

SVERDRUP ENGINEERING SERVICES

PROJECT EXPERIENCE



Old Mill Switchyard

Marana, AZ

Civil, Electrical, and Structural design of 15MVA 15kV Electrical Switchyard. Work included specifying, reviewing, and including geotechnical evaluation into design. Civil design included grading site, controlling storm water runoff/erosion, and 7' fence with 3 strands of barb wire. Structural design included steel support structures, foundations, pads, and multiple outgoing wood poles for new and modified power poles designs for feeders entering/exiting the substation. Electrical design included grounding, lighting, lightning, cable ampacity, voltage drop, conduit fill, conduit pull, short circuit analysis, arc flash study, and protective device settings.

Equipment included Siemens 15kV dead tank circuit breakers, SEL 751A protection relays, 125VDC battery system with cool cell, AC and DC power panelboards, PTs, CTs, overhead disconnect switches, overhead breaker bypass switches, 25KVA station service transformer, surge arrestors, and power pole materials. Drawings include one/three-line, grounding, lighting, panel schedules, relay/control schematics, power poles, material list, civil, and structural. Protection devices settings calculated, settings file created and uploaded into relays.

Met with local utility (Tucson Electric Power) to coordinate utility upgrades, downtime, and start up. Oversaw and supported construction and commissioning.

Owner: Silver Bell Mining LLC

Design: May 2017

Inservice: May 2018