

SVDRUP ENGINEERING SERVICES

PROJECT EXPERIENCE



Naranja Park 250KWAC Solar Carport

Oro Valley, AZ

Civil and Electrical Engineering for 250KWAC Solar Carport at Naranja Park in Oro Valley, Arizona. Site consists of 100 covered parking spaces and design included infrastructure for future electric vehicle charging stations. Civil design included specifying and reviewing survey and initial site plan for pre-application permitting purposes. After preliminary approval civil design continued with full layout, trenching, and foundation locations. Structural design included specifying and reviewing geotechnical report, meter and disconnect foundations, inverter support structures, power panel support, conduit and lighting supports under carport.

Electrical design included 980 REC Solar 270 watts solar modules in 22/23 module strings at 1000V DC and connected to four SMA 62.5kW Core1 480VAC Inverters. The modules were attached to the carport structure at a fixed 5-degree tilt facing west. The inverter outputs combined at 400A AC Power panel and transitioned underground and into trench ~800 feet to the isolating disconnect at the new utility meter located next to existing transformer. Modules were bolted to carport structure and weeb washers were used to ground the modules to provide the most efficient connection. Lighting and grounding were provided. Performed design, QA/QC over construction, commissioning, and start up support. Design drawings include; site plan, demolition, foundations, lighting, grounding, stringing, details, single line diagram, three-line diagrams, DC line diagrams, signage, and equipment data sheets.

Owner: Tucson Electric Power Company

Design: February 2020

Inservice: August 2020