BD ELECTRICAL & SOLAR

NATIVE NURSERY SOLAR PERGOLA

Location: Westport, Massachusetts

Project Highlights:

- Custom timber-frame solar pergola
- Dual-purpose agricultural and energy infrastructure
- Reinforced concrete foundation system
- Underground electrical distribution
- Coastal New England installation
- Shade structure for nursery operations
- Renewable energy generation for on-site consumption
- Excess generation utilized through net metering

Scope:

- Project management
- Civil and site coordination
- Structural construction
- Solar PV installation
- Electrical infrastructure
- Utility interconnection
- System commissioning

Project Overview

When the owners of a new native plant nursery in Westport set out to create a business dedicated to restoring local ecosystems, they wanted their infrastructure to reflect the same commitment to sustainability. The result was a custom-designed solar pergola that serves multiple purposes: generating renewable energy, providing shade for nursery operations, and creating a welcoming focal point for visitors.
BD Electrical & Solar was selected to design and construct the complete project, including civil work, structural construction, electrical infrastructure, and solar installation.

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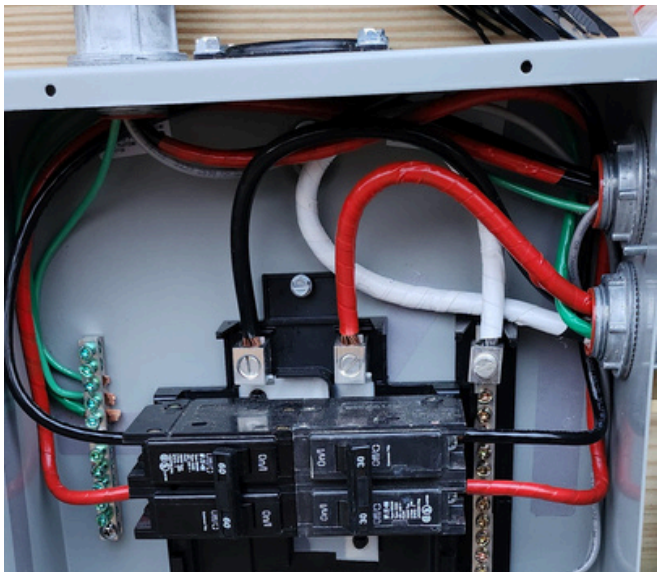
The Challenge

Unlike a traditional ground-mounted solar array, this project required a structure that would become an integral part of the nursery itself. The owners envisioned a space that could support daily operations, protect plants and workers from the summer sun, and complement the natural character of the property.

The project also needed to maximize the value of the solar investment by generating enough energy to offset the nursery's electrical consumption while providing additional net metering benefits for the property owner.



Design & Construction

The project began with site preparation and layout of a custom timber-frame solar canopy designed specifically for the nursery environment.

Construction included:

- Site excavation and foundation preparation
- Reinforced concrete pier foundations
- Custom timber-frame structural construction
- Underground electrical infrastructure
- Solar racking and module installation
- Utility interconnection and system commissioning

Each foundation was carefully laid out and installed to support the engineered timber structure. The canopy was constructed using pressure-treated heavy timber framing with galvanized structural hardware designed to withstand the harsh conditions of New England.

Underground conduits were installed between the solar pergola and the existing electrical service, minimizing visual impact while preserving the aesthetics of the property.

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The Finished Product

Today, the solar pergola serves as both a functional workspace and an architectural centerpiece for the nursery.

The structure provides valuable shade for plants, staff, and visitors while producing clean renewable energy throughout the year. By combining energy generation with practical agricultural use, the project demonstrates how solar can be integrated into working landscapes without sacrificing beauty or functionality.

The completed installation has become a defining feature of the property, creating a gathering space that aligns with the nursery's mission of environmental restoration and sustainable land stewardship.