

CHDC Meeting Date: August 4, 2026

Agenda Item # Two

Address	1 Sutro Tunnel Road: Sutro Townsite – Tank House
Legal Description	016-406-02
Significance	Built c. 1902 during resurgence of mining activity when companies revived industrial processes of old ore dumps
Applicant/Agent:	Rob McFadden
Owner:	Friends of Sutro Tunnel Charity
Proposed Scope of Work	Friends of Sutro Tunnel seek approval for the following: • Due to original foundation being of silt and corner beams set into the ground, has experienced sinkage and rotted wood. • Removal of original foundation to be regraded with fill dirt and proper drainage away from new foundation. • Construction of a new foundation for the tank house matching existing footprint of 8' 3" x 13'. The tank's cradle to be rebuilt using 6"x6" & 8"x8" beams. Wedge type planks to be replaced where needed to hold the tank securely. Remove damaged corner posts that were buried directly into the ground. Once complete, tank house anchored to new foundation. • The original rafters have been labeled and preserved to be returned to their original positions. Original ridge beam to be reused. • New roof to have ½" OSB, #15 or #30 felt, with board & batten roofing material based on photographic evidence. • The west facing wall and door to be replaced. For remaining elevations, damaged wood to be replaced where needed. • Exterior wood to have a Sutro tinted oil preservative with white trim based on photographic evidence.

To be completed by 30 September 2026

Executive Summary: The Tank House building at the Sutro Tunnel requires preservation to enhance safety, stop degradation and to help further the historic activities at the tunnel site. The building needs a new foundation, wall repair, a new roof and the riveted tank cradle is to be rebuilt. All activities shall be done with a mind towards conservation, safety and fidelity to the historic nature of the site. The Tank House is not present in the 1890's photos but is present as an established building in a 1962 photo. Estimated year built 1902.

Description: The existing building is central to the Sutro Tunnel campus, south-west of the Machine Shop (Museum) building. The Tank House structure is oriented true to the compass points. The building is of heavy wooden plank construction with a length of 13 feet by a width of 8 feet 3 inches and a single-story height of 9 feet to the peak of the simple A-Frame roof. There is a single door on the West facing wall.

Construction is of heavy planks over covered with board and bat construction. Interestingly the walls are very thick double layer planks (each about 2.25" thick) with the interior gap being filled with a sawdust and manure mixture. The fill material is most likely for insulation against freezing temperatures which would have damaged the plumbing.

The roof is mostly missing with only rafters and a long center beam remaining. In recent years (circa 2020) scrap plywood and tarps were temporarily placed to protect the structure (since removed). The 1962 photo (see below) seems to show board and bat used for the roof.

Iron-oxide red paint is present on the body of the building with white trim paint along the fascia boards. The age of the paint is unknown, but it expresses a likely original application date. No other colors have been detected under the red and white scheme. Therefore, determination is the original structure did not have paint. There is verification that the original color of all buildings was a natural brown or unpainted wood with white trim (Sutro Lantern Slides, circa 1869 to early 1870s; Powder Burns movie, 1971).

Filling the structure to the exclusion of other activities is a large riveted steel tank. The tank is cylindrical in shape and mounted horizontally on a heavy wooden cradle. The dimensions are 9 feet long by 3 feet in diameter. Two raised features are on the top center line of the tank (fill points) and there is one raised feature in the center bottom of the cylinder. Heavy steel pipe both enter and exit the tank with gate valve(s) installed.

The tank is mounted on a heavy plank and beam cradle fashioned with both large round shank nails and wooden dowel pegs. The cradle is highly compromised and presented a hazard to both guests, Sutro Tunnel staff and the north wall of the Tank House. Safety mitigation was essential. As a critical safety measure the remaining roof rafters were labeled, photographed and removed to allow the tank and cradle to be moved and placed directly on the ground and further from the visiting public.

A photograph taken in 1890 entitled “Sutro Tunnel and surface buildings ca. 1890” preserved by the UNR Digital Archives and hosted by Western Mining History.com does not show the Tank House as we see it today. There is however a very similar building closer to the tunnel portal which may be the same structure at a different location. The construction methods for the 1890 building and the existing Tank House are similar.



<https://westernmininghistory.com/gallery-image/39653/>



RRPictureArchives.NET Image Contributed by Randy Curlin

<https://www.rrpicturearchives.net/showPicture.aspx?id=6305495>

Randy Curlin is given credit for this photo reportedly taken September 1962.

Tank House Current Condition – historic tank has been temporarily removed to locations about 10' to the right.



Proposed restoration/reconstruction plan.

The tank and cradle have been removed for the safety of the public, the staff and the Tank House itself. The north end of the cradle had failed, and the outflow pipes and north wall of the Tank House were supporting the tank.

The original foundation construction of the building was composed of corner beams set directly into the ground with connecting planks in direct earth contact. The soil in the site is silt taken from the excavation activities of the tunnel. Currently the building is sinking into the ground and lumber in contact with the ground is highly compromised. Repair of the building would necessitate removing a portion of the rotten wood of the vertical corner beams and full replacement of the horizontal connecting planks. To ensure preservation a concrete foundation would be cast in the current location of the building after the grade of the ground level is increased to allow adequate drainage. Site preparation would require bringing in fill dirt and grading drainage away from the foundation of the building. Moving the building on wooden skids about 50 feet to the south will be practical and should not present any damage to the structure.

When the new foundation is completed, the building may be moved back into position. With a new foundation the building may be placed back into position. This will require the damaged wood to be removed from the corner posts. The building should be anchored to the foundation to reduce the possibility of the building moving with the heavy wind experienced at the site.

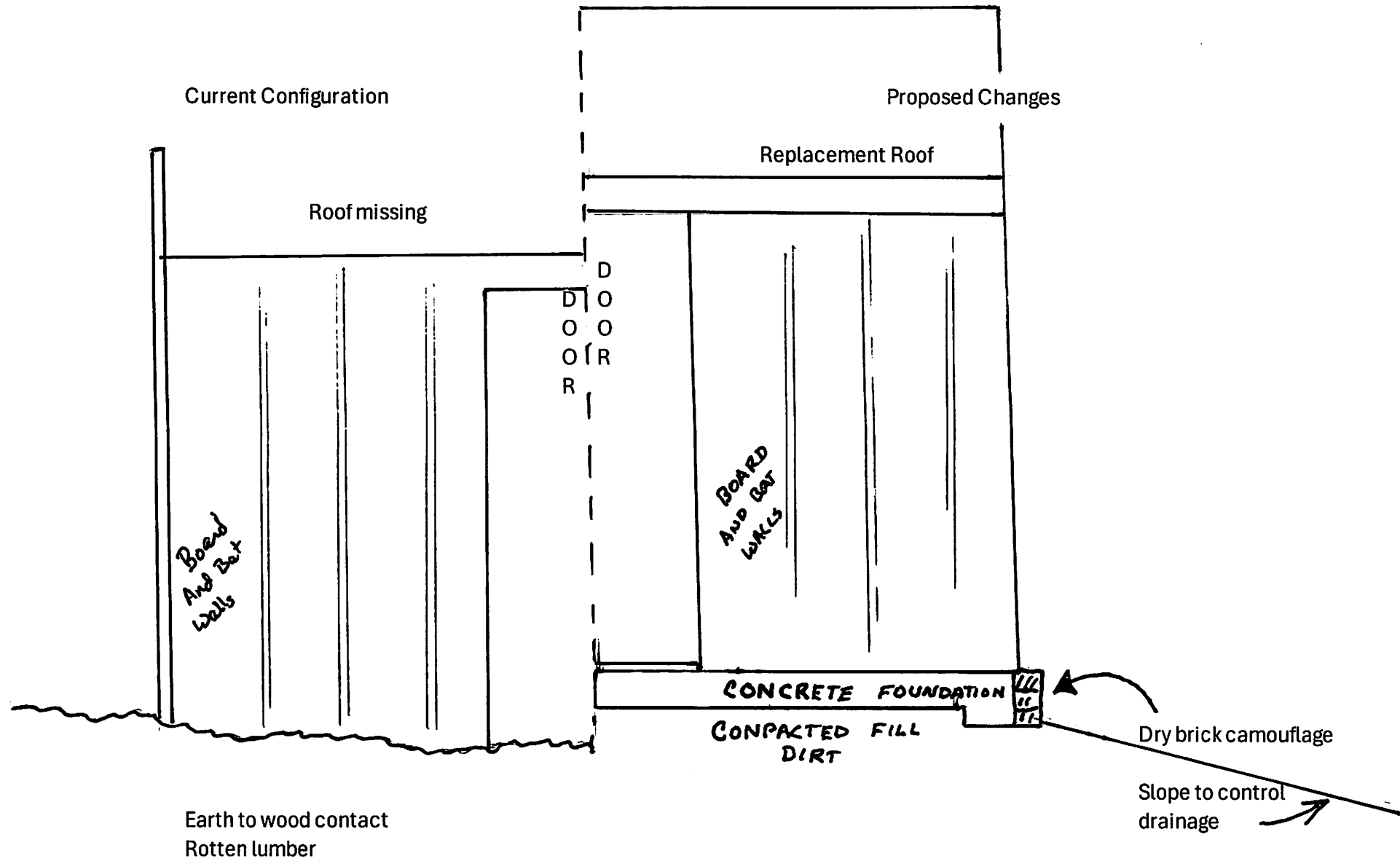
The tank's cradle will need to be rebuilt and any wood damaged by earth contact repaired or removed. When the cradle is back in place the tank itself may be returned to position. The original pipes may be "dummy" mounted to the cement foundation to tell the story of the tank's use. There is no expectation that the original tank will be plumbed back into service.

The original rafters have been labeled and preserved, and may be used and returned to their original positions. Overall, the roof is visible in the 1962 Curlin photo. The photo seems to show board and bat for the walls and the roof. This construction may be replicated.

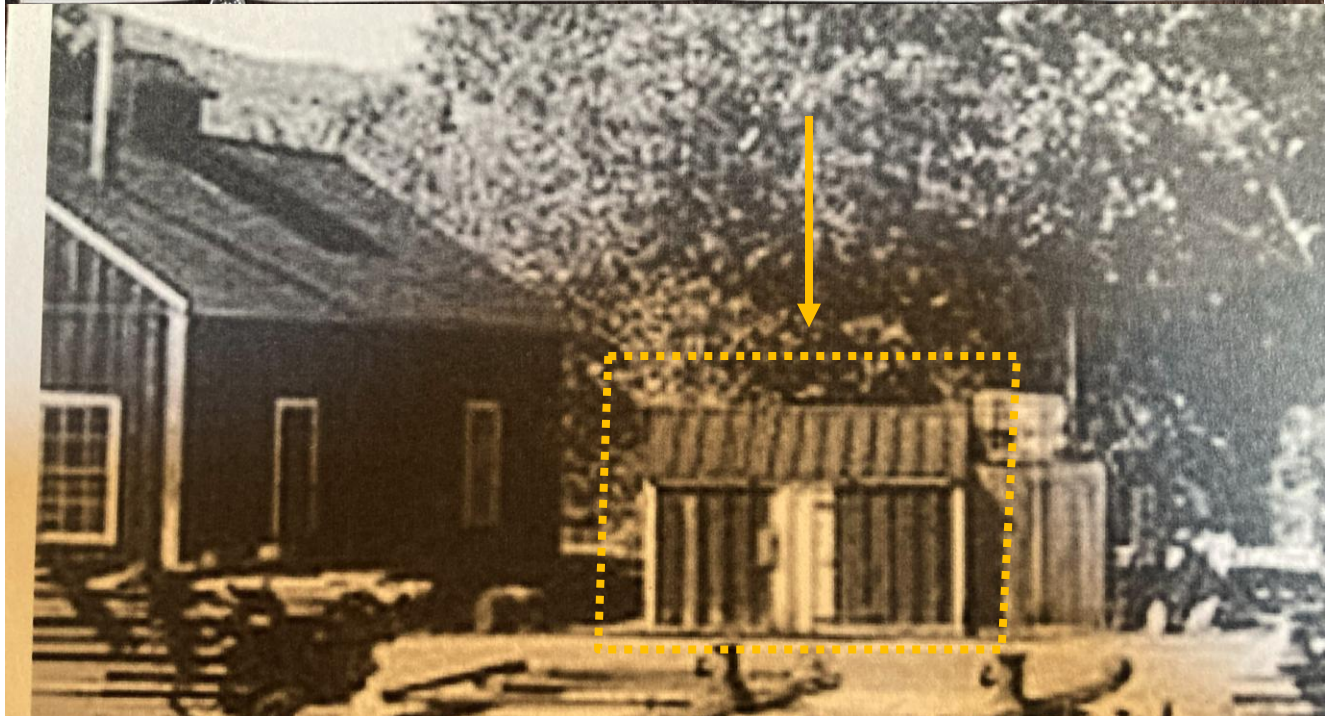
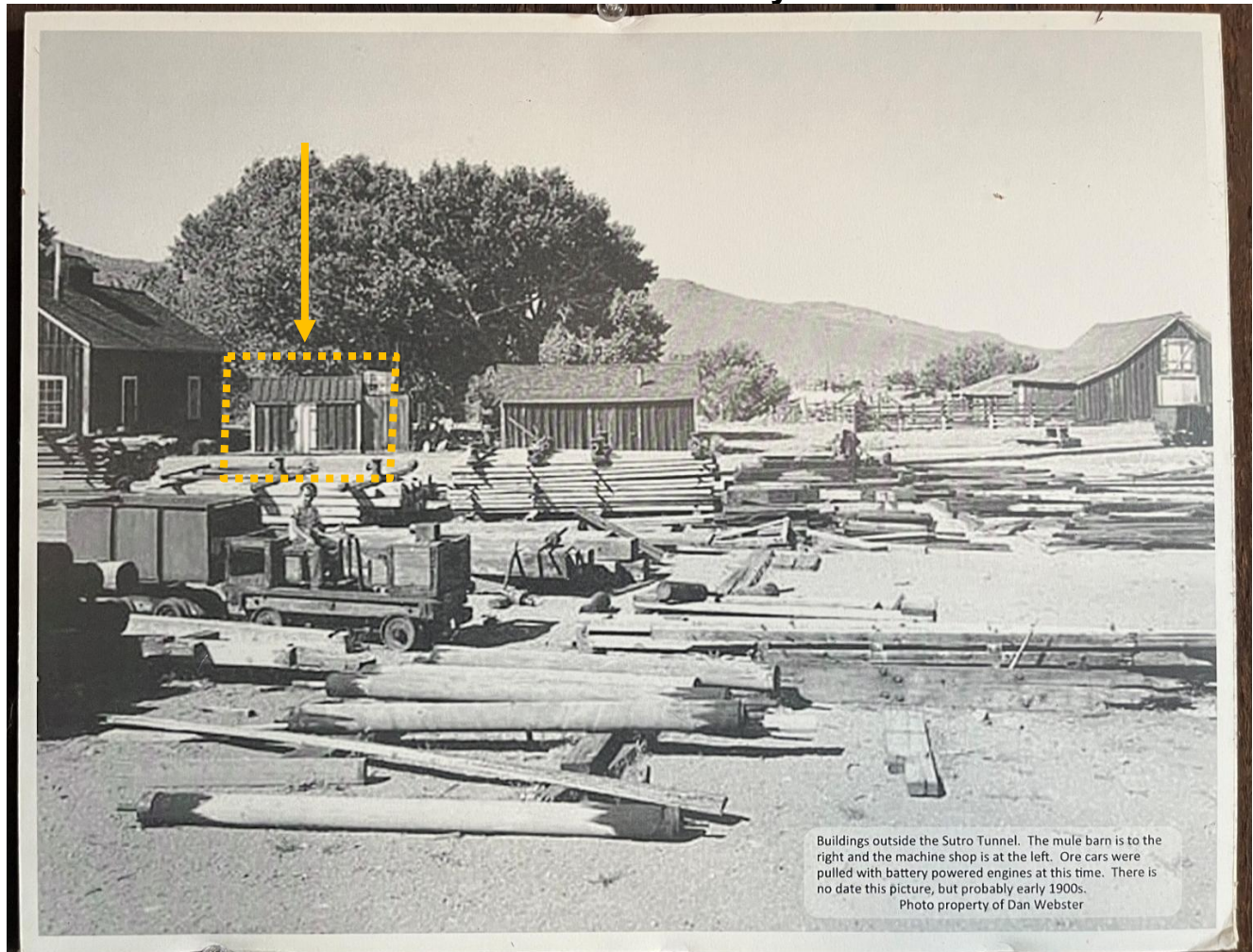
The walls of the building are in adequate condition with the exception of the west facing wall and door. Failed planks can be replaced on a case-by-case basis using resawn lumber bespoke to the needed dimensions.

Stain or paint to be applied to suggest great age could be applied to maintain the overall historic look of the site while preserving the lumber. The Tank House may be preserved with a gentle and sympathetic reconstruction to help tell the Sutro story.

Sketch of the "Tank House" - Sutro Tunnel



Historic Photo: Early 1900s



1962 Photo



Current Photo of Tank House – Provided By Applicant



Google Aerial Image



Current Photos – Taken By Staff (7-28-2026)



Current Photos of Tank House – Taken By Staff (7-28-2026)



South Elevation

Current Photos of Tank House – Taken By Staff (7-28-2026)



South Elevation



North Elevation

Current Photos of Tank House – Taken By Staff (7-28-2026)



East Elevation



West Elevation

Current Photos of Tank & Cradle – Taken By Staff (7-28-2026)



Current Photos of Tank & Cradle – Taken By Staff (7-28-2026)



Interior Photos of Tank House – Taken By Staff (7-28-2026)



Interior Photos of Tank House – Taken By Staff (7-28-2026)



Original Rafters Labeled – Taken By Staff (7-28-2026)

