

State of California
Department of Parks and Recreation

NOTICE OF EXEMPTION

TO: Office of Planning and Research
1400 Tenth Street
Sacramento, CA 95814

FROM: Department of Parks and Recreation
Sierra District Headquarters
P.O. Box 266
Tahoma, CA. 96142

PROJECT TITLE: Power Upgrade

LOCATION: Malakoff Diggins State Historic Park **COUNTY:** Nevada

DESCRIPTION OF THE NATURE AND PURPOSE OF PROJECT: Install solar panels as the main "green" power source and a back-up Environmental Protection Agency (EPA) approved diesel generator at Malakoff Diggins State Historic Park to provide power and to protect public health and safety and security for park collections. Work will:

- Solar Array - Excavate approximately twenty eight 18" wide x 36" deep holes x 6' apart; place one 2" schedule 40 galvanized steel post per hole; fill with concrete. Attach north and south horizontal supports running the length of the array east to west. Install (56) sixty cell solar modules mounted on a UNIRAC ULA ground mount system, or equivalent in a footprint approximately 80' long x 12' wide with 14 columns of 4 modules mounted in "landscape" orientation on a 38 degree slope in the northeast corner of the Jeffers field with the leading edge of the modules being no less than 5' off the ground, and 14' on the back side at the lowest point. Panels will be Mono Crystalline type, blue cells with silver or black frames following the topography on a 20 degree south facing slope. Stage materials in a pre-existing storage area located northwest of the Jeffers Barn. Temporarily transport materials on the existing road between the Jeffers house and barn to the work area and construct on site; rehabilitate access route post construction.
- Trenching - excavate approximately 2200' x 18" x 22" from the solar array crossing the Jeffers field to an old roadbed intersecting at the main paved road; continue trench down the main paved road avoiding current utilities to the junction of the generator building. Trench will turn left on the road to the generator building. Excavate a second trench approximately 20' x 18" x 22" from the new inverter and battery shed to the adjacent generator building. Bed both trenches with sand and install schedule 40 PVC 3" x 2" conduits for the PV array connection to batteries and generator; backfill to grade.
- Inverter and Battery Shed - Demolish and remove the existing 16' x 17' generator shed and concrete slab. Grade the area and pour a 24' x 30' concrete slab on the same footprint and construct a 24' x 30' brown metal shed on the slab. Place seven 28" wide inverters on a minimum of 37' of mountable wall space. Three of the inverters will convert DC electricity into AC power to charge the batteries and power electrical loads during sunlight hours; four of the inverters are battery inverters regulating solar inverters, the generator and maintain the battery charging. Construct an airtight insulated and vented 8' w x 5' D x 3 ½' L battery box on 8' of wall space. Install two vents on the outside of the battery box; one low in the box for fresh air; pipe another from the box through the roof to exhaust hydrogen created in the charging cycle. Insulate the shed; place a heater in the shed during winter months to 70 degrees and vents in the shed to keep batteries below 90 degrees in the summer months.

