

CALAVERAS COUNTY WATER DISTRICT

120 Toma Court

San Andreas, CA 95249

(209) 754-3543

REQUEST FOR PROPOSAL

Design/Engineering Services for

CalOES/FEMA Hazard Mitigation Grant Program Project

Hunters Raw Water Pump Station Mitigation Project

Issued: December 3, 2021

INTRODUCTION

The scope of the proposed project is to relocate and increase the size of the raw water intake pumps at Hunter Reservoir. The raw water intake pumps feed the Hunters Water Treatment Plant. The Water Treatment Plant provides potable and fire hydrant water to 11,900 customers within Calaveras County Water District's Ebbetts Pass service area.

Hunters Reservoir is located in Avery, CA in a heavily forested area within the Stanislaus National Forest. The existing pumps house at Hunters Reservoir is located deep in the Canyon at the Base of Reservoir within a FEMA identified Special Flood Hazard Area. The Proposed Project would move the intake pumps away from the Special Flood Hazard Area. Relocating the pumps to the surface of the Hunters Reservoir would dramatically increase the ease of access to the facility. Access to the existing pump house at the base of the dam is challenging, it requires either walking on top of wooden flumes or climbing down face of dam on vertical ladder. During a disaster or winter weather conditions access to the existing pumps and pump controls can be very dangerous or impossible.

The Project Proposes to replace the existing vertical turbine intake pumps located at the base of the Reservoir to intake at surface of the Reservoir. There have been issues in the past with Sediment from mudslides/landslide being deposited at the bottom of Hunters Reservoir where the existing pumps are located. As a result, existing intake pumps get plugged and sediment is introduced unsafe levels of turbidity into the Drinking Water System. Except for small flows from Mill Creek, Hunters Reservoir and Hunters Water Treatment Plant receives most of flows through the Collierville Tunnel which flows from McKays Reservoir. The Collierville Tunnel is aging infrastructure that is susceptible to natural disasters and is routinely taken out of service for inspection/maintenance and repairs. When the Collierville tunnel is out of service, Hunters Reservoir is the sole source of water for communities along Ebbetts Pass including CCWD service areas, Murphys and Angeles Camp. As a result, the water level drops quickly in the Hunters Reservoir. At lower levels the existing vertical turbine pumps become too weak to keep up with the demand of the water treatment plant.

The District has completed a Bathymetric Survey and Topographical Survey of the Project. The survey AutoCad file will be provide to the Designer. During the Bathymetric Survey it was discovered that the initial proposed location of the floating intake pumps was much shallower

water depth than anticipated. The pumps should be positioned/configured to maximize the available water supply and pool area. During winter months there are debris flows that can come through the tunnel or from the slopes of reservoir, the pumps need to be positioned to divert debris and not block spillway. Localized sediment removal or recontouring the reservoir floor beneath the intake maybe necessary.

The initial concept was to connect a new floating intake structure to the Dam Face; this may not be possible due to regulatory requirements with connection to the Dam. Additionally, the wide range in fluctuations of reservoir surface would make connecting to the dam face cumbersome. The existing Mechanical Building shall stay in service during the construction, a new masonry mechanical building will be constructed adjacent to the existing building with electrical new service, lighting, ventilation, communications, and pump controls. Standby generator within the existing building belongs to Utica (Dam Operator) and will need to be relocated to the new building from the existing. The District will facilitate the coordination with Utica. Existing mechanical building along with the existing pump house and pumps at the base of the dam shall be demolished at the completion of the new intake structure.

The Intake pumps usually only operate when water is not flowing directly to the water treatment plant through the Collierville Tunnel Tap. The Collierville Tunnel is taken out of service yearly for approximately two weeks for inspections and routine maintenance. The tunnel is aging infrastructure, and it is anticipated that longer term shutdowns will be necessary in the near future for repairs. The pumping system should provide protections for aquatic life, intake pump screens should be self-cleaning to minimize clogging and debris buildup. The system should be protected from corrosion for the life of the Project. The Designer should provide multiple conceptual alternative designs in the Preconstruction Report for review by the District, conceptual designs should consider at a minimum a floating intake structure, deployable intake structure and fixed intake structure placed on the shoreline or within Reservoir. The intake pumps should be designed to feed the current needs of the treatment plant with maximum daily capacity of 4 mgd and peak hour demand of 8.2 mgd. The pumping system shall consist of multiple pumps. The system shall be designed so that capacity can be increased in the future if there is growth or consolidation with other water systems.

Project Drawings shall include Demolition Drawings (Existing Pump Station and Existing Mechanical Building), Site Plan, Piping/Pumping System Profiles, Valve, Piping and Connection Details, Control Building Drawings (Masonry Building), Electrical and Instrument Control Drawings for MCC with ATS and connection for portable generator, PLC Control Panel with radio linked to Hunters WTP, Building Electrical Lights, HVAC and Receptacles, Site Lighting, and drawings for PG&E as necessary. Electrical schedules shall include load calculations, conduit and wire, light fixtures, device index and panelboard.

The District will be contracting with environmental consultant to complete environmental documents, the designer may need to interact with the Districts and FEMA environmental consultant on Project Specific questions.

The total construction cost has fixed maximum budget of \$1.4 million based on the Grant.

SCOPE OF WORK

The consultant's scope of work is to include the tasks listed below.

Task 1. Progress Meetings: The consultant will be required to schedule periodic progress meetings throughout the design phase for the kickoff, preliminary design report review and various workshops and review meetings for the 65%, and 100% deliverables.

Task 2. Preliminary Design Report: The consultant is to prepare a preliminary design report for the project confirming the basis of design and addressing key issues and constraints on the project. It is expected that at the preliminary design level, the consultant will evaluate options for installing pumps on floating intake, deployable intake structure and fixed intake on the shoreline or within the Reservoir. The Preliminary Design Report shall also address sediment and debris removal from existing Reservoir as this will affect the permitting process. *Deliverables: Preliminary Design Report, 10% Drawings, and Preliminary Construction Cost Estimate.*

Task 3. Equipment Pre-Purchase: In advance of bidding the project for construction, the District plans to prepurchase the pumping system, control panel and complete PG&E application for Power. The consultant is to prepare a purchase specification and review shop drawings prior to release of the unit for fabrication. *Deliverables: Equipment Prepurchase Specification and Shop Drawing Review Comments and Markups.*

Task 4. Project Drawings: The consultant is to provide civil, mechanical, structural, and electrical design drawings, contract documents and specifications for the project. The consultant is to retain a qualified electrical engineering subconsultant to complete the electrical and instrumentation design for the project. *Deliverables: 65% and 100% Drawings*

Task 5. Project Manual: Our project manual generally uses the Engineer's Joint Contract Document Committee (EJCDC) boilerplate front end contract documents and bid forms. The consultant is expected to prepare and edit the project manual which includes the bid documents, contract documents, general conditions, supplementary and special conditions, sequence of work, bid schedule, description of bid items, and all necessary technical specifications. *Deliverables: 65% and 100% Project Manuals.*

Task 6. Construction Cost Estimates: The District would prefer to have highly cost-effective design solutions and not go over budget on this project. The consultant is to provide cost estimates at each step in the design effort so these estimates may be used as a tool to guide design choices and select more economical alternatives. *Deliverables: 65% and 100% construction cost estimates.*

Task 7. Bid Period Services: The District will advertise and circulate the bid documents for public bidding of the project for construction. The consultant will be required to prepare written responses to answer bidder's requests for information and to make clarifications. During the bid, the consultant will be required to prepare written addenda to address changes and clarifications to the drawings, bid forms, project manual and technical specifications. The consultant will be asked to review the bids and make a recommendation for award. *Deliverables: Attend Pre-Bid Meeting, Reply to Bidder's RFI's, Written Addenda and Recommendation for Award.*

Task 8. Engineering Services During Construction: After the bid, the consultant is to prepare a conformed set of drawings and specifications for construction. The consultant is to provide engineering support during construction, including reviewing shop drawings, answering requests for information, and resolve technical issues. *Deliverables: Conformed Drawings, Written Shop Drawing Review Comments, and Field Notes.*

PROPOSED SCHEDULE

<u>PHASE</u>	<u>DUE DATE(S)</u>
Issue RFP	12/3/21
Job Walks / Pre-Proposal Meeting	Upon Request
Proposals Deadline	01/13/21
Selection / Award Design Contract	01/26/21
Design Contract / Notice to Proceed	01/31/21
Preliminary Design Report / Deliverable	03/15/21
65% Design/PG&E Application	4/29/21
Order / Prepurchase Pumps & Electrical	5/6/21
FEMA Phase 2 – Construction/Final Design	5/20/21
100% Design / Bid Set	5/31/21
Bid Period / Award for Construction	06/10/21 to 07/9/21
Construction / Notice to Proceed	07/12/21
Construction / Completion Date	11/15/21

PROPOSALS/SELECTION CRITERIA

The proposal may be in any format that best represents and demonstrates Consultant’s qualifications, experience, organizational structure, team/staff members, etc. As a minimum, provide a statement of qualifications, representative project references, scope of work, detailed schedule/gantt chart with tasks and milestones, total fee estimate by tasks including hours and hourly rates, and subconsultant costs. Also, please provide for reference subconsultant’s scope and fee for electrical engineering. A panel of three or more CCWD staff will review the proposals and make a final selection for award based on criteria such as approach to work, qualifications and experience, project references, cost effectiveness and value, proposed schedule and subconsultants. Also, Consultant must accept/agree to terms of District’s standard Professional Services Agreement (PSA).

RECEIPT OF PROPOSALS

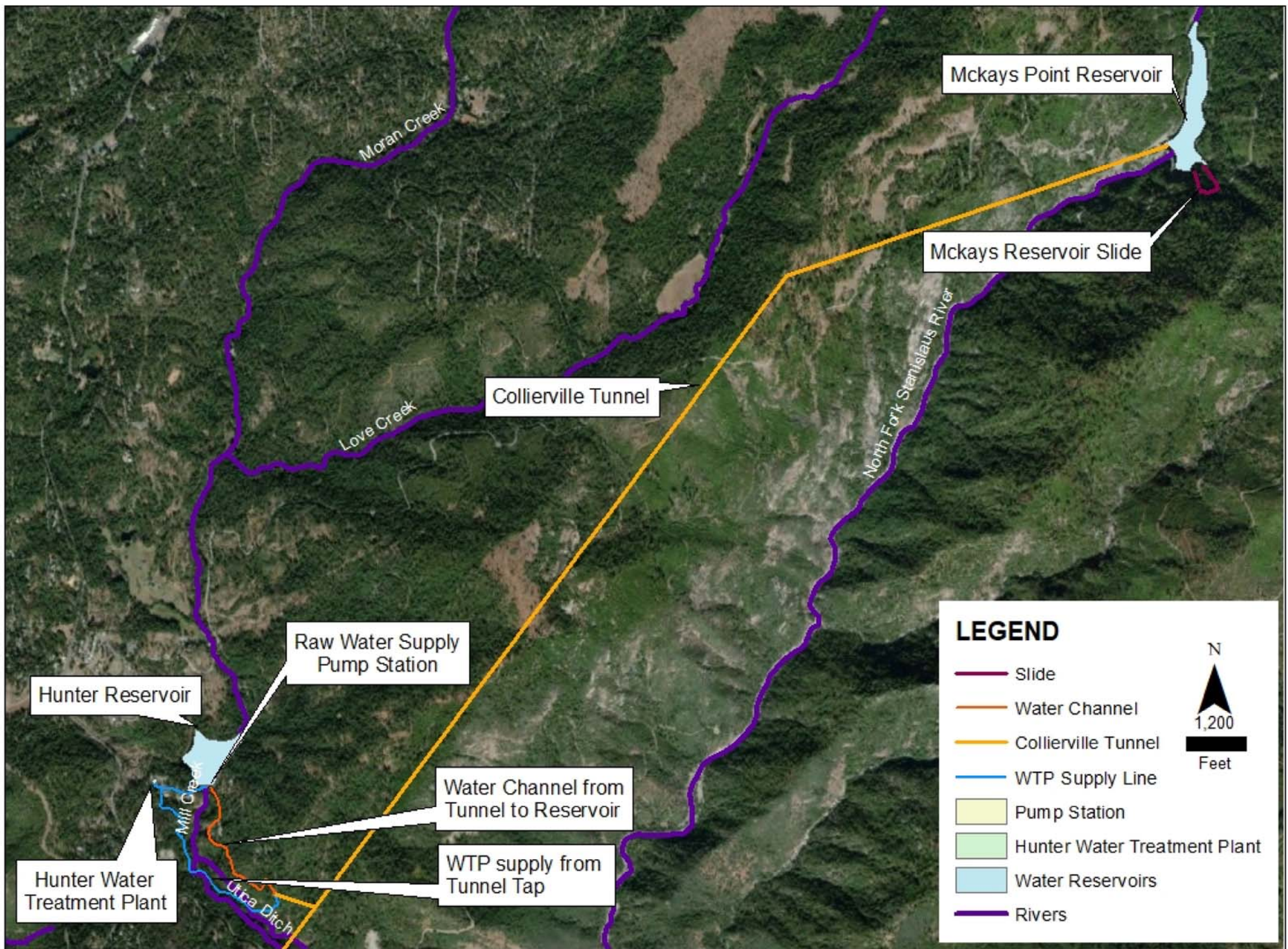
On or before 4:00 PM, Thursday, January 13, 2021, please submit proposals and fee estimate to:

Calaveras County Water District
 120 Toma Court
 San Andreas, CA 95249
 Attn: Kate Jesus
 Phone: (209) 754-3181
 Email: Katej@ccwd.org

Please contact Kate Jesus or Kevin Williams at (209) 754-3184 or kevinw@ccwd.org with questions regarding this project.

Appendix:

1. Vicinity Map
2. Hunters Reservoir Map
3. Hunters Survey 9/1/2021
4. Conceptual Drawings –Floating Intake
5. Intake Screen Details (Conceptual Drawing)
6. Masonry Mechanical/Electrical Building (Typical Details)



LEGEND

- Water Channel
- WTP Supply Line
- Pump Station
- Hunter Water Treatment Plant
- Water Reservoirs
- Rivers



Hunter Reservoir

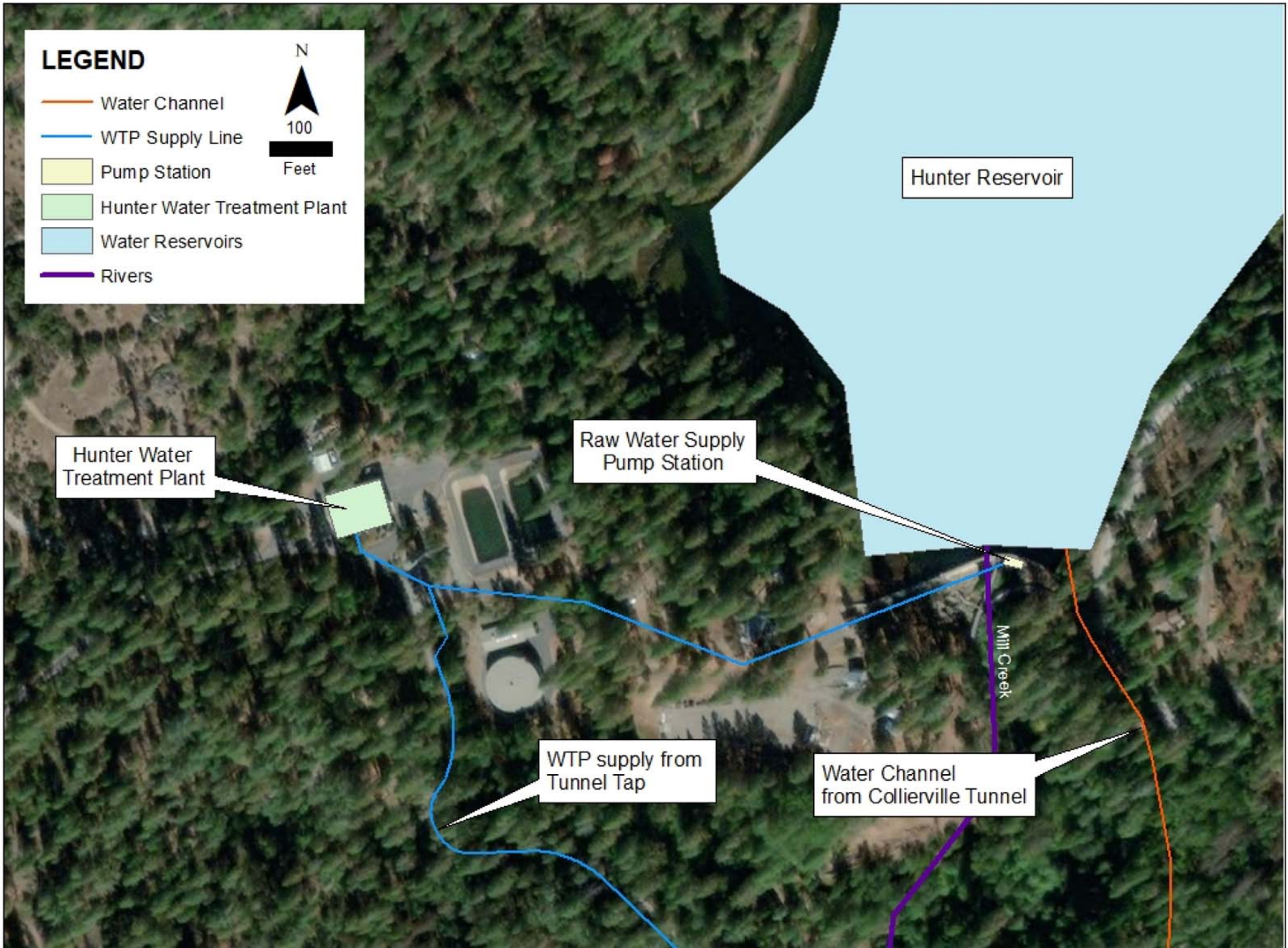
Hunter Water Treatment Plant

Raw Water Supply Pump Station

WTP supply from Tunnel Tap

Water Channel from Collierville Tunnel

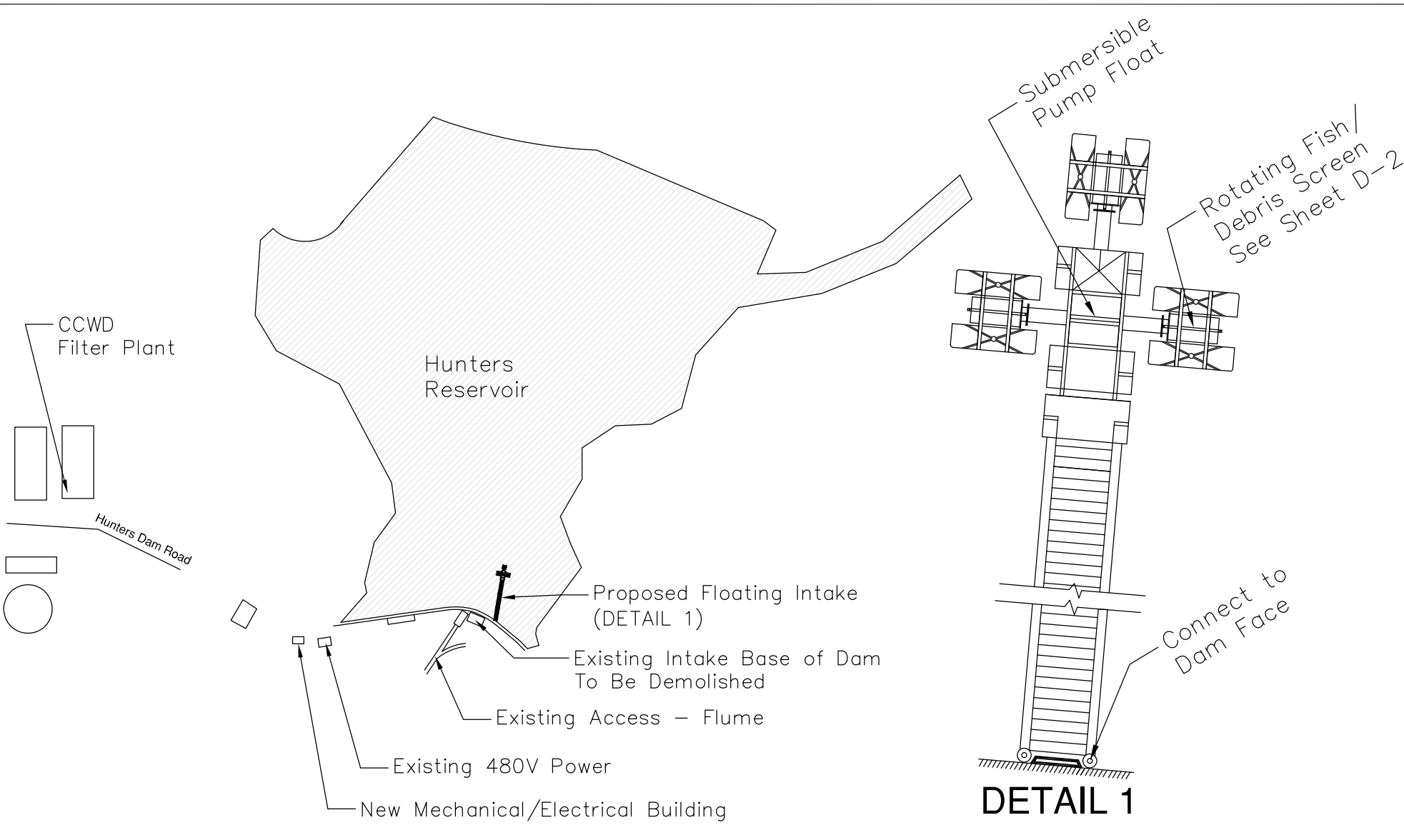
Mill Creek





Hunters Reservoir Survey 9/1/2021

FILE: 20220727



REVISIONS				
REV.	DESCRIPTION	DATE	BY	CHKD.


NOT TO SCALE

DESIGNED: _____

DRAWN: KW

CHECKED: _____

DATE: _____



CALAVERAS COUNTY WATER DISTRICT

150 TOMA COURT
P.O. BOX 849
SAN ANTONIO, CA 95349

(509) 764-3543 FAX: (509) 764-1009

HUNTERS RAW WATER INTAKE

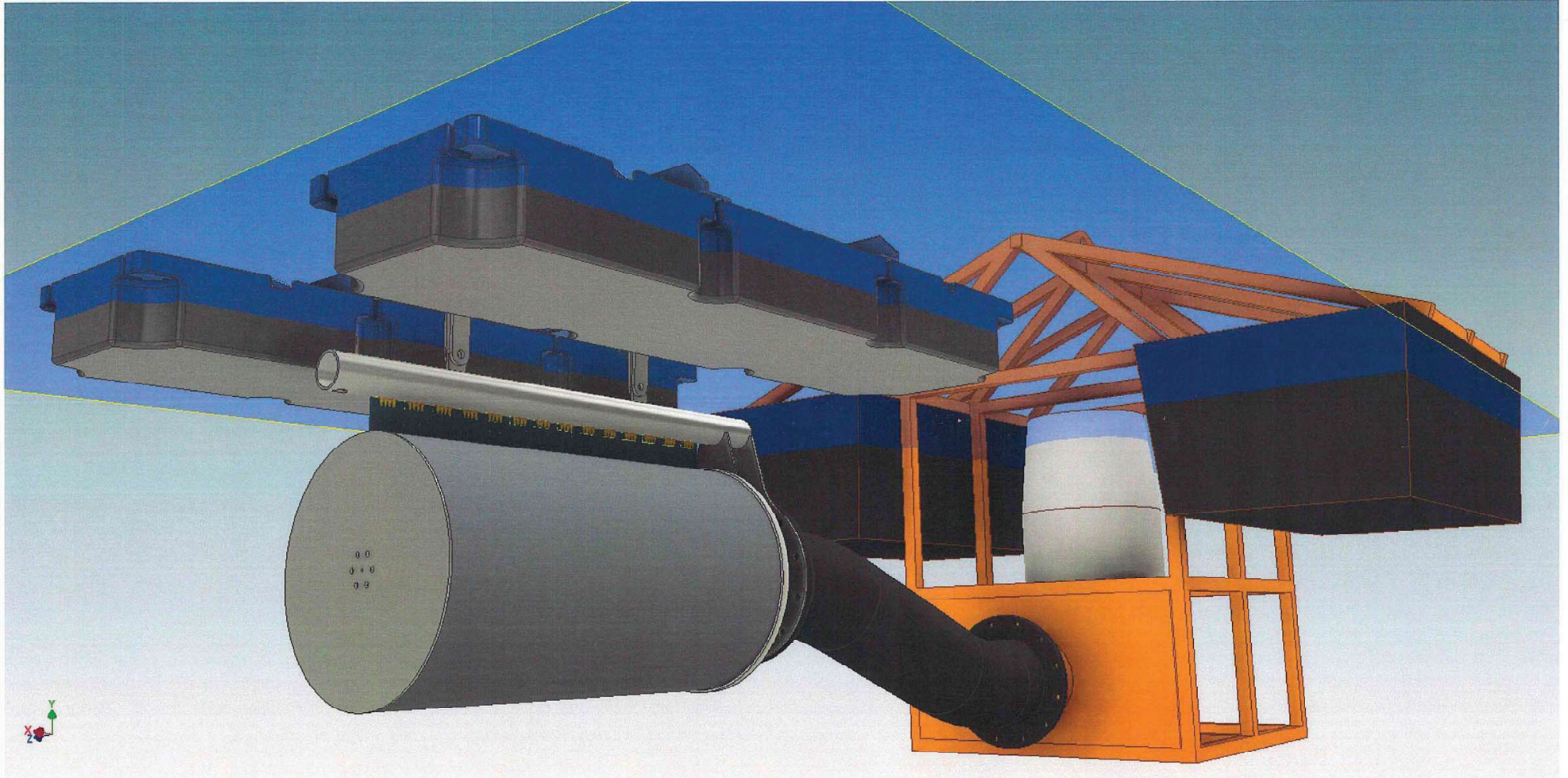
CONCEPTUAL DRAWINGS
HUNTERS RESERVOIR FLOATING INTAKE

DRAWING NUMBER
D-01

SHEET NUMBER
1 OF 3

FILENAME

CCWD FILE NO.

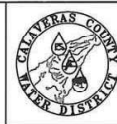


FILE: 1010220777

REVISIONS				
REV.	DESCRIPTION	DATE	BY	CHKD.

NOT TO SCALE

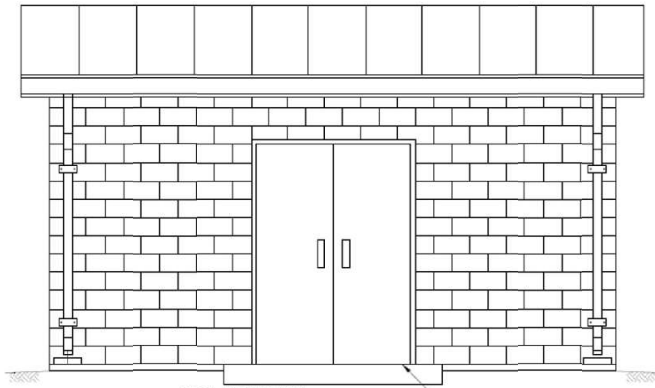
DESIGNED: _____
 DRAWN: _____
 CHECKED: _____
 DATE: _____



