	49.45	49.70	49.65	49.90	49.85
Short circuit current (I_{sc}/A) at STC	13.32	9.22	13.40	9.27	13.48	9.33	13.57	9.39	13.66	9.45
Module efficiency	20.3%	14.2%	20.5%	14.4%	20.7%	14.5%	20.9%	14.7%	21.1%	14.8%
Temperature coefficient (P_{mpp})	- 0.350%/°C									
Temperature coefficient (I_{sc})	+0.045%/°C									
Temperature coefficient (V_{oc})	- 0.270%/°C									
Nominal module operating temperature (NMOT)	45±2°C									
Maximum system voltage (IEC/UL)	1500V_{DC}									
Number of diodes	3									
Junction box IP rating	IP 68									
Maximum series fuse rating	30 A									

STC: Irradiance 1000W/m^2, Cell Temperature 25°C, AM=1.5

CURVE





ELECTRICAL SPECIFICATIONS (Integrated power)

P_{mpp} gain	P_{mpp}	V_{mpp}	I_{mpp}	V_{oc}	I_{sc}
5%	557 Wp	41.60 V	13.38 A	49.50 V	14.16 A
10%	583 Wp	41.60 V	14.02 A	49.50 V	14.83 A
15%	610 Wp	41.61V	14.65 A	49.51 V	15.50 A
20%	636 Wp	41.61 V	15.29 A	49.51 V	16.18 A
25%	663 Wp	41.61 V	15.92 A	49.52 V	16.85 A

Electrical characteristics with different rear power gain (reference to 530 W)

MECHANICAL SPECIFICATIONS

Outer dimensions (L x W x H)	2256 x 1133 x 35 mm
Frame technology	Aluminum, silver anodized
Glass thickness	2.0 mm
Cable length (IEC/UL)	Portrait: 300 mm Landscape: 1400 mm
Cable diameter (IEC/UL)	4 mm² / 12 AWG
① Maximum mechanical test load	5400 Pa (front) / 2400 Pa (back)
Connector type (IEC/UL)	MC4 compatible

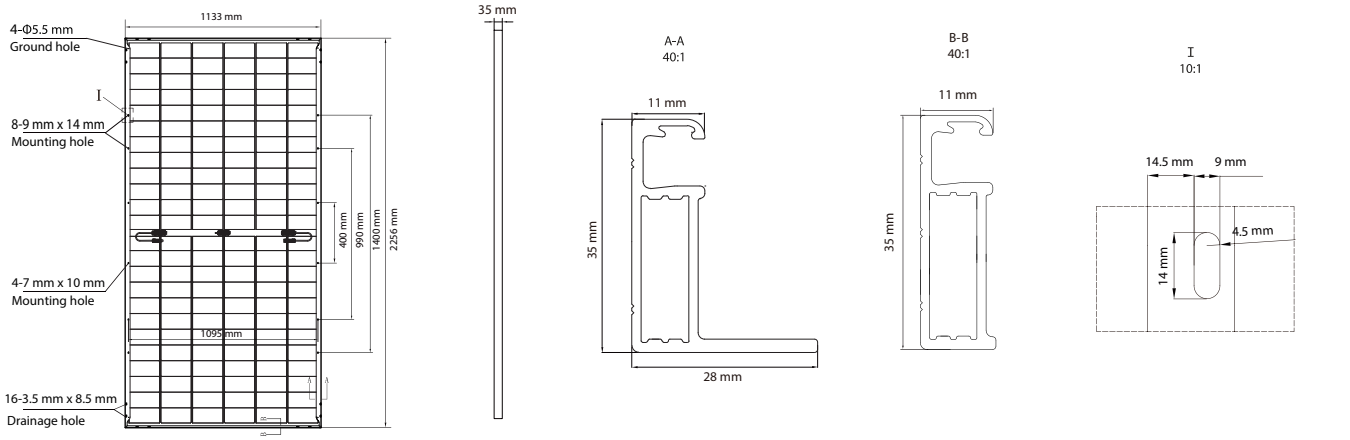
① Refer to Astronergy crystalline installation manual or contact technical department.
Maximum Mechanical Test Load=1.5×Maximum Mechanical Design Load.

PACKING SPECIFICATIONS

① Weight (module only)	32.3 kg
② Packing unit	31 pcs / box
Weight of packing unit (for 40'HQ container)	1040 kg
Number of modules per 40'HQ container	620 pcs

① Tolerance +/- 1.0kg
② Subject to sales contract

MODULE DIMENSION DETAILS



Central Vermont Regional Planning Commission

PROJECT REVIEW COMMITTEE

SUMMARY SHEET

November 2022

The following is a list of projects received by staff since the last Project Review Committee meeting. Staff will provide a general overview of the projects if necessary to determine if additional discussion is warranted at a future meeting.

APPLICATION		APPLICANT	MUNICIPALITY	PROJECT SUMMARY
Act 250 - New				
1	5W0247-C – Amendment	Jason Morel	Fayston	Property line adjustment between adjacent existing lots owned by the Permittee. **Administrative amendment issued on 10/13/2022**
2	5W0370-9 –	Neck of the Woods	Waitsfield	Conversion of a temporary childcare center to permanent use, including an expansion to 125 combined students & staff. Schedule G filed on 10/6/2022, Incomplete Application Notice sent on 10/27/2022
Act 250 - Ongoing				
1	5W0542-7 - Amendment	Bradley Opsahl	Warren	Authorize revised building envelope, additional 1-bedroom garage-apartment and associated infrastructure for a previously permitted 3 bedroom single-family residence on existing Lot 3 at Cider Mountain Road. Schedule G filed 9/7/22, Incomplete Application Notice sent on 9/29/22
2	5W1612 - Minor	Copley Health Systems Inc. & Waterbury Ambulance Service Inc.	Waterbury	Subdivide existing 53+/- acre Sayah parcel on west side of Route 100 to create Lot 1 of 5.1+/- acres for a new Waterbury Ambulance Service facility & Lot 2 of 18.9+/- acres for a Copley medical office facility. Remaining lands of 33+/- acres will be retained by Sayah and not involved in the proposed development. ANR extension request submitted 10/5/22, extension request granted by ANR on 10/6/22, VDHP requested extension to October 31 granted on 10/11/22, VTrans comments submitted on 10/10/22, Extension Request granted on 10/27/22 and Applicant has until 11/18/22 to submit revised plans

APPLICATION		APPLICANT	MUNICIPALITY	PROJECT SUMMARY
3	5W1045-47 - Minor https://anrweb.vt.gov/ANR/Act250/Details.aspx?Num=5W1045-47	Sugarbush Mountain Resort Inc.	Warren	Realignment of existing Reverse Traverse ski trail to provide more convenient guest experience by providing a consistently down-sloped trail with snowmaking coverage. Schedule G Submitted 6/24/2022, Incomplete Letter 07/18/2022, Response 8/5/22, Clarification Request from ANR 9/2/2022, response 9/7/2022, Sugarbush reply to comments submitted on 10/10/2022, ANR comments and extension request submitted on 10/11/22, Sugarbush reply to comments submitted on 10/18/2022 ANR supplemental comments submitted on 10/18/2022, ANR supplemental comments submitted on 10/20/2022
4	5W0914-2 - JO	Green Mountain Dog Camp	Roxbury	Dog training facility and doggie daycare located in Roxbury at 2545 Winch Hill Road. Schedule G 7/29/22, Incomplete Letter 8/24/22, additional documentation 9/26/22, party status petition 10/6/2022
5	5R0891-22 - Minor	Adam Stone	Williamstown	Addition of additional access from the Town Road (Industry Street) and a slightly larger building (1000 sq ft) and the addition of a State of Vermont certified truck inspection station. Revised site plan 8/22/22, Minor Notice issued on 10/12/22, Draft permit issued with comments due by 11/2/22
6	5W0836-7 -	Malone Preston 51 Gallison Hill Road Properties, LLC	Montpelier	Building façade and signage changes, installation of a closed drainage system and paving to improve the drainage at rear of building, and landscaping along the top of riverbank. Located at 51 Gallison Hill Road in Montpelier. Schedule G 7/20/22, Clarification request from ANR 9/2/2022
7	5W1040-6 - Minor	Jane Brodwyn	Fayston	Addition of one more acre to the authorized clearing envelope for Lot 2, now resulting in a total of 4 acres allowed for clearing. The 43.7 acres lot is located at Center Fayston Road in Fayston, Vermont. Draft Permit issued. EOA ANR 06/13/2022, ANR comments submitted on 10/10/22, **Permit amendment issued on 10/19/2022**
8	5W0531-7 - Minor	Ivy Ventures, Inc.	Waterbury	Amend existing permit 5W0531-6 to remove buildings #1 & #3, propose a new office building #3 with 150 employees and reduce building #4 from 60 employees to 48 employees. Schedule G submitted 07/14/2022, incomplete application letter 8/2/2022, add'l application materials rec'd 8/19/22, Authorization to Discharge under General Permit 3-9020 issued on 8/19/2022, asbestos inspection report rec'd 8/24/22, 2nd incomplete letter, response and Master Plan rec'd 8/30/22, Additional info rec'd 9/21/22, Vtrans submitted comments on 10/3/22, ANR submitted

APPLICATION		APPLICANT	MUNICIPALITY	PROJECT SUMMARY
				comments on 10/4/2022, Stormwater Discharge Permit issued on 10/10/22, VTrans access permit issued with conditions on 10/19/22. **Permit issued on 10/21/22**
9	5W0836-6	RHTL Partners, LLC	Berlin	Removal of existing residential houses at 12 Marvin and 40 Goodnow Rds and construction of new 22,500 sf facility to serve as Volkswagon/Mazda car dealership with remote vehicle inventory parking lots at this location to support the new dealership. Draft Permit issued 6/22/2022, EOA VTRANS 07/11/2022, EOA ANR 07/13/2022. Response deadline was on 7/13/2022, current status is "pending – awaiting information", ANR submitted comments about the floodplain and little brown bats on 10/28/22
10	5R0891-23	Laurence Hebert	Williamstown	The creation of 41 new lots and the reconfiguration of two existing house lots. The two existing lots are connected to Williamstown municipal water and wastewater system. 4 of the new lots will be connected to the Williamstown municipal water and wastewater systems. Schedule G 6/28/2022, Incomplete Letter 8/1/2022. Current status is "incomplete".
Section 248 - New				
1	Advanced Notice	Bell Atlantic Mobile Systems, LLC - Verizon Wireless	Waterbury	60-day notice for placement of a 76' tall temporary ballast tower to benefit the State of Vermont Police communications infrastructure. It is expected that the tower will remain in place for two years. Tower will be located at 91 State Drive in Waterbury, on a 60-acre lot. 60-day notice filed on 10/24/2022. 60 day deadline 12/23/2022.
2	Advanced Notice	Green Mountain Power	Berlin	45-day notice for upgrades to an existing substation on 1879 Berlin State Highway. 45-day notice filed on 10/6/2022. 45 Day Deadline 11/20/2022
3	Advanced Notice	I Love Cows LLC	Barre	45-day notice for proposed 2.5 megawatt (MW) solar electric generation facility to be sited on 12 acres of a 45-acre parcel of land located off of Allen St in Barre, VT. 45 day notice filed on 10/13/2022. 45 day deadline 11/27/2022
Section 248 – Ongoing				
1	22-4376-PET	Midway Ave Solar LLC	Berlin	2.2 megawatt (MW) (AC) solar electric generation facility to be sited on 14.5 (±) acres of a 93.7 (±) acre parcel of land, located off Midway Ave in Berlin, Vermont. 45 day notice filed on 6/23/2022, Petition filed on 10/6/2022

APPLICATION		APPLICANT	MUNICIPALITY	PROJECT SUMMARY
2	Advanced Notice	Lowery Road Solar	Barre & Orange	45-day notice for proposed 4.999 megawatt (MW) solar project to be sited on 29 acres of two parcels of land totaling 291 acres located off Lowery Road in Barre and Orange, Vermont. 45 Day Deadline 10/3/2022

Applications of particular note:

Application Number: 5W0531-7

Applicants: Ivy Ventures, Inc.

Application Type: Minor

Town: Waterbury

Project Description: Applicants proposed amending permit 5W0531-6 to remove the existing Ivy Ventures office building (~3,400 square feet) and the former Waterbury Festival Playhouse (~5,400 square feet), and to build a ~22,000 square foot office building in the general location of the former Waterbury Festival Playhouse. The project is located at 2933 Waterbury-Stowe Rd. (Route 100) in the Town of Waterbury. It is proposed that the new building will accommodate up to 150 employees. The number of employees in another building (building #4) will be reduced from 60 to 48 employees. The existing shared in-ground wastewater disposal system will be reconstructed to be a pressurized in-ground wastewater disposal system. The municipal water supply to the proposed office building will be changed to a 2" service line.

Procedural History:

- 7/14/22 – Application submitted
- 8/2/22 – Commission determines application is incomplete and requested information about a waste reduction plan, asbestos survey and plan, a bat inspection, updates on a stormwater permit, wetland delineations, and impacts to primary agricultural soils.
- 8/19/22 – Applicant provided additional information requested.
- 8/30/22 – Commission determines application is incomplete and requested information about size of new building, plans for the basement level, a parking plan, and architectural plans of the building.
- 8/31/22 – Applicant provided additional information requested.
- 9/14/22 – Commission makes determination of minor application
- 10/3/22 – VTrans issued comments. VTrans states that their calculated trip generation numbers are higher than stated in the Application. Instead of a proposed 195 net daily trips, VTrans calculated 205 daily trips. Instead of proposed 23 AM and 23 PM peak hour trips, VTrans calculated 35 AM and 38 PM peak hour trips. VTrans calculated trips for the entire property to be 352 daily trips with 69 AM peak hour trips and 73 PM peak hour trips. VTrans stated that these numbers are within the threshold of meeting the warrant for a northbound left turn lane on VT-100. However, VTrans stated that they do not feel the left turn lane should be constructed immediately, and recommended a post monitoring

study for 1 and 5 years after construction. VTrans also relayed that, based on crash data, it has no concerns about vehicle safety. VTrans did not recommend a transportation impact fee.[i]
- 10/4/22 – ANR issued comments on waste disposal, wetlands and necessary wildlife habitat & endangered species.
- 10/10/22 – Stormwater permit issued.
- 10/19/22 – VTrans issued permit for change of use. Permit requires Applicant to provide post monitoring study for Level of Service at 1 and 5 years after completion of project to determine if northbound left turn lane is needed.
- 10/21/22 – **Permit issued**

Application Number: 5W1612

Applicants: Copley Health Systems Inc. & Waterbury Ambulance Service Inc.

Application Type: Minor

Town: Waterbury

Project Description: Applicants proposed subdividing an existing ~53-acre parcel (Span # 696-221-11662) on the West side of Route 100. The proposed subdivision will result in the following:

Lot 1: ~5.1-acre lot for a new Waterbury Ambulance Service facility
Lot 2: ~18.9-acre lot for a Copley medical office facility
Lot 3: ~33-acre lot retained by owner (Charles Sayah)
A shared access drive via a new curb cut off Route 100 is proposed for both lots. A wetland crossing permit is required for proposed disturbances to the 50' buffer, with no anticipated wetland impacts. It is proposed that each lot will have independent structures, parking, septic and water. The Applicants have proposed a stormwater management system to mitigate impervious run-off. A construction general permit will be required for the project.

Procedural History:

- 8/18/22 - The Applicants submitted their application
- 9/19/22 – District Commission makes determination of minor application
- 10/5/22 – ANR requests extension to assess and address impacts under Criteria 1,2,3 related to public water system permitting, 1B related to floor drains and approval for a construction waste reduction plan, 1E, 1G, and 8A related to deer wintering habitat.
- 10/6/22 – District Commission grants extension to ANR to 10/31/22
- 10/7/22 – VDHP requested an extension for comments
- 10/10/22 - VTrans agreed that the trip generation for the combined facilities would be 34 AM peak hour trips and 45 PM peak hour trips, respectively. VTrans agreed with the conclusions of the transportation assessment and had no concerns relative to the impact of the project on local traffic congestion or safety. VTrans stated that they are currently working on a State Highway Access and Work Permit with the Applicant. VTrans Public Transit recommended that the Applicants perform a turning movement test

to simulate the turning movements of a 36-foot bus. VTrans recommended that the Applicant pay a $8,932 transportation impact fee* for the Waterbury roundabout project.

- 10/11/22 – District Commission grants extension to VDHP to 10/31/22
- 11/1/22 – Extension granted to 11/18/22

[i] * What's a Traffic Impact Fee?

Traffic Impacts Fees are a tool used by VTrans and Act 250 to ensure that the cost of transportation improvements is shared among developers and the public. Traffic Impact Fees were enabled in Act 145 in 2014 and were designed to address the "last-one-pays" dilemma, in which a single development proposal would trigger the need for improvements and ultimately bear the cost of transportation improvements when prior projects were also responsible for consuming capacity.

Fees can be applied within Transportation Improvement Districts established by VTrans (none have been established to date), or established and applied to permit applications by Act 250 District Commissions, as recommended by VTrans. Act 145 fees can be established for publicly funded transportation projects that are sufficiently defined and for transportation projects that are built and funded by an applicant as a condition in an Act 250 permit. Act 145 fees can only be established for transportation projects that add capacity, and cannot be established for operations and maintenance projects.

The basic formula for calculating a Traffic Impact is as follows:

Fee per vehicle = Total Cost of Transportation Project / Total Capacity (vehicles per hour)

Final fee assessed = Fee per vehicle X added peak hour trips by project

An interactive map of all Traffic Impact Fees can be found via this link:
https://vtrans.maps.arcgis.com/apps/webappviewer/index.html?id=a74b2eca848e4203ad551911e5824496

CENTRAL VERMONT REGIONAL PLANNING COMMISSION
Project Review Committee
August 2, 2022 9:00 am
Remote Participation via Zoom

Draft Minutes

Project Review Committee Members

x	Lee Cattaneo, Orange Commissioner	1
x	John Brabant, Calais Commissioner	2
	Bill Arrand Commissioner (Alternate Seat)	3
	Vacant	4
	Janet Shatney, Barre City Commissioner	5
x	Robert Wernecke, Berlin Commissioner	6

7
8 Staff: Blaine Hoskins, Clare Rock
9
10 L. Cattaneo called the meeting to order at 9:17pm.
11
12 **Act 250 / Section 248 Applications & Projects of Substantial Regional Impact**
13 R Wernecke's principle concerns are town issues, as Vine Street is not a very good road and has drainage
14 issues which would pose the largest problems especially during the construction phase. The Berlin
15 Planning Commissions met with the developer and has spoken about having public access on the site for
16 recreation/trails.
17
18 Discussion followed about the visual impacts. Committee agreed that it is screened and would not be
19 visible from Route 302 and that the neighbors wouldn't' have a concern as they are the ones selling the
20 property for the development. A question was raised about whether the project would be visible from
21 the hospital or the airport.
22
23 J Brabant noted how proximate the project is to demand, and the benefit of its location next to a
24 commercial area. From a regional perspective this is a good site compared to rural locations which are
25 located further from demand.
26
27 *J Brabant moves that the project is of regional significance but not of regional concern, and that the*
28 *location is a good location to offset the negative impacts associated with the project, seconded by R*
29 *Wernecke, all in favor. Motion passes.*
30
31 *J Brabant moves that the project* as proposed conforms with the regional plan, *seconded by R Wernecke,*
32 *all in favor. Motion passes.*
33
34 In the letter to the applicant the Committee would like to include the comment made by J Brabant and
35 also communicate the road concerns from the Berlin representative R Wernecke.
36
37 **Project Summery Sheet**
38 C Rock bought up the proposed projects on the Route 100 corridor (Copley Health Systems Inc. &
39 Waterbury Ambulance Service Inc. and Ivy Ventures, Inc.) and indicated that staff would be looking at

these projects and possible cumulative impacts on Route 100. L Cattaneo also expressed concern about the incremental development impacts and suggested the Waterbury Town Planner, who is also the Waterbury Representative be invited to a Project Review Committee meeting where these projects may be discussed.

R Wernecke inquired about the RHTL Partners, LLC project (Removal of existing residential houses at 12 Marvin and 40 Goodnow Rds and construction of new 22,500 sf facility to serve as Volkswagen/Mazda car dealership with remote vehicle inventory parking lots at this location to support the new dealership.) The project was approved by the Berlin DRB (after 5 hearings) and think the bigger concern is a state issue due to a likely impact in pedestrians crossing Route 2 to go between the 2 sites because there is no parking at the existing dealership. The parking will be close to the floodplain and close to the wetlands but with no significant impacts to these resources, discussion followed about floodplain management concerns and the pedestrian concerns.

Staff will review these projects further ahead of the scheduled August meeting. Staff also noted that Election of Officers would also be on the next agenda.

Approve meeting minutes

J Brabant moved to approve the February 10, 2022 minutes, seconded by R Wernecke. All in favor. Motion carried.

Adjournment

J Brabant moved to adjourn the meeting at 9:45 am seconded by R Wernecke. All in favor. Motion carried.