Energy - Renewable

Rogue's Wind Energy Project

UNITED STATES



Owner
CPV Rogue's Wind, LLC

Engineer
Barr Engineering Co.

General contractor
MasTec Power Corps

Dates of work
April 2025 May 2025

Technical Specialties
Stone columns

Main figures

Stone columns
540 EA.
18 ft Average Depth



Description

As the third project to transform a former coal mine into a source of renewable energy, the CPV Rogue's Wind Project represents a major step in the continued redevelopment of former energy-producing sites in western Pennsylvania. The approximately 114 MW wind energy facility spans Cambria and Clearfield Counties and will become Competitive Power Ventures' third operating project in Cambria County, following CPV Maple Hill Solar and CPV Fairview Energy Center. Once complete, the project will convert former mining lands into a source of renewable power, supporting the region's transition to a more diverse energy portfolio.

The project includes 19 wind turbines, each supported by a massive foundation approximately 76 feet in diameter and designed to carry turbines standing between 590 to 800 feet tall. Menard was selected to provide ground improvement support for five of the turbine locations, where subsurface conditions and foundation performance requirements called for an alternative to deep foundations.

Ground conditions

Subsurface investigations were completed at each of the 19 turbine locations. The site was characterized by varying depths of mine spoil material within silty sand deposits overlying claystone and sandstone bedrock. Conditions varied significantly across the project, with mine spoil extending more than 100 feet above bedrock at some turbine locations.



Solution

Due to the varying depth and extent of former mine materials across the site, foundation solutions differed among the 19 turbine locations. While Nicholson Construction installed Micro Pile foundations at several turbines, Menard designed a pre-augered Stone Column solution for 5 turbine foundations to meet settlement and bearing capacity requirements. Through the combined expertise of Menard USA and Nicholson Construction, the project team was able to select the most appropriate foundation solution for each turbine location, avoiding a one-size-fits-all approach and delivering significant cost-savings across the project.

Construction presented unique challenges throughout the project. Installation activities occurred during winter and spring weather conditions that included snow, heavy rainfall, and washed-out access roads. In addition, Menard crews worked within deep excavations at the turbine foundation elevation, creating tight working conditions that required careful planning and execution.

Despite challenging subsurface and site conditions, Menard safely completed the ground improvement program within the project schedule, helping support the successful redevelopment of a former coal mining site into a source of renewable energy generation.

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