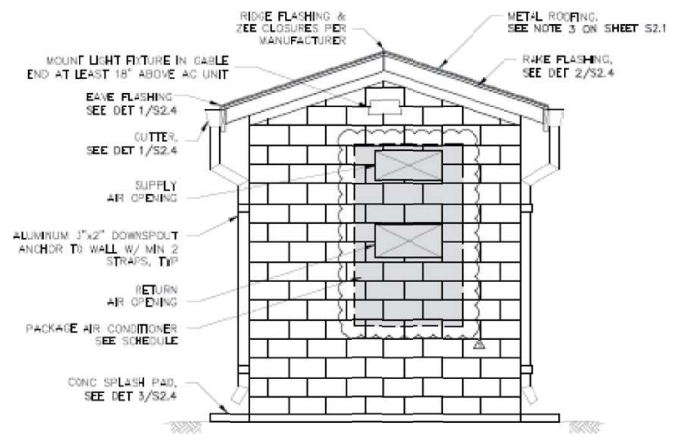
**CALAVERAS COUNTY
 WATER DISTRICT**
 180 TOMA COURT
 P.O. BOX 544
 SAN ANDREAS, CA 95240
 (209) 754-5543 FAX: (209) 754-1009

HUNTERS RAW WATER INTAKE PUMPS
 INTAKE SCREEN DETAILS

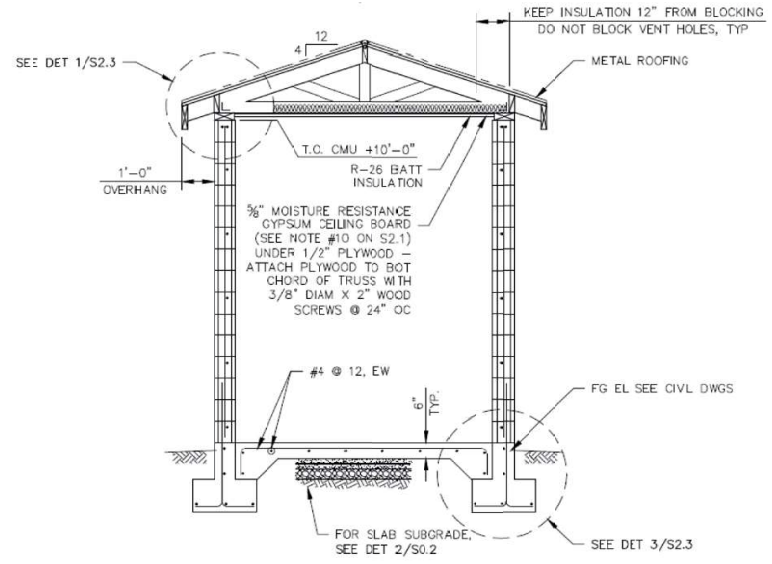
DRAWING NUMBER: D-02
 SHEET NUMBER: 1 OF 1
 FILENAME: _____
 CADD FILE NO: _____



EAST ELEVATION
SCALE: 1/2"=1'-0"
DOUBLE DOOR, SEE HARDWARE SCHEDULE



SOUTH ELEVATION

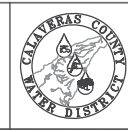


PROJECT DATE: 11/14/19
FILE: 072222222

REVISIONS				
REV.	DESCRIPTION	DATE	BY	CHKD.

NOT TO SCALE

DESIGNED: _____
DRAWN: _____
CHECKED: _____
DATE: _____



CALAVERAS COUNTY WATER DISTRICT
120 TOMA COURT
P.O. BOX 546
SAN ANDREAS, CA 95249
(800) 764-3648 FAX: (800) 764-1000

HUNTERS RAW WATER INTAKE
Masonry Mechanical/Electrical Building

DRAWING NUMBER: **D-03**
SHEET NUMBER: 3 OF 3
FILENAME:
CWD FILE NO.: