PROJECT STATEMENT

Install a septic holding tank, permissible through OWTS Manual V8.0 Section 4.6.a.4 at the Two Rock Station - Goldridge Fire Protection District Public Safety Facility in order to install a future ADA-compliant restroom for benefit of facilities users. Restroom development by others is not covered under this SEP permit.

Site conditions and OWTS design options are discussed in a 7-page site assessment report to Environmental Health by EEI, dated August 20, 2025. The extreme constraints of tiny and fragmented allowable development areas coupled with massive rock at 48" depth preclude onsite leach field development. Permission for use of a holding tank was provided by Environmental Health on the basis of that report. Use of a holding tank eliminates need for pre-perc site review, groundwater testing, percolation testing, primary area, reserve areas, and assessment and design associated with primary and reserve leach field areas. The remaining issue is design and placement of the allowable holding tank, covered in this construction plan and accompanying development memo.

OWTS Manual V 8.0 - Section 8 Criteria for OWTS Components

8.1 Septic Tank Requirements
A. These requirements shall apply to all septic tanks in new OWTS and replacement systems.
1. Septic tanks shall be IAPMO approved. Septic tanks shall be sealed with an approved sealant so it is watertight. Wood septic tanks and metal septic tanks are prohibited.
2. Septic tanks shall have at least two compartments separated by a baffle or equivalent arrangement. The inlet compartment shall have a capacity of not less than 2/3 the total volume.
3. An inlet tee is required.
4. Each compartment of the septic tank shall have access provided by a manhole having not less than 20 24 inches in minimum dimensions with a close fitting manhole cover.
5. Each compartment of the septic tank shall have a riser extended from each manhole cover to the surface of the ground so as to facilitate inspection and maintenance of the septic tank. The riser shall be of equal size or larger than the manhole cover and shall be constructed of durable material. The manhole covers shall be close-fitting. All joints shall be properly sealed with a sealant and/or an interlocking mechanism approved by the Permit Authority.
6. not used
7. All connections from building to septic tank must conform to construction standards per the approved County Code requirements which includes the California Plumbing Code.
8. Septic tanks shall not support the weight of any object exceeding 1,000 pounds pursuant to Sonoma County Code Chapter 24. Temporary vehicular loads are allowed over traffic-rated septic tanks and lids.

8.2 Septic Tank Sizing
A. The minimum liquid capacity of any septic tank installed shall be 750 gallons. Septic tanks intended to serve single-family dwellings shall be sized on the number of bedrooms in the dwelling. The septic tank size for commercial OWTS shall be based on the peak daily sewage flow formula of V (net volume in gallons) equals 1,125 plus 0.75Q (daily wastewater flow in gallons).
B. Peak daily sewage flow memorialized in prior reports is estimated at 60 gpd. Tank storage volume required is therefore 1125+0.75*60 = 1125+45 = 1170 gal. A min.1200-gal tank is specified.
C. For this holding tank, 1200 gal/60 gal/day results in a 20-day pump-out cycle. The average flow rate is 20 gpd, resulting in a 60-day pump-out cycle.

8.3 Septic Tank Watertight Test Requirements
A. New and replacement septic tanks, pretreatment tanks and sump tanks shall be tested for water tightness.
B. Plan submittals shall have language stating the requirement and procedure for watertight testing.
C. A watertight test inspection shall be scheduled with the Permit Authority. The inspection results shall be recorded as a pass or fail by the Permit Authority.
D. In the event of a failed watertight test, a re-test is allowable. A reinspection fee will be assessed prior to scheduling the retesting.
E. The testing procedure:
1. The tanks shall be installed properly, according to industry standard or manufacturers' requirements with the back fill placed around the tank(s) at a level below the invert of the inlet pipe and outlet pipe areas.
2. Fill the septic tank, pretreatment tank, and/or sump tank with water up into the riser(s) two or more inches.
3. The water level shall be marked at the beginning of the watertight test.
4. The test duration shall be 30 minutes.
5. A water level decline of 1/8 inch or more indicates a failed watertight test.

8.4 - not applicable
8.5 Sump & Pump Requirements (Partial edited listing, as applicable to holding tank with alarm, no pump)

B.
4. All pipes and/or electrical conduits entering the tank or riser shall be sealed to make the passage gas and watertight.
a. If the pipes and/or electrical conduits enter a synthetic tank or plastic riser, rubber grommets shall be used.
b. Non-shrink grouts should be used with concrete tanks or risers.
5. The tank location must be accessible for a septic tank pumper to pump the tank.
7. Wastewater shall exit the tank only through discretionary trucking removal. Gravity overflows are prohibited.

C. Required features of the tank high water alarm system are as follows:
1. Float controls for the audio/visual alarm shall be mounted to a Schedule 40 PVC pole, mounted inside the second tank chamber, which can be removed for maintenance. See Figure 8.4a.
2. Control floats shall be attached to the PVC pole by plastic tie straps or plastic float collars. Stainless steel straps will not be accepted.

D. Required electrical features are as follows:
1. All materials, connections, and specifications shall meet the California Electric Code.
a. In all cases in which a tank with an alarm is used, the contractor/owner shall obtain an electrical permit from Permit Authority or City Building Department having jurisdiction.
b. The Permit Authority or City Building Department shall be responsible for inspection and approval of all electrical code requirements.
c. Disconnecting means (control panel or disconnecting switch) shall be in visual sight of the tank location per the County adopted electrical code.
2. The alarm shall be equipped with:
a. A loud (67 decibels at a 10-foot minimum horizontal distance from the alarm location) audio alarm operated by a float switch or switches to indicate an "alarm" situation.
b. A minimum sized 7/8-inch diameter red light shall be mounted on the face of the panel, which shall glow as long as the "alarm" condition exists.
c. A momentary "alarm test/alarm silence" switch to test the alarm light and horn to simulate an "alarm" condition and to silence the audio alarm/horn.
3. An approved listed model or type of float switch shall be used to activate the alarm. The alarm/control panel shall be equipped with a hand/off/automatic switch to test the alarm.
4. Power supply to each circuit breaker in the control panel shall be from a separate dedicated circuit with circuit protection, of equivalent or higher amperage rating, at the power supply panel.
a. The alarm panel shall be equipped internally with separate circuit protection for the control circuitry.

Other Items: Observation and regular pumping of the tank as necessary is required.
Operator shall maintain pumping records for inspection by PRMD Environmental Health upon request.
Operator shall observe the system on a regular basis for evidence of overtopping, leakage, alarm system malfunction, backed up toilet facilities, surfacing effluent, or other indicators of malfunction. Should substandard conditions become evident, Operator shall rectify issues immediately and inform regulatory agencies of conditions and measures used to rectify deficiencies.

Septic Holding Tank

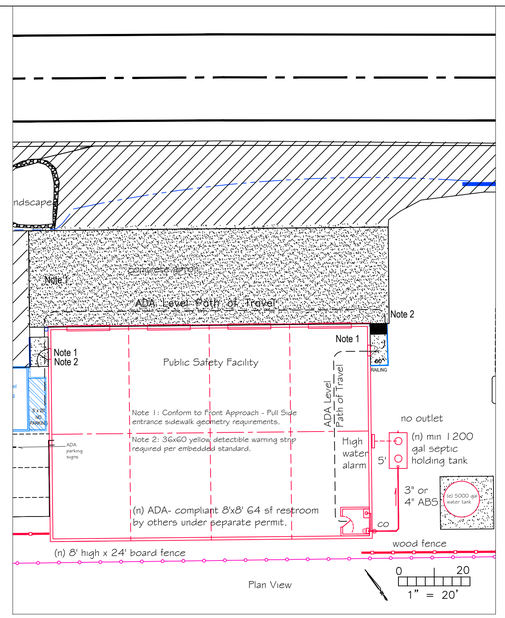
1. Tank requirements include IAMPO certification, interior baffle, treated with Thoroseal or equivalent for watertightness All points where pipes enter or exit tanks to be sealed with non-shrink sealer. Grout or asphaltic emulsion is not acceptable.
2. Tank excavation shall be into unyielding soil. Excavation into durable rock may be required based on local test pit information.
3. The excavation shall be graded level, using 2" sand or pea gravel if required in rocky soils or uneven conditions. Tank is to be set level to 1/4" tolerance. Recommended earth cover is 12". PVC risers shall be epoxied to the tank, with risers extending 2" above ground. Risers shall have appropriate covers to prevent access and exclude surface water. Wooden risers are not allowed.
4. Native material shall be hand compacted or jetted around the tank perimeter in 18" lifts to within 6" of the top of the tank. Tamping rods shall be used to sufficiently compact the soil to prevent future settling. Salvage topsoil during excavation to use for final tank cover.
5. The area over a tank shall not be subjected to loads in excess of 1000 pounds.
6. Tanks other than concrete shall be used only with prior permission of PRMD. They shall be installed per Manufacturer's specifications.
7. All tanks shall be temporarily filled with water to above outlet pipe and riser seals to verify water tightness at time of final inspection.
8. This holding tank does not connect to a leach field system.
9. Provide sweep tee cleanout near foundation between building and septic tank.

Water Supply

1. This parcel is served by a private well. Water entering the adjoining residence is routed through filtration and UV treatment systems.

Erosion Control and Revegetation

1. Complete required grading, drainage, other site development, and erosion control measures before final inspection.
2. Seed the work area with an approved grass erosion control mix and mulch the entire exposed area with clean small grains straw to avoid erosion.



Construction Notes

General Notes

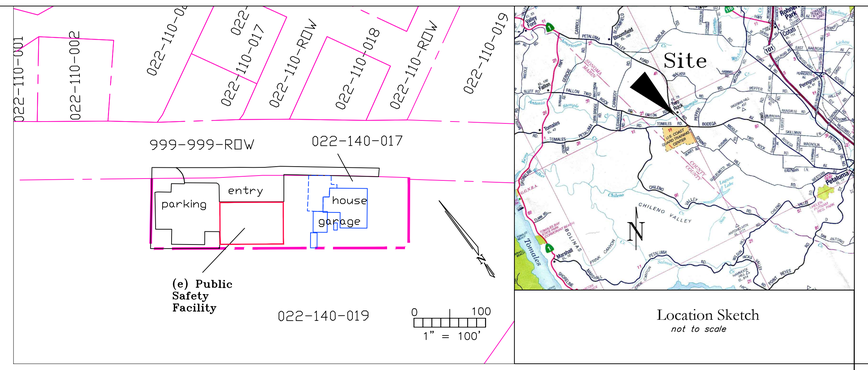
1. All materials, workmanship and construction details shall be in accordance with construction standards of the Sonoma County Permit and Resource Management Department.
2. All electrical, mechanical, and plumbing work and methods of construction and installation shall conform to Sonoma County standards, require County electrical or plumbing permits, and/or the Uniform Plumbing Code and National Electric Code and to local, state, and federal regulations and laws pertaining to this work.
3. This building is considered to be a Public Safety Facility.

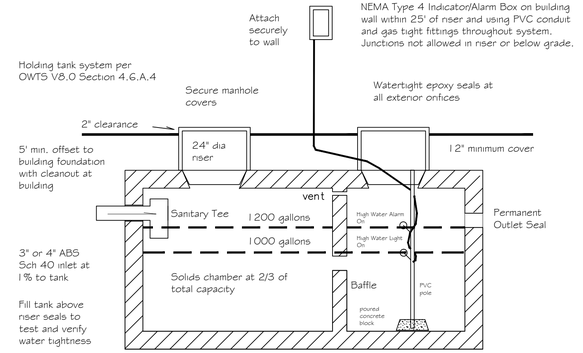
Inspection and Observation

All meetings, inspections, and notifications shall be initiated by the Contractor with the Engineer (707/800-5002) and County Inspectors (707/565-1900) a minimum of 48 hours in advance. These shall include at a minimum:
1 Preconstruction conference and site layout; 2 Notification of construction startup; 3 Special Inspection(s) and performance testing as required for Essential Services building prior to completion of individual system elements; and 4 Final inspection of the completed project per the construction documents.
1. Preconstruction conference: The Engineer shall inspect the site prior to work commencment to determine if conditions are suitable for construction. 1) Soil moisture at the ground surface is not so high as to have the soil damaged due to construction activities. 2) Imminent weather conditions appear that they will not create unsuitable soil moisture conditions during the course of construction. 3) The Engineer shall verify the proper staking of the site by the Contractor prior to any construction.
2. Notification of construction: The Contractor shall notify PRMD 48 hours prior to start of construction and to certify the Engineer has inspected and approved site conditions and system layout and staking.
3. Interim Inspection(s): The Contractor shall request a joint inspection by the Contractor, PRMD staff, and Engineer prior to the time of actual inspection. System components requiring plumbing or electrical installations shall be inspected by the County Building Inspector. Septic system components shall be inspected by the Environmental Health Division. Emergency Services staff shall verify conformance with Fire Codes.
* (na) - not applicable this permit.
* (na) Line and grade of all excavations and fills as applicable.
* (na) Foundation preparation and construction.
* (na) Structural assemblies by the building subcontractor.
* (na) Building interior finish and improvements as required.
* Water system components per private system requirements.
* Function and setting of septic holding tank control devices, including switches and alarms.
* The holding tank and risers shall be tested for water tightness, with results verified by Engineer and PRMD.
* All the remaining elements required to complete the improvements shall be on site at the time of verification and approval by the designer for conformance with the plans and specifications.
4. Final inspection: At the final inspection, 1) the designer shall verify that all construction is in general conformance with the approved plans and specifications. 2) A final letter from the designer to Sonoma County PRMD shall state that all construction has been completed, approved, and is conformance with all specifications. 3) All installations shall be inspected by PRMD before they may be considered complete. PRMD staff will perform a final inspection of the system following receipt of the designer's approval letter and will not sign off the permit until the structure is ready for occupancy.

Holding Tank Monitoring Controls

1. A high water light indicator indicating 300 gallons remaining capacity shall be installed.
2. A separate aubible high water alarm with an on/off test switch shall be installed.
3. A NEMA Type 4 control box shall be placed near the tank on an exterior wall at the building in a location acceptable to the sanitarian. A minimum of 2 sunlight resistant conduits (alarm, controls) shall be installed from the control box to the inside of the tank. Holes shall be drilled through the riser and sealed with epoxy. Controls shall include the following:
* Hand-off-auto switch
* Fused disconnect
* Emergency disconnect
* Clear plastic safety shield inside boxes opened for inspection
* 7/8" min. red light alarm for high water
* Audible high water alarm (87 db at 10 ft. horizontal) for max. capacity.
* Momentary alarm silence switch
* On/off test switch
* Separate circuit protection for control circuits
4. The float switches shall be wide angle mercury/mechanical units (CMS inc. or SJ Electro Systems Super Single or equal). Narrow angle float switches are unacceptable. The required emergency storage volume shall be set by adjusting heights between individual float positions.
5. No electrical junction boxes are allowed below ground level or within the holding tank chamber.
6. Float switch control wires shall be in conduits sealed with PVC gas tight fittings. Metallic fittings are not allowed.





1200 gallon minimum capacity

Holding Tank Details No Scale

REGISTERED PROFESSIONAL ENGINEER
Lee D. Erickson
AE 468
CE 46060
Expires 12/31/2026
Agricultural Civil
STATE OF CALIFORNIA
10.26.2025

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Public Safety Facility
Septic Holding Tank
Specifications
Construction Details

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707.478.0604 cell

Lands of: APN 022-140-017
Two Rock Fire Department
7599 Valley Ford Road, Petaluma CA 94952

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Scale: Noted

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