

Sierraville Public Utility District

California Department of Water Resources
2021 IRWM & 2021 UMBDRP Grants, Project #4600013818
Alternate Water Source Development Project
Pump Station Replacement Project
Sierra County Board of Supervisors Presentation
March 19, 2024



Sierraville PUD Pump Station

Scope of Work:

- Replacement of existing 1960's vintage pump station with new station that is fire resistant and designed to current building standards.
- Updated pumps and power system/controls
- Separate chemical storage room
- Updated SCADA system
- Stationary emergency generator

Schedule:

Bid Opening: May 3, 2022

Notice of Award: June 15, 2022

Notice to Proceed: July 20, 2022

Substantial Completion: December 9, 2023

Construction Complete: December 29, 2023



Sierraville PUD Pump Station

480 Square Foot Pump Room:

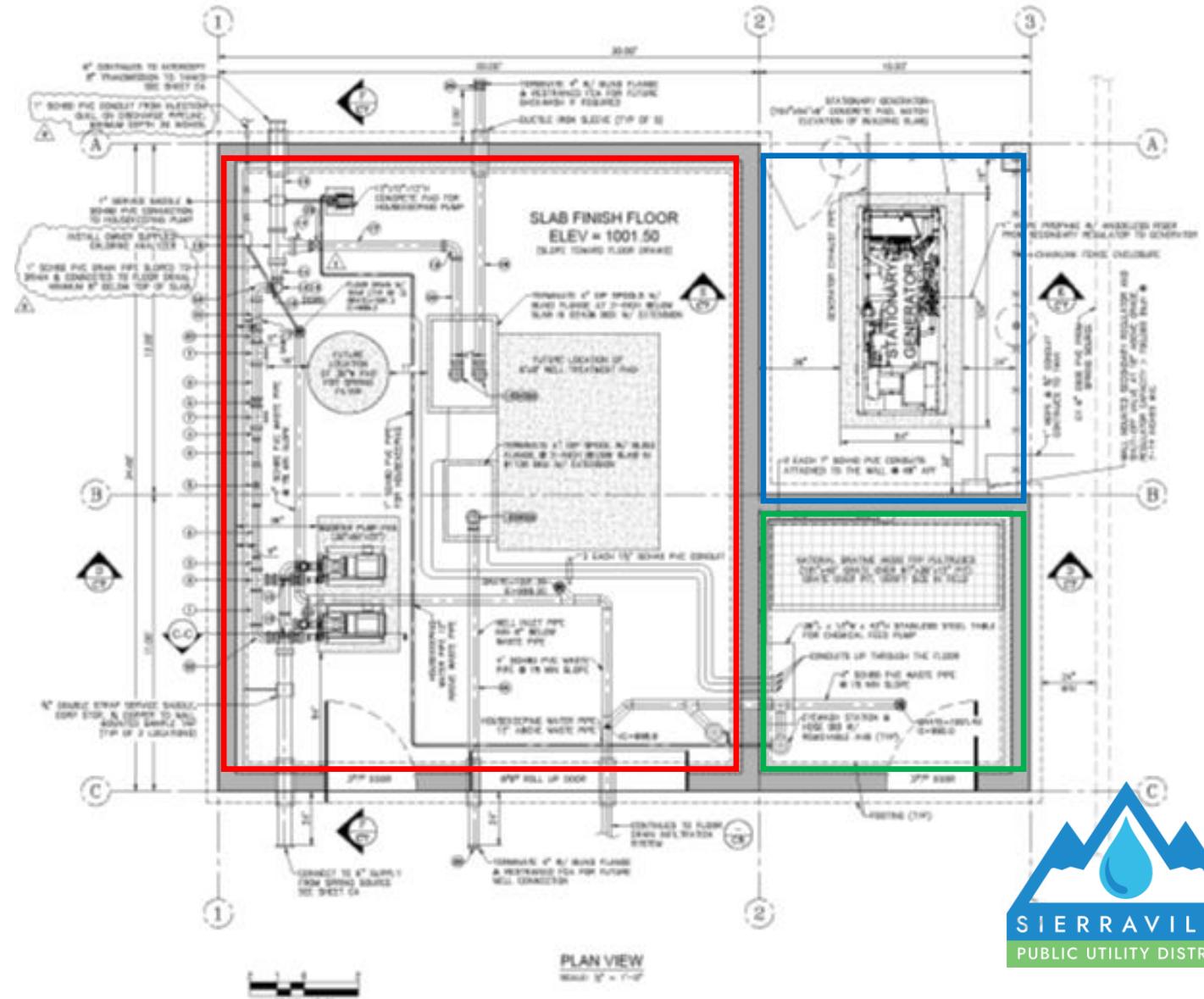
- Pumps
- Electrical
- SCADA
- Underslab piping for future spring treatment (if required)
- Underslab piping for connection to future well and treatment (if required)

110 Square Foot Chemical Room:

- Chemical storage containment sump
- Chemical feed pump

130 Square Foot Generator Enclosure:

- 50KW stationary generator
- Full height chain-link sides
- Building's roof extends over enclosure



Sierraville PUD Pump Station

Site Clearing August – October 2022. Project located entirely on USFS land under Special Use Authorization. Project Funding Sign at site entrance during construction.

USFS Special Use Permit reissued in September 2017 and amended in October 2021.

Plans/Specifications reviewed and approved by Lassen District Engineer in March 2022.



Sierraville PUD Pump Station

Ductile Iron underslab piping wrapped for corrosion protection (from soil contact) including piping/fittings/valves for future construction and connection to proposed (DWR funded) well source.

All piping pressure tested at 150 psi for 2-hours and flushed/chlorinated with bacteria test before being put in service.



Sierraville PUD Pump Station

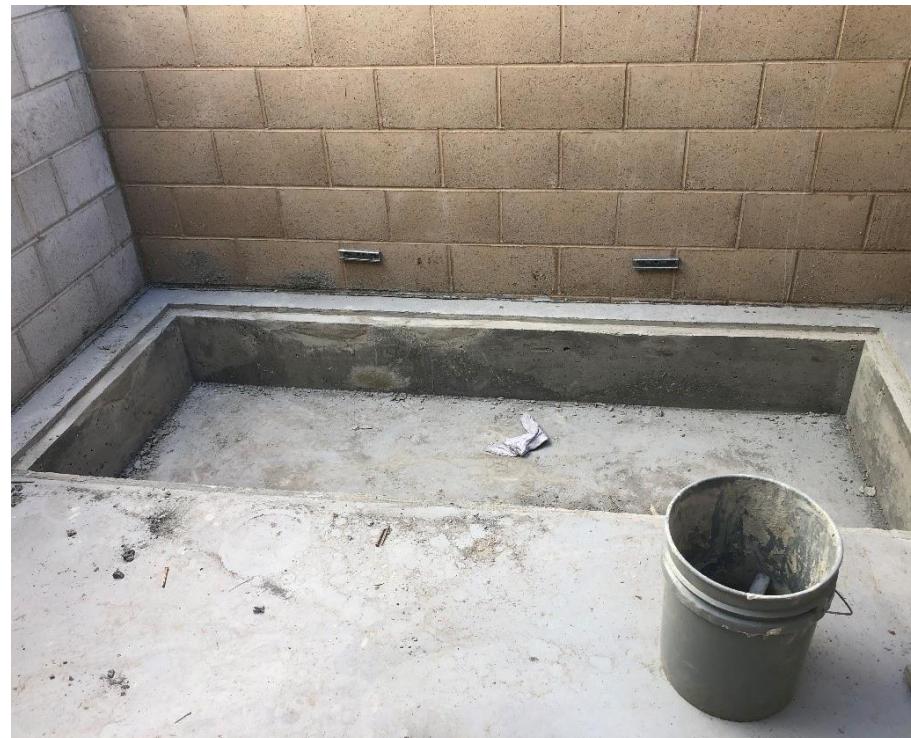
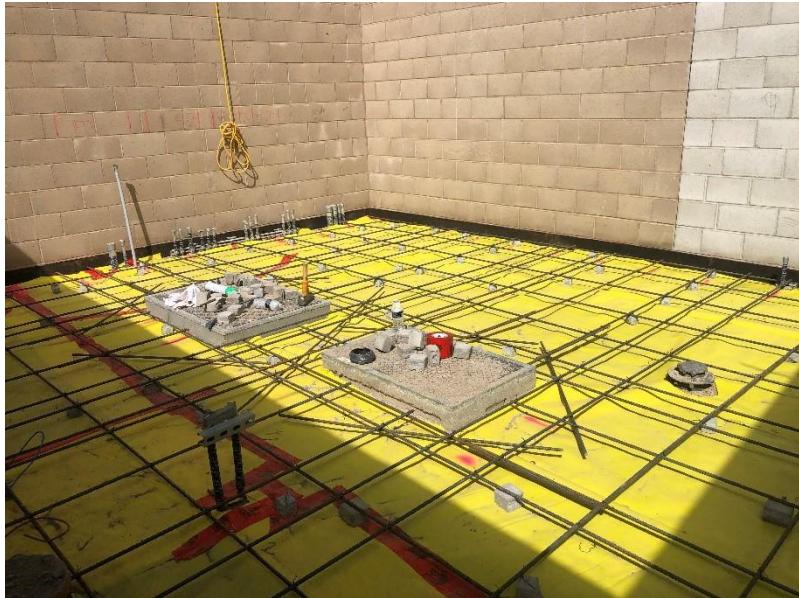
Continuous concrete spread footing around perimeter of building. Grout-filled CMU walls. Project designed per 2019 California Building Code, Sierra County snow load criteria and as “essential facility” with respect to lateral and vertical load factors. All foundation and CMU reinforcing and mortar inspected by certified Special Inspectors (NV5).



Sierraville PUD Pump Station

Underslab power conduits, reinforcing and waterproofing before slab pour.

Containment sump in chemical storage room.



Sierraville PUD Pump Station

Building framing (ledgers and rafters) are manufactured lumber (LVL). All exposed trim and structural framing covered with sheet metal for fire resistance. Roof is 22 gauge Class A with concealed fasteners.

CMU walls insulated with 2-inches of rigid polystyrene. 1"x 4" furring attached to CMU to support 5/8" drywall. Ceiling insulated with 4-inches of spray foam insulation with 5/8" drywall attached to rafters.



Sierraville PUD Pump Station

Pump Station equipped with 50KW emergency generator. Fuel source is 1,000 gallon buried propane tank. Funding for generator, automatic transfer switch, fuel tank and related work from Cal OES grant



Sierraville PUD Pump Station

Pump Room equipment includes:

- Two 7.5-horsepower centrifugal pumps powered by variable frequency drives to allow flow matching with Railroad Spring output; design flow is 150 gpm;
- Digital meter to measure/document source water used;
- Port for injection of Sodium Hypochlorite for disinfection and wall mounted Chlorine monitor measures disinfection concentration in discharge piping;
- Housekeeping pump, floor drain system and eyewash systems installed;
- Pump and Chemical rooms each have thermostat controlled ventilation and heating systems.



Sierraville PUD Pump Station

Electrical Equipment includes:

Automatic Transfer Switch, lighting/power distribution panel, variable frequency drive for each pump and SCADA controls



Sierraville PUD Pump Station

At Substantial Completion (December 8th) the new pump station was brought on-line and the old station demolished. All construction was complete as of December 29, 2023.



Sierraville PUD Pump Station

- Project Funding:

• DWR Proposition 1, Round 1 IRWM Implementation*:	\$ 627,660.31
• DWR Urban & Multi-Benefit Drought Relief*:	\$ 505,000.00
• CalOES Resiliency:	<u>\$ 64,790.00</u>
TOTAL	\$ 1,197,450.31

- Project Expenses

• DWR Grant Reporting/Project Management:	\$ 29,378.00
• Design:	\$ 55,354.09
• Permitting/Environmental:	\$ 14,080.31
• Bidding:	\$ 6,883.00
• Construction Administration:	\$ 74,563.73
• Construction (General Contractor, generator install, SCADA, etc.):	\$ 1,149,067.78
• Generator Purchase (generator and ATS):	<u>\$ 42,141.11</u>
TOTAL	\$ 1,360,084.82

* Plumas County was the Grant Recipient and SPUD the Implementing Agency. The County provided significant support to SPUD for all project interactions with DWR.

