



CONNECTICUT DEPARTMENT OF AGRICULTURE

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Office of the Commissioner

An Equal Opportunity Employer



July 16, 2025

Melanie A. Bachman  
Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

**Re: FirstLight – Shepaug Solar Southbury, Proposed 3.0-Megawatt AC Solar Generating Facility**

Dear Executive Director Bachman:

Pursuant to 16-50k(a) of the Connecticut General Statutes, we have reviewed the above cited project with respect to agricultural impacts, specifically, to determine whether "...such project will not materially affect the status of such land as prime farmland..."

This project will be located at 2225 River Road in Southbury on a parcel owned by FirstLight's subsidiary, FirstLight CT Housatonic LLC. The entirety of the property at 2225 River Road is 553.67 acres of which 53.5 acres are classified as prime farmland soils. The Generation Footprint contains 10.86 acres of prime farmland soils.

In an email to the Department of Agriculture, dated May 20, 2025, the Petitioner (FirstLight) has agreed to:

1. Restore the existing Prime Farmland and establish an apiary and pollinator habitat of native, seasonal, and biodiverse wildflowers, grasses, and shrubs beneath and around the solar array.
  - a. Plant species will be selected based on their compatibility with local soil conditions, shade tolerance, and value to pollinators throughout the growing season from early spring through late fall.
  - b. Seed mixes will include plants known to thrive in partial shade and require minimal maintenance once established. FirstLight will consult with a third-party specialist to develop a site-specific seed mix.
  - c. The seeding of native pollinator habitat will occur within the solar array area following the completion of racking and panel installation anticipated to take place in late April to early May, depending on construction timeframe, site conditions and weather.
  - d. A compact tractor equipped with a no-till seed drill will be used to navigate between rows. Hand-broadcasted seeding will be done in hard to access places.
2. Partner with local beekeepers to install an apiary and manage beehives on-site.
  - a. In years one through three, two to four hives will be established; each hive is expected to produce between 20-30 pounds of honey annually and maintain a population between 40,000-80,000 bees during peak season (spring/summer).

- b. As the habitat matures, the apiary will expand to maximize the number of hives that can be supported via the meadows and local farms, anticipated at a maximum of 20 hives, each producing 50-100 pounds of honey annually.
    - c. These bees will contribute to local pollination services for nearby farms.
  3. Produce agricultural products such as honey, beeswax, and propolis from the apiary.

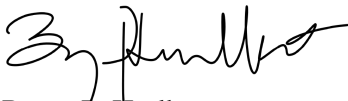
Based on preliminary information provided to the Agency (enclosed), and the successful implementation of the co-uses described in the attached, the Department of Agriculture concludes this project will not materially affect the status of project land as prime farmland.

This letter is conditioned upon all dual use plans being fully implemented and operational for the duration of the solar installation. If the Petitioner sells the solar project to another entity, dual use programing and decommissioning responsibilities must carry over to the new owner.

Should any project changes raise concerns to the Agency, we reserve the right to modify our position on this project, including opposing it, as detailed plans are provided by the Petitioner. Nothing in this letter relieves the Petitioner of other obligations under applicable federal, state, and local law that may be necessary as part of the proposed project design and implementation.

If you have any questions, please feel free to contact Jaime Smith of my staff. Jaime can be reached at [jaime.smith@ct.gov](mailto:jaime.smith@ct.gov).

Sincerely,



Bryan P. Hurlburt  
Commissioner

Enc. Shepaug Solar Agrivoltaics Farm Plan

Cc: Katie Dykes, Commissioner, Department of Energy and Environmental Protection  
Sandra Brown, Director, Project Development, FirstLight



# **Agrivoltaics Farm Plan**

for

Shepaug Solar

May 20, 2025

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## Property Information

1. Provide a description of the Parcel, including but not limited to the following:

A. Owner(s), farm name and location;

The Shepaug Solar Array (the “Project”) is owned by Shepaug LLC and will be located at 2225 River Road in Southbury, CT at FirstLight’s existing Shepaug Generation Station hydroelectric facility operated under FERC License No. 2576. The property at 225 River Road is owned by FirstLight’s subsidiary, FirstLight CT Housatonic LLC.

B. Identify past lessee name(s) and land use, if a tenant farmer was present in the last five years; and

No tenant farmer has been present at the site in the last 5 years. Prior to the construction of the Shepaug Dam in 1955, the property may have had agricultural activity occurring in the mid to late 1800s. Since then, it has returned via natural succession to forested former agricultural meadows, which are maintained and monitored under FirstLight’s FERC License.

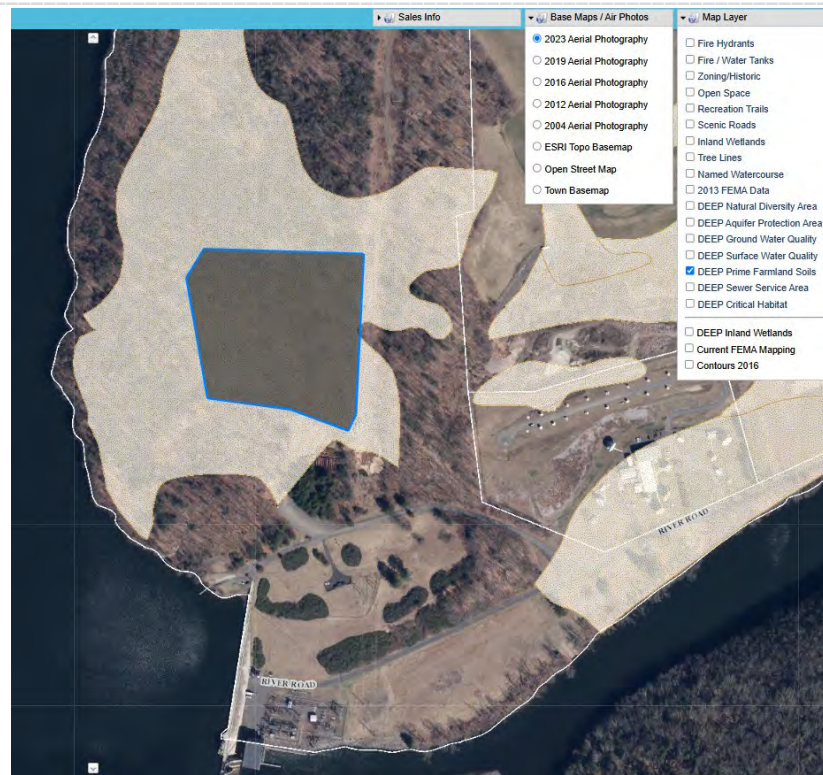
At present, under FERC’s license, FirstLight has permitted three Non-Project Use Approvals (NPUAs). Currently, there are three active on the property, but not adjacent to the proposed Project.

- Middlesex Construction Laydown Area: A license has been issued to Middlesex Construction for the storage of steel materials.
- Shepaug Station Solar: A license has been issued to Shepaug Station LLC for the construction of a small ground-mount solar facility adjacent to the Shepaug Dam embankment. This property is not on Prime Farmland.
- Fischel Properties Marina (Unbuilt): A license was granted for a proposed marina, though it has not yet been developed.

C. Total Parcel acreage, identification of prime farmland soils & acreage;

a. Include appropriate maps and surveys to allow evaluation.

The 2225 River Road property is approximately 553.67 acres of which 53.5 acres is designated as Prime Farmland Soils as specified by the Southbury CT GIS system. Although a small portion of the parcel is classified as Prime Farmland, the land is currently wooded and has not been in agricultural production since the late 1800s. The Solar Generation Footprint is 10.86 acres and is shown in the blue outlined area in Figure 1 below, which also shows the location of Prime Farmland soils and acreage. The site’s Environmental Resource Screening is provided as Attachment 1 below.



*Figure 1: Solar Generation Footprint and Prime Farmland Soils;  
Prepared by CT licensed Surveyor and Engineer Thomas E. Little, All Point Technology*

2. Provide an overview of the energy project, including but not limited to the following:

A. The size of the project in megawatts (MW);

The Project will have a solar generation capacity of 1,999kW AC or 3,002kW DC.

B. The Project Site and Generation Footprint being proposed as it relates to prime farmland on the property;

The Project Site contains semi-mature forest, and the Generation Footprint includes approximately 10.86-acres classified as Connecticut Prime Farmland. There will be no impact on existing agricultural production, as the land has not been actively farmed for over 100 years.

As part of the Project's development, we are committed to preparing and returning portions of the wooded Prime Farmland into productive agricultural use. This will be achieved through the establishment of native pollinator habitat and the introduction of an on-site apiary to support biodiversity and promote long-term soil health in alignment with responsible land stewardship practices.

C. Identify whether the project is participating in a state program (including SCEF, NRES, or any state procurement);

The Project is currently under consideration for participation in the Shared Clean Energy Facilities (SCEF) Program.

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D. A description of infrastructure needed to support the project; and

FirstLight's geotechnical consultant, GEI Consultants Inc., recommended that the solar array be supported using driven or drilled piles. FirstLight is currently considering various racking options to establish the best design for the Project Site. The final racking design will be determined following final design engineering.

As part of the design provided in the concept plan in Attachment 2 dated September 10, 2024 formal stormwater management features will be engineered to collect and naturally filter stormwater onsite. These features will enable in situ infiltration, ensuring that no stormwater results in runoff.

The path to interconnect the Project includes a proposed three-phase extension from the Project Site to the Point of Interconnection along River Road, adjacent to the existing substation. The project has reserved electric capacity from Eversource CT, as part of our executed Interconnection Agreement, and has been approved to interconnect at this location. This extension will be constructed primarily on overhead poles, except for an underground segment crossing the existing Eversource transmission easement, which has been authorized by Eversource.

E. The proposed lifetime of the project, including any extensions.

The Project is designed for long-term operation and is anticipated to have a useful life of approximately 25 to 30 years. Following the completion of the SCEF Program, the operations for the site's pollinator habitat and on-site apiary are anticipated to continue throughout the Project's life and will be reassessed for effectiveness on an ongoing basis, including identifying opportunities for expanded agricultural activities.

3. Provide a description of past agricultural activities on the Parcel, including but not limited to the following:

- A. All production agriculture that has taken place both on the Parcel and within the proposed Generation Footprint during the past five years;

There has not been agricultural production on either the Property nor the Generation Footprint within the past 5 years.

- B. The approximate location of crops, livestock, farm buildings, etc. used to support the farming operation;

- b. Include appropriate maps and surveys to allow evaluation; and

There has been no agricultural production onsite within the past 5 years.

- C. Describe overall how the project will impact production agriculture currently being conducted on the farm.

There will be no impact on production agriculture, as there is no productive agriculture at the site at present.

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## Property Management

1. Describe project plans to displace soil on the property including panel installation methods, interconnections, grading, and soil stockpiling;

The Project's soil displacement plans are expected to be minimal and are outlined below:

### **Racking Installation Methods:**

The Project will utilize a dual-post galvanized steel racking system designed to accommodate the site's wind and snow loads as required by State and Federal Building Codes. The racking foundations are anticipated to be ground or helical screws, which are compatible with the site's soil conditions and help minimize soil disturbance.

### **Interconnections:**

Soil displacement will be limited to only the underground portion of the interconnection extension, which includes approximately 1,780 feet of new line of which 120 feet is anticipated to be underground. The conduit is 2 feet wide by 4 feet deep, resulting in approximately 960 cubic feet of soil displaced. Excavated soil from this limited activity will be reused as graded fill within the existing transmission line easement or redistributed on-site. No soil is expected to be transported off-site.

### **Grading:**

Minimal grading is anticipated across the Project Site. Grading will only be performed in localized areas as necessary to direct water to our stormwater feature/basin, utilizing best management practices. Grading will follow the SCEF Program guidance, with a focus on preserving existing soil structure and minimizing compaction.

### **Soil Stockpiling:**

Any soil temporarily displaced during construction will be stockpiled on-site in designated areas and will be reused within the Project parcel for backfill or site grading. No additional major soil excavations are anticipated.

2. Identify whether the farmland has been used in production agriculture in the past five years;

There has been no agricultural production onsite within the past 5 years.

3. Provide a detailed explanation of the agrivoltaics co-use proposed, including but not limited to the following:

- A. Describe farm plan for all agricultural activities on the entire parcel, including planned crops and/or livestock grazing;

The proposed Farm Plan for the Shepaug Solar Project is to restore and return the existing Prime Farmland into active agricultural use by establishing a pollinator habitat with apiary. This approach allows for the property to be returned to its earlier use, while allowing the soil to transition from semi-deciduous forest into pollinator meadow, preparing it for future use at an active agricultural property.

FirstLight will partner with local beekeepers to install an apiary and manage beehives on-site. The apiary will serve as a home for honeybee colonies, which will forage on the native pollinator plantings



underneath and around the solar generation footprint. We intend to establish a partnership with a local beekeeping company upon evaluating the services offered by potential partners in the area.

During the initial vegetation management period (years 1-3, as outlined below), we anticipate installing 2-4 hives. Each hive is expected to produce between 20-30 pounds of honey annually and maintain a population between 40,000-80,000 bees during peak season (spring/summer). As the habitat matures, and under the guidance of our partner, we plan to expand the apiary to maximize the number of bee hives that can be supported via the meadows and local farms. We anticipate this will be a maximum of 20 hives, each producing 50-100 pounds of honey annually, during the long-term vegetation management period. These bees will contribute to local pollination services for nearby farms while supporting the health and resilience of Connecticut's ecosystems.

The apiary is expected to produce agricultural products such as honey, beeswax, and propolis. These products may be sold locally or used for educational and outreach purposes to enhance FirstLight's economic and social impact in collaboration with our apiary partner.

In addition to the apiary, the Project will establish a pollinator-friendly habitat across the generation footprint. Native wildflowers, grasses, and low-growing shrubs will be seeded beneath and around the solar array, as well as in an adjacent meadow near the Shepaug Hydrogeneration to create a biodiverse habitat that supports nearby farms and Connecticut's pollinator populations.

Plant species will be selected based on their compatibility with local soil conditions, shade tolerance, and value to pollinators throughout the growing season from early spring through late fall. Seed mixes will include plants known to thrive in partial shade and require minimal maintenance once established.

Vegetation management is expected to follow the approach below:

- Initial vegetation management period (Years 1-3): Managed through bimonthly mowing to ensure successful establishment of the habitat and control of invasive species.
  - Long-term vegetation management period (Post Year 3): Transition to biannual mowing, with attention to avoiding peak flowering and foraging periods for pollinators.
- B. Seed Mix Identification: Identify any planned row crops, cover crops and/or vegetation mix, as appropriate;

The Project aims to establish ecologically beneficial agricultural activity through the integration of native pollinator habitat and on-site beekeeping. While no row crops or livestock grazing are currently planned, FirstLight will plant a carefully selected mix of native, seasonal, and biodiverse wildflowers, grasses, and shrubs beneath and around the solar array. These plantings are intended to support pollinators and other beneficial insects, improve soil health, and promote biodiversity.

Although the final seed mix has not been determined, FirstLight will consult with a third-party specialist to develop a site-specific seed mix. The following criteria will guide seed selection based on compatibility with the Project Site's sandy loam soils:

- Mature height of 36" or less
- Tolerant of sun and shade
- Host plant for pollinators



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- Bloom periods staggered from spring to fall
  - Compatible with dry to mesic soil conditions

A preliminary list of native plant species under consideration is provided as Attachment 3. The species listed in the attachment were drawn from the University of Massachusetts Amherst's "Recommended Plant Species List for Solar Arrays" (2022), which was developed in collaboration with ecological experts to support dual-use and pollinator-friendly solar development. Although the final seed mix has not yet been finalized, FirstLight will continue working with local seed experts to finalize a mix that is best suited for the site.

- C. Describe how planting of vegetative cover or crops will be conducted for each of the follow areas including the sequence of planting (which areas will be planted and when), planned month of planting, planting method (drilled, broadcast, bareroot or plugs), and equipment to be used;

- a. Array Planting;

#### Initial Plantings:

The seeding of native pollinator habitat will occur within the solar array area following the completion of racking and panel installation to avoid disturbance to new vegetation. This is anticipated to take place in late April to early May, depending on construction timeframe, site conditions and weather.

#### Planting Method/Equipment:

A compact tractor equipped with a no-till seed drill will be used to navigate between rows. In narrow or hard to reach areas, seed will be hand-broadcasted.

#### Ongoing Maintenance:

Once established, the habitat will be maintained through bimonthly mowing for the first three years to support establishment. Mowing will occur outside peak flowering and foraging seasons. After year three, vegetation management will transition to a biannual mowing schedule.

- b. Border Area Planting;

#### Initial Plantings:

Border areas will be planted with native wildflowers and grasses selected for their compatibility with partial shade and local soil conditions. Species will be chosen to promote habitat diversity and minimize erosion along the project perimeter. Planting is scheduled for late April to early May.

#### Planting Method/Equipment:

A compact tractor equipped with a no-till seed drill will be used to navigate between rows. In narrow or hard to reach areas, seed will be hand-broadcasted.

#### Ongoing Maintenance:

Once established, the habitat will be maintained through bimonthly mowing for the first three years to support establishment. Mowing will occur outside peak flowering and foraging seasons. After year three, vegetation management will transition to a biannual mowing schedule.

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c. Stormwater Detention Area Planting;

Initial Plantings:

Stormwater basins will be planted with a wetland-adapted native seed mix that supports infiltration, sediment control, and pollinator activity. Planting will occur in mid-May, after the risk of frost and once soil temperatures are consistently above 50°F.

Planting Method/Equipment:

A compact tractor equipped with a no-till seed drill will be used to navigate between rows. In narrow or hard to reach areas, seeds will be hand-broadcasted.

Ongoing Maintenance:

Once established, the habitat will be maintained through bimonthly mowing for the first three years to support establishment. Mowing will occur outside peak flowering and foraging seasons. After year three, vegetation management will transition to a biannual mowing schedule.

- D. If grazing animals are proposed, DOAG's Requirements for Solar Grazing must be followed; A Grazing Plan is required and should include the following information:
  - a. The type and number of animals to be used;
  - b. The time and duration of grazing, and the decision making process for ensuring that vegetation is not over-grazed;
  - c. Forage and vegetation mix establishment and maintenance;
  - d. Plans for fencing;
  - e. Plans for a water source;
  - f. Plans for soil testing; and
  - g. Contingency plan for unforeseen climate events;

This section is not applicable for the Project, as solar grazing is not anticipated to regularly occur.

## Design Specifications

1. Provide a description of the proposed modules, including but not limited to the following:

FirstLight and its Development partner have developed a preliminary design with specifications for both modules and racking vendors; however, selection of vendors will be completed during final design engineering.

A. Panel height;

The design selected will stand at minimum 3 feet for the leading edge (the lowest edge of the solar module) to the ground, and 9 feet from the crown edge (the tallest edge) of the module, at its maximum height no panel will stand over 12 feet based on topography.

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B. Panel dimensions;

Our modules will be approximately 85 inches x 40 inches. As of now, we are targeting bifacial modules with an estimated wattage of approximately 445-460 Watts per module, which will be determined based on final design and engineering.

C. Row width;

The row width will be approximately 13 feet.

D. Module inter-row spacing; and

The module interrow spacing will be approximately 14 feet.

E. How this configuration will support the Dual Use selected;

The fixed tilt solar design will support native pollinator species to be planted within and surrounding the arrays. The spacing between rows, and overall spacing of the array promotes tremendous sunshine to propagate our pollinator-friendly seeding plan and promote Apiary activities. Additionally, this form of fixed tilt design allows rainfall to irrigate naturally, between our solar rows, and creates ideal conditions for our seed mix to thrive long term and create Apiary habitat.

2. Identify whether panels will be fixed, tracking, bifacial, vertical, and/or semitransparent;

The panels will be fixed and bifacial.

3. If dual-use production agriculture is proposed, demonstrate how sunlight reduction from panels is based upon compatibility with the proposed agricultural activities;

A. Documentation must be provided to establish the maximum sunlight reduction from panel shading on every square foot of land directly beneath, behind, and in the areas adjacent to and within the array's design. Project proposals shall demonstrate how this sunlight reduction is based upon compatibility with the proposed agricultural products and will sustain continued productivity;

- a. Growing Season/Time of Day Considerations: The typical growing season should be March/April through October/November, with sunlight reduction to be measured between 10AM and 5PM for March and October, and from 9AM to 6PM from April through September.

The Shepaug Solar Project will integrate a pollinator-friendly habitat beneath and around fixed-tilt solar arrays. Peer-reviewed studies provide insights on expected light reduction under similar agrivoltaic systems. Research indicates that fixed-tilt solar arrays can reduce photosynthetically active radiation (PAR) beneath the arrays by approximately 22-47%, depending on panel orientation and spacing (Ukwu, U.N., Muller, O., Meier-Grüll, M. *et al. Sci Rep* **15**, 1190 (2025)).

This level of shading is compatible with the proposed pollinator habitat, as the selected plants will be adaptable to shady site conditions. Many native wildflowers and grasses suitable for pollinator habitats are adapted to partial shade and can thrive under these light conditions. Additionally, shading can offer additional benefits, such as reduced soil moisture evaporation and regulated microclimates, which can enhance plant resilience and biodiversity.

FirstLight will collaborate with local seed specialists to select plant species that are both shade-tolerant and adapted to the site's sunlight conditions. The goal is to maintain a productive and sustainable pollinator habitat that supports our on-site apiary and Connecticut's ecosystems and agricultural activities.

## Additional Requirements & Attachments

1. Provide contact information for the individual that will grant any person authorized by the State of Connecticut access to the Project Site for research and data collection purposes related to Agrivoltaics for the lifetime of the Project, with advance notice of site visits;

FirstLight's Land Management Dept.  
Email: [Land.management@firstlight.energy](mailto:Land.management@firstlight.energy)  
PO Box 5002  
New Milford, CT 06776

2. If the land is leased from a farmer or dual-use production agriculture in collaboration with a farmer is proposed, provide an attestation from the farmer confirming their input and involvement in the proposed project;

The property and project site are owned by FirstLight CT Housatonic LLC and is not currently in collaboration with a farmer at this time. If, in the future, FirstLight decides to partner with local farmers, FirstLight attests to contact DOAG with any critical changes to our agricultural cultivation plans.

3. Provide comprehensive maps, site plans and surveys that include the following information:

A. Date prepared;

8/10/24

B. Parcel topography;

Included in Attachment 1

C. Soils classification;

Included a soils classification map in Attachment 4 and included our Geotech Report dated April 2024, which shows a number of select soil sampling profiles through the array footprint in Attachment 5.

D. North arrow;

Included in all applicable Attachments

E. Identification of Project Site and Generation Footprint; and

Included in all applicable Attachments

- F. Identify and label location of agricultural activities, any proposed soil grading, stormwater basins, access roads, interconnections, and existing buildings and/or farm structures;

Pollinator plantings will be established beneath and around the solar panels, including throughout inter-row spacing and along the interior of the perimeter fencing.

4. Provide photos of the Project Site and Parcel; and

#### AgriVoltaics Location Plan

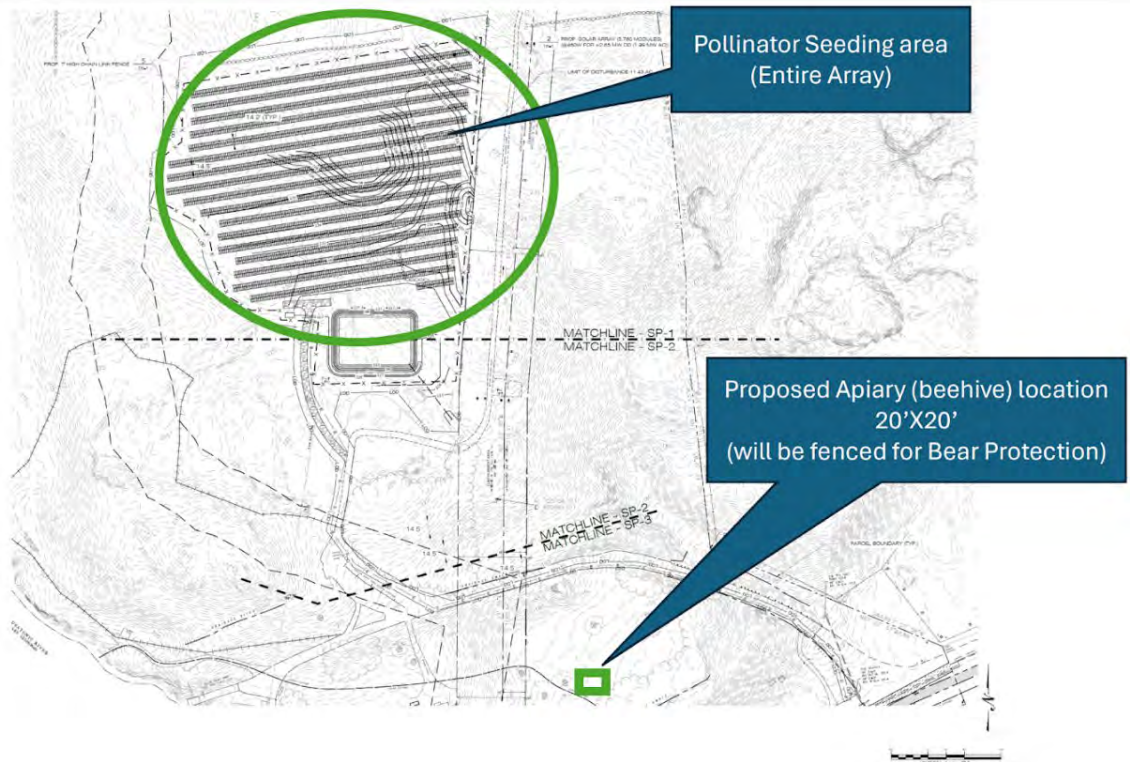


Figure 2: Solar Generation Footprint and Agrivoltaic Feature Location





*Figure 3: Existing Shepaug Substation and Point of Interconnection*



*Figure 4: Proposed Apiary Location (View to Southeast)*





*Figure 5: Proposed Entrance Area to Solar Generation Footprint (View to North)*



*Figure 6: Solar Generation Footprint Location to the Left, from the Existing Eversource Easement (View to Northwest)*





*Figure 7: Site Access Path with Existing Storage Yard South of Proposed Solar Generation Footprint (View to North)*



*Figure 8: Existing Eversource Easement and Proposed Interconnection Underground Location (View to Southeast)*

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5. Attest that, if the Bidder sells the solar project to another entity, Farm Plan Requirements and decommissioning responsibilities will carry over to the new owner.

FirstLight and DHD attest that if the Bidder sells the solar project to another entity, Farm Plan Requirements and decommissioning responsibilities will carry over to the new owner.

## Attachments

Attachment 1. Environmental Resource Screening

Attachment 2. Solar Concept Plan

Attachment 3. Array Planting Species List

Attachment 4. Project Site Soil Classification

Attachment 5. Geotechnical Report