

COMMERCIAL SOLAR CARPORT INSTALLATION



Location: Walpole, MA

Scope:

- Commercial solar carport electrical construction
- Underground electrical infrastructure
- Duct banks and conduit systems
- Concrete electrical structures and equipment bases
- Grounding and bonding
- DC collection and homeruns
- Large conductor pulls and terminations
- Electrical distribution equipment
- Yaskawa Solectria commercial inverter installation
- AC electrical infrastructure
- Solar system interconnection
- Testing and commissioning support



Project Overview

BD Electrical & Solar completed the electrical construction for this commercial solar carport project in Walpole, Massachusetts. The project transformed an existing parking area into a productive solar energy asset while maintaining the functional parking space below the arrays. Unlike a conventional rooftop solar installation, a solar carport requires significant electrical and civil coordination below grade. The finished arrays are only the visible portion of the project. Underground raceways, concrete structures, grounding systems, distribution equipment, commercial inverters, and large conductors all had to come together to create a complete electrical system.

BD handled the electrical infrastructure necessary to bring the solar arrays from the parking canopies through power conversion and into the facility's electrical system.



Building the Infrastructure Below the Solar Array

A major portion of this project happened underground. BD installed extensive conduit systems between the solar carport structures, inverter locations, electrical equipment, and point of interconnection. Multiple raceways were coordinated through excavated areas and concrete structures to provide dedicated pathways for the project's DC and AC electrical circuits.

Careful planning of conduit routing, sweeps, stub-ups, grounding, and equipment locations was critical. Once the site was backfilled and restored, much of this work disappeared from view, but it forms the electrical backbone of the solar installation.



Commercial Solar Power Conversion & Distribution

The solar arrays feed commercial Yaskawa Solectria inverters installed beneath the carport structures. BD completed the associated raceways, conductors, grounding, equipment installation, and electrical terminations required to integrate the inverters with the site's distribution system.

The installation also included commercial distribution equipment designed to consolidate and control the electrical output of the solar system before interconnection with the facility.

This combination of solar and conventional electrical construction is especially important on commercial projects where PV equipment must integrate safely with existing electrical infrastructure.





**BD ELECTRICAL
& SOLAR**

Solar Carports That Preserve Usable Space

Solar carports offer commercial and institutional properties an alternative to rooftop or ground-mounted solar.

By installing the arrays above an existing parking area, the property can generate renewable energy without dedicating additional land to the solar system. The parking lot continues serving its original purpose while the canopy above becomes an energy-producing asset.

The finished Walpole installation demonstrates how commercial solar can be incorporated into an existing property while making productive use of space that would otherwise remain exposed parking.

