

Pacific Valley School Off-Grid Electrical System Upgrade

Project Walkthrough & Contractor Reference Package

Site Overview & Existing System Layout

- Existing System:
 - 15 rooftop solar panels
 - Lead-acid battery bank
 - Inverter/control room
 - Primary & backup generators
- Project includes generator replacement, battery replacement, inverter upgrades, solar optimization, and electrical upgrades.



Generator/Power
House containing both
primary and backup
generators.

Existing Generator Building



Existing Primary Generator

Current primary generator. Will remain and become backup generator.



Primary Generator Nameplate

Generator make/model
and equipment data.





Failed Backup Generator (To Be Replaced)

Existing failed backup generator to be removed and replaced with new 45kW propane generator.

Generator Building Panorama



Overall layout of generator building showing both generator locations.



Generator Building Access

Double doors
available for
equipment removal
and installation.

Existing inverter room.
New inverters,
controls, and 100A
upgrades occur here.

Inverter & Electrical Equipment





Existing lead-acid battery enclosure to be demolished and replaced.

Existing Battery Enclosure



Existing Solar Array

15-panel rooftop solar array remains and receives optimizers/upgrades.



Overall System Relationship

Shows relative locations of inverter area and battery enclosure.

Proposed Scope of Work Summary

Generator System

- Remove failed backup generator
- Install new 45kW propane generator
- Existing primary generator becomes backup

Battery Energy Storage System

- Remove/dispose of existing lead-acid batteries
- Demolish existing battery enclosure
- Install ~95 kWh lithium-ion battery system
- Install IP66-rated outdoor battery equipment cabinet

Inverter & Controls

- Replace existing inverter system
- Install two solar charge controllers
- Install monitoring and communications

Solar Optimization

- Retain existing 15-panel array
- Install optimizers and improve performance

Electrical Upgrades

- Upgrade feeder from 60A to 100A
- Replace breakers/conductors as required