Tom Moore Restroom

Historic Structure Report

TOWN OF ALTA · STATE OF UTAH

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FFKR ARCHITECTS

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Introduction

History of Building

The Tom Moore Comfort Station was an important piece of a concerted effort to develop resort amenities in the Cottonwood canyons in the late 1930s and involved the “Salt Lake County Commission, the Salt Lake City Recreation Department, W.P.A. CCC, and the Wasatch National Forest.”[1]

The Tom Moore Toilet is an important part of Alta’s History. It was constructed in 1938 by the Civilian Conservation Corps at the same time as the original Snowpine Lodge. The Tom Moore Toilet is the only visible piece of history from that time period. Some of the same original granite from the 1938 construction is still visible inside the newly expanded Snowpine Lodge, but nothing is visible outside.[2]

In 1938-39, the Civilian Conservation Corps (CCC) built a shelter on the foundations of the old Stillwell store. The second floor was obliterated in an avalanche and rebuilt in 1941 with a slanted roof. That structure later became the Snowpine Lodge. A stone wall was added above the shelter to protect it from further avalanches and a stone “comfort station” (two-door outhouse) was built nearby. The CCC presumably constructed both features.[3]

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[1] Deseret News (Salt Lake City, Utah) · Sat, Dec 4, 1937 · Page 7, downloaded on Jun 12, 2025

[2] From https://www.utah.gov/pmn/files/867819.pdf

[3] From https://livingnewdeal.org/sites/alta-ski-resort-development-alta-ut/

Architectural Description

The “Tom Moore” comfort station at Alta is a one-story stone, wood and concretestructure oriented to the south and nestled into the rocky hillside on the north side of the road. The south and east walls are stone and the north and west walls are wood framed. Two stoops lead up to the pair of entry doors on the south facadeopening into each of the multi-user restrooms. A clerestory window on the south façade provides light into a storage closet, which is accessed from the interior. A steel lintel is present above each of the door and window openings. The current doors are a simple plywood sheet, which has replaced the original doors. The windows have also been overlaid with plywood sheet. The south and east exterior walls are composed of stacked stone while the north and west exterior walls are framed. There is a second clerestory window on the east side of the building. Both windows are intact behind the exterior plywood covering them. The roof is composed of reinforced concrete slab with a small concrete curb on the south eave of the roof. The roof slopes to the south, consistent with the slope of the hillside to the north. The foundations were not directly observed but given the context of the construction they are likely reinforced concrete.

The structure sits about four feet above the current road surface. The stairs terminate against the building and the last step into the building is the stone threshold. There is no landing associated with the stair, either at the top or at the bottom, with the bottom of the stair being a precipitous drop of about twelve inches to the road surface. The stair itself is exposed concrete while the cheek walls are either stacked stone or reinforced concrete faced with stone. The stone used for the construction of the walls was likely quarried and dressed on site.

over the structure, with the south and east walls being stone and the north and west walls being framed. The wood framing occurs
on the outside face of the wall with the studs, or logs in this case, laid parallel to the wall. The interior face of the wall serves as both the structure and the finish; the being composed of 1x4, give or take, finish boards nailed horizontally to the inside face of the log. A thin, veneer paneling appears to have been overlaid onto the 1x4 members, though its heavily deteriorated and unclear if this was original to the structure.

The logs are embedded in the dirt and extend up to the roof, but rest most likely on a reinforced concrete foundation, or pier in this case, though the below grade condition was not observed. Wood beams are carried by the logs and extend about two feet to the edge of the roof. The beams run through the interior to the opposite side. In some cases, there is a stud on the outside face of the log to provide additional support for the beam above. Its not clear if this is original or was added later. The roof itself is concrete and was poured in place once the structure below was complete. The imprint of the boards used to form the concrete are still visible on the underside of the roof. The concrete roof is reinforced with an archaic rebar that is set in the center of the concrete mass and spaced roughly 12 inches on center. The rebar can be seen on the exterior of the roof where the roof has eroded away at the eaves and the rebar is rusting out.

On the interior, there are four toilet locations. One side of the structure was ostensibly for women and one side for men. A divider wall between the two spaces extended north to south through the structure, dividing the building into two halves. The wall still exists between two of the partitions, but its been removed in the other two, thus, the interior toilet rooms are now one open space. The partitions that remain are themselves made of wood, are partial height, and have a swinging door.

The floor consists of concrete, likely a reinforced slab on grade. There is a hole at each of the toilet locations which opens onto a refuse vault below. The vault was not inspected as part of this assessment due to reasons of health and safety.

Architectural Assessment & Recommendations

Good (Stabilization)

Recommendations in this category are concerned with, as the name states, stabilizing the structure, and are not necessarily intended to permit occupancy of the building. These recommendations are solely proposed to arrest further deterioration of the building elements. Stabilization requires the minimization of environmental degradation.

Better (Code Compliance)

Recommendations in this category are intended to allow occupancy of the building. These typically go above and beyond simple stabilization in that the building will meet the intent of building code.

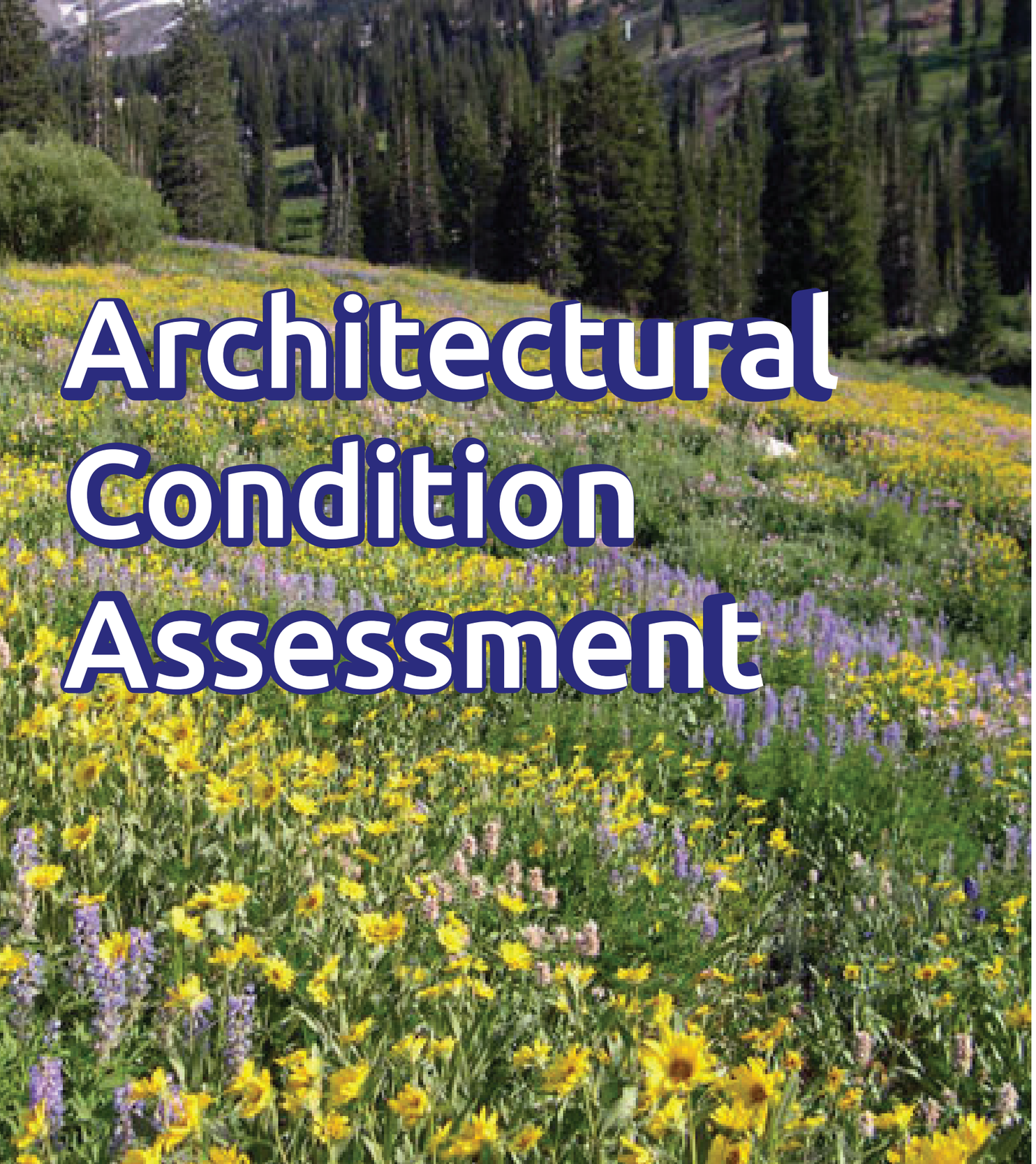
Best (Restoration)

Recommendations in this category go a step beyond code compliance and elements should be upgraded to provide a consistent historic aesthetic. The Secretary of the Interiors Standards of Rehabilitation will be followed in this category.

The recommendations in each of these categories are intended to be additive and, in some cases, upgraded. For instance, most of the stabilization recommendations also apply to the code compliant and restoration category. In many cases however, the restoration category will still functionally resolve the same issues, but with upgraded materials consistent with a building of the time period.

Standards for Rehabilitation

1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive materials, features, spaces and spatial relationships.
2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alteration of features, spaces and spatial relationships that characterize a property will be avoided.
3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.
4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.
5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.
6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and, where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.
7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.
8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.
9. New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale and proportion, and massing to protect the integrity of the property and its environment.
10. New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.


Architectural
Condition
Assessment

Roof

Assessment:

There is heavy deterioration in the concrete structure of the roof.. The rebar is exposed on the face of the slab and is rusting out. There is significant deterioration of concrete on the eaves of the slab. In addition, there is significant deterioration on the top of the slab where initially therewas likely minor spalling which began to pool and collectwater which exacerbated the spalling. Despite the sloped roof, this condition appears to be ongoing. At some point in time, a curb wall was installed at the south edge of the eave to prevent water and snow from dripping off the edge, and a short section of it still sits atop of the roof, though in poor condition, and due to heavy damage to the curb, parts and pieces of it are lying on the ground.

In addition, there is a cast iron vent pipe that extends through the roof that has a significant amount of rust.

Roof

Recommendations:

1. **Good** (Stabilization)
    a. First, the entire roof should be cleaned off. Stabilization of the roof will require a fair amount of concrete restoration to further arrest the cyclical freeze thaw damage now underway. Any failing concrete should be removed down to sound concrete. The entire concrete roof structure should be sounded with a hammer to determine the integrity of the existing structure. Any detectable hollow areas in the slab should be hammered out and removed. Rusted rebar should be removed by chipping out the concrete around it and exposing the damaged rebar. New rebar can then be installed adjacent to the existing by epoxy in the new rebar. New concrete can then be reinstalled where removed. The surfaces of the concrete should be rough enough to provide an adhesible substrate for the new concrete. Any cracks in the concrete should be scraped out with a small V-shaped chisel to a depth of at least ½ inch and patched in with new concrete.
    b. The vent pipe should be outfitted with a metal cover which prevents water from infiltrating inside the building.

2. **Better** (Code Compliance)
    a. In addition to the recommendation stated above, this category requires that the water running off the south end of the roof be collected and directed away from the building to a proper storm water runoff system, which could be connected to the city's stormwater system or could be detained on site. The gutter system is really intended to be functional first and foremost, therefore a K-style aluminum gutter, painted to match, or approximate the color of the concrete, can be installed with a matching downspout.
    b. Also, because the roof is bare, exposed concrete, a membrane roof should be installed. Again, because this is a functional requirement, a white TPO roof can be installed.
    c. Drip edge flashing should be installed at all eaves and should be painted to match or approximate the color of the concrete.
    d. The roof should be mechanically fastened to the stone walls via an embedded epoxy anchor.

3. **Best** (Restoration)
    a. In addition to the recommendations stated above, the restoration recommendations will require that the membrane roof and the gutter and downspout be upgraded to one that is consistent with the historic period in which this building was built.
    b. The gutter and downspouts can be upgraded to include a half-round gutter and round downspout. The gutter and downspout should be a galvanized metal. Copper gutters and downspouts were common for this period, but given the utility of the building itself, a galvanized system would be appropriate.
    c. The roofing should remain a membrane roof, but rather than an indeterminate color such as white, the membrane roof should be a gray, to mimic the concrete.
    d. As stated above, drip edge flashing should be installed at all eaves and should be painted to match or approximate the color of the concrete.

Stone Walls

Assessment:

The stacked stone walls on the south and east facades arethemselves in fairly good condition. There does not appear to be any significant step cracks in the mortar joints, and the stones themselves appear to be intact. There is however a significant amount of mortar deterioration between the stones, as would be expected of a building of its age. Namely, the mortar has eroded away from the face of the wall thus providing a shelf for the water to pool on. Additionally, there is a significant amount of mortar deterioration between the stone wall and the concrete roof. Lastly, on the south wall as the wall extends to the west and meets the rock, there has been significant ruination of the wall due to erosion.

Stone Walls

Recommendations:

1. **Good** (Stabilization)
    a. Stabilization will require that the mortar be repointed as necessary. This will involve raking out the damaged mortar with hand tools, cleaning out the joints, and repointing the joints with a mortar that matches, the color, the texture, the profile, and aggregate mix. The mortar should be a lime-based mortar that is softer (lower compressive strength) than the surrounding stone Because the mortar is largely set back from the wall due to erosion, this should be raked out to at least a depth of 2x the width of the joint. Then the appropriate mortar can be installed flush with the stone.
    b. Soils should be sloped away from the base of the wall at a minimum of 2%.
    c. A non-growable medium (drainable fill) should be installed 18 inches out from the wall for a minimum depth of 12 inches around the base of the building to eliminate plant growth at the base of the building.
2. **Better** (Code Compliance)
    a. Same as above
3. **Best** (Restoration)
    a. Same as above
    b. There is a significant amount of erosion on the face of the south wall as it extends to the west. It appears that this wall would have originally been mortared into the rock. In order to properly stabilize this portion of the wall, it should be rebuilt. To properly do this, rebar should be drilled and epoxied into the rock substrates and likewise into the base of the rebuilt stone wall. New stone can be stacked and mortared into place above this base wall and up to the roof. A non-shrinkable grout should be placed between the top course of stone and the roof structure. Likewise, as the base of the wall was embedded into the rock, rebar should be drilled and epoxied into the roof and the uppermost stone coursing. This section of wall should extend all the way to the rock west of the building and a non-shrinkable grouch should be installed between the rock and the wall.

Wood Walls

Assessment:

The logs are embedded in the dirt and extend up to the roof, but rest most likely on a reinforced concrete foundation, or pