

**Application for Site Plan Review
and
Special Use Permit for
Emery Farm Solar**

Submitted to the Town of Grand Island, NY

by

Inga Anders Emery and Jonathan Paul Emery
(Landowner)

&

NYSOLAR06 LLC (Project Owner)

November 13th, 2020





Town of Grand Island
c/o Ronald Milks, Code Enforcement
2255 Baseline Road
Grand Island, New York 14072

(with an email copy to: rmilks@grand-island.ny.us)

To the Town of Grand Island,

On behalf of the landowner, Inga Anders Emery and Jonathan Paul Emery, please find attached our complete application for Site Plan Review and a Special Use Permit for a 3.45 megawatt, alternating current (MWac) community solar project, known as "Emery Farm Solar". The project is located on a 35.71 acre parcel, with S-B-L number 36.00-1-28. This community solar project has been developed to meet the directives of the New York renewable energy targets.

The solar project is being developed pursuant to Part II, Article XXX, Chapter 407-165.1, Solar Energy Facilities, of the Grand Island Town Code, as well as Part II, Article XXIV, Chapter 406-107, Site Plan Review, and will meet any and all applicable requirements of the Town's land use ordinances, as well as state and federal regulations. All required application material is included here in hard copy format. The complete application package begins with a Project Narrative summary of the proposed project, followed by a series of appendices with more detailed and technical information.

Building permits and any other additional required approvals will be obtained before starting construction, and will include detailed design as well as any other additional application material as required by the above-mentioned Code.

We appreciate the consideration and look forward to a successful project.

Sincerely,

A handwritten signature in black ink, appearing to read "Ben Broder", written in a cursive style.

Benjamin Broder
Project Development Manager
Catalyze Energy

List of Appendices:

- Appendix A – Site Plan (including Landscaping Plan)
- Appendix B – Example Equipment Technical Data Sheets (including noise information on the inverters)
- Appendix C – Visual Impact Assessment
- Appendix D – Glare Study
- Appendix E – National Resource Conservation Services Soils Report
- Appendix F – Wilson Environmental Preliminary Wetland Determination
- Appendix G – National Grid CESIR Study Results
- Appendix H – O&M Plan
- Appendix I – Decommissioning Plan
- Appendix J – Full Environmental Assessment Form, Part 1
- Appendix K – Legal Consent (Memorandum of Lease)

Project Narrative:

Overall Parcel Detail:

- S-B-L: 36.00-1-28
- Owner: Inga Anders Emery and Jonathan Paul Emery, 26 Button Bush Ct, Amherst NY 14228
- Site Access will be via a new driveway entrance on Whitehaven Rd.

Purpose:

This project is being developed as a community solar project, under the New York State NY-Sun initiative. Community solar projects allow any utility customer to subscribe to a solar project and get bill credits for the amount of electricity their portion produces. In addition, distributed generation (i.e., energy sources that are connected to the local electrical power lines, as opposed to the massive utility-scale projects that connect to the high-tension, high-voltage transmission system), serves to add reliability to the local grid and can help neighboring electrical customers by reducing the likelihood of brown- or black-outs.

Setting:

The site for the proposed solar project is currently farmland and vacant land. The parcel is zoned M1 – Light Industrial and Research, and is surrounded by other M1 zones, as well as M2 – General Industrial, and CR – Commercial Recreation Facilities, with R1A – Low Density Single Family Residential zoning across the road to the south. The site is ideal for a solar project, being flat and well-exposed to sunlight, naturally screened on multiple sides, and having soils with good structure. The site is also in close proximity to existing National Grid three-phase power lines along Whitehaven Rd.

Site Plan, Major Equipment:

A full preliminary site plan for the proposed community solar project, including civil drawings, is attached hereto as **Appendix A**. The solar project will be comprised of three types of major equipment: solar modules (panels), racking, and inverters. Equipment data sheets for representative examples of major equipment have been attached hereto as **Appendix B**.

Solar photovoltaic (PV) modules (also known as solar panels) are made of thin silicon cells, aluminum conductors and frames, glass surface, and plastic back sheet. The silicon cells convert the rays of the sun into an electric current, which runs through the aluminum conductors and into the larger system. The glass serves to protect the panels from weather, while the plastic back sheet holds the cells, conductors, and string wiring.

The racking system supports the modules above the ground. The modules are installed on either single-axis tracking equipment or a fixed tilt system. The solar modules will be mounted on horizontal supports, attached to vertical steel posts driven or screwed into the ground at regular intervals, a method which requires no excavation or concrete foundations. If a tracking system will be used, the tracking motors will be installed on the top of the vertical posts, to which the modules will be attached. The tracking system would allow the solar system to track the sun across the sky each day.



String inverters will be attached to similar support structures as the solar modules, at the end of the rows of the solar array. Inverters convert direct-current (DC) electricity from the solar modules to the power grid standard of alternating-current (AC). The inverters have cooling fans, which make minimal noise, audible only within a few dozen feet of the inverters themselves. Specific sound ratings are included in the equipment data sheets, discussed below. These are the only sound-producing components on the site.

Final selection of specific panels, racking, and inverter models and manufacturers will be done prior to applying for a building permit. Slight revisions to the site plan to accommodate final equipment selection may be necessary, including adjustment of the final project area on the overall parcel. Any revisions will maintain similar physical characteristics, and will fully comply with all setbacks and height restrictions and any other City, County, or other legal requirements.

Interconnection and Other Equipment:

The solar project will have one or two small transformers, which will increase the voltage from the system voltage of 480/600 V to the National Grid distribution system voltage of 13.2 kilovolts (kV). A separate meter and various other electrical equipment will be co-located with the transformers, pad-mounted near the southern edge of the site. An electrical feeder extension (cables) will extend from that location, along the access road to the southern edge of the parcel, where the solar project will interconnect with the existing National Grid distribution system. The interconnection facilities will be made up of poles, control boxes, meters, switches, and other related equipment. Final design and location of the National Grid interconnect facilities will be dictated by National Grid, and will be specified by National Grid prior to application for building permits.

Access and Fencing:

The project will be accessed via a new gravel driveway as shown on Appendix A, continuing back to the solar project site. This road will be constructed with permeable materials (final design to be determined prior to applying for a building permit). The entire project area will be fenced and gated to prevent unauthorized access. Fencing will be standard chain link fencing, six feet tall with three strands of barbed wire. The high-voltage equipment (transformer) will be further fenced with a separate enclosure, made up of black, vinyl-coated chain link, with a self-locking gate. No regular visitation of the site other than the landowner and operations and maintenance team is proposed.

Hours of Operation, Employees, Site Traffic, Parking:

The facility will passively convert sunlight to electricity during daytime hours. No permanent employees will be on site on a regular basis. Operations & Maintenance personnel will travel to the site roughly three to eight times per year, to perform scheduled maintenance and vegetation control, and to respond to any unscheduled maintenance or outage issues, as further described below and in Appendix F. One permanent parking space will be built, per the Town Code's requirements.

Screening, Landscaping, and Ground Cover:

Given the location of this project, the existing vegetation will provide significant screening of the project from view from the roadway and nearby properties. In order to achieve the goals of the Town Code, the project will install additional landscaping and vegetation, to enhance the natural screening on the site. New six-foot Siberian spruce (or equivalent) trees will be planted every ten feet, with two cardinal dogwoods in front of each spruce. The full landscaping plan is attached as part of the CUP Plan Set in **Appendix A**.

The land under the panels will be planted with low-growth, native vegetation that will allow water infiltration and reduce run-off rates relative to open farmland. The vegetation mix will be pollinator friendly, and will support the biodiversity of the area and provide additional habitat for a number of native fauna, including bees, butterflies and other important pollinating species. Growth of the vegetation will be controlled by regular mowing, as needed. Mowing will be needed less often as the native habitat establishes itself. Herbicide and other weed control measures may be used as necessary to keep the site in well-kempt condition and to support the establishment of the native pollinator habitat.

Visual Impact:

Given the screening discussed above, the project will have no visual impact on the surrounding properties. A line-of-sight analysis was performed for the project, in accordance with the requirements of the Town Code, and is attached hereto as **Appendix C**.

Glare:

No glare is expected to result from the project. This project was modeled using ForgeSolar's glare analysis tool. The model assumed that solar was built on all of the buildable area of the parcel north of the "panhandle" extension to Whitehaven Rd. This is more solar than will actually be built on the site, and thus would be the design most likely to produce glare. Observation Points at a height of 5 feet above ground level were placed at all residences surrounding the project, as well as several camp sites in the Branches of Niagara Campground. No glare was predicted to occur at any of the modeled Observation Points. The glare study is attached as **Appendix D**.

No Services required:

Solar projects do not require sewer, septic, city water, waste management, or any additional local services.

Grading:

No grading is planned to be performed other than minor grading as necessary to build the access road and equipment pads. Should additional grading be required upon final equipment selection and final engineering, the project will properly engineer drainage controls and obtain any and all necessary permits prior to such activity.

Upon final engineering, a Stormwater Pollution Prevention Plan (SWPPP)/National Pollutant Discharge Elimination System Permit will be developed in accordance with all local, state, and federal regulations and guidance, and will be submitted for review and approval prior to issuance of a building permit.

Soils:

The soils in the Project area were identified via the Natural Resources Conservation Service Web Soil Survey mapping tool, and is attached as **Appendix E**. These soils are suitable for the proposed project. Final foundation and pile engineering will be completed prior to application for a building permit.

Wetlands:

No impact to wetlands will occur due to this project. Some mapped National Wetland Inventory wetlands exist on the overall parcel, outside of the project area. To confirm the locations of those and any other potential wetlands, wetlands experts Wilson Environmental Technologies (WET) prepared a Preliminary Wetland Delineation report for the site, which is attached as **Appendix F**. No state-regulated wetlands were found onsite. Two small federal-jurisdiction wetlands were found on the parcel, near the western boundary. All wetland areas have been entirely avoided by the proposed project. A formal wetland delineation by WET is underway, and will be completed prior to the Town's final approval of the project.

Interconnection Status:

The project has applied for interconnection with National Grid, under the New York State Standardized Interconnection Requirements. National Grid completed their technical review of the project in September, and delivered the Coordinated Electric System Interconnection Review (CESIR) study, attached hereto as **Appendix G**. The CESIR study showed the need for only minor upgrades to the electrical system, another reason why this project is an ideal location for a solar project.

Life of Project – Operations and Maintenance

Upon approval of the Site Plan Review and Special Use Permit, several steps remain prior to the commercial operation of the community solar project, including final design and production modeling, final investment decision, hiring of the project's construction firm, and applying for a local building permit, among many others. We expect that construction will commence within six (6) to eight (8) months of the SUP approval. Once operational, the life of the project is expected to be at least 25 years, and may be extended beyond that time, depending on a variety of factors.

An O&M Plan has been prepared for the project, and is attached as **Appendix H**.

Decommissioning Plan:

A Decommissioning Plan has been prepared for the project, including a Decommissioning Cost Estimate, and is attached as **Appendix I**. The Decommissioning Plan will be updated once the project design is finalized, based on the final site plan, selected equipment, and salvage value. The Applicant will provide an updated Decommissioning Cost Estimate along with any required financial security prior to applying for a building permit, as described in more detail in Appendix G.

SEQR Process – Full Environmental Assessment Form

A Full Environmental Assessment Form – Part 1, has been completed to facilitate the Town’s SEQR process. It is attached as **Appendix J**.

Legal Consent Between NYSOLAR06 and the Landowner

The landowners, Inga Anders Emery and Jonathan Paul Emery, entered into a long-term lease agreement with NYSOLAR06 LLC as of July 10th, 2020, granting NYSOLAR06 the rights to develop solar on the parcel. A Memorandum of Solar Energy Lease Agreement (“Memo”) was prepared and executed by the parties, and recorded in the Real Property Records of Erie County on October 21st, 2020. The Memo is attached hereto as **Appendix K**.

Response to Town Code Criteria for Site Plan Review (Chapter 407-110):

A. Compatibility.

The project is fully compatible with the surrounding neighborhood, even absent the included landscape screening. The project is made up of low-lying structures, similar to barns or greenhouses, surrounded by a fence, plus electrical equipment very similar to the existing power lines surrounding the site and substation on W Lake Rd.

B. Vehicular Access.

Only one access is proposed for the site, and will resemble other common access points on Whitehaven Rd.

C. Lighting.

No permanent lighting will be installed as part of the project.

D. Parking.

One parking spot is included in the plan. No regular personnel will be onsite, and no additional parking will be required.

E. Pedestrian Circulation.

Not applicable.

F. Landscaping and screening.

The site is already well-screened on all sides with existing structures and vegetation. The additional landscape screening proposed in this application will be more than adequate to further screen the project from view.

G. General screening requirements.

The proposed landscape screening meets or exceeds the standards for screening set out in the solar law, and will not violate the standards herein.

H. Natural features.

The project is compatible with the geologic, hydraulic, and soil conditions of the site, and will not impact existing scenic features.

I. *Public facilities.*

No public facilities will be required to serve the project site.

J. *Avoidance of nuisance.*

The proposed project will indeed not create noise, odor, dust, or smoke as to create a nuisance or be detrimental to adjoining properties.

K. *Stormwater Management and Drainage Requirements.*

No significant grading will be performed as part of this project. The project will use Best Management Practices in accordance with the Design Manual and Erosion Control Manual. A Storm Water Pollution Prevention Plan is not required at this time, but will be prepared and submitted to the Town in advance of issuance of a building permit for the project.

L. *Erosion and sediment.*

No significant grading will be performed as part of this project. An erosion and sediment control plan is included in Appendix A, and will be updated if and as necessary as part of final engineering, prior to issuance of a building permit.

M. *Altering course of waterways.*

No alteration of waterways will occur.

Response to Town Code Criteria for Special Use Permit:

A. *The proposed use, building, structure or development is consistent with the intent of each district.*

The zoning district of the property is M1 – Light Industrial and Research. Solar energy fits this district, as well as any low-density or agricultural district. By enacting the solar law, the Town has established that Major Solar Systems are an appropriate use in M-1, M-2, R1-A, R1-B, R1-C, and R1-D districts.

B. *Special use permits may be recommended by the Planning Board and authorized by the Town Board only upon a satisfactory evaluation of the following factors:*

(1) *The general character, height, and use of a structure or structures.*

Solar projects fit very well into an low-density rural/agricultural setting, resembling greenhouses, barns, or other low-lying structures and buildings that are common in such areas. No objectionable noise, views, traffic, or other impacts will be created by this project.

(2) *The provision of surrounding open space and the treatment of grounds.*



Solar Energy helps preserve open space and habitat for native flora and fauna through the native groundcover that will be planted under the solar array. Open space will be preserved on the parcel around the solar project itself.

(3) The impact on the surrounding properties and neighborhood.

Solar projects have no impact on the surrounding properties, , as well established by multiple relevant studies.

(4) The adequacy of automobile parking or storage.

The project will not require any significant parking or on-site storage.

(5) The street capacity and uses as may be necessary to limit air pollution in the interest of the public health, comfort and convenience

The project will create no materially-significant new traffic, and will not create any additional air pollution.

C. The proposed use or structure will not be detrimental to the public health, safety and welfare of the community.

Solar projects are inherently very safe. No hazardous materials will be utilized for the project. There will be no long-term increase in local traffic, and no police, fire, or other services will be required. A solar project is no more hazardous than a greenhouse or barn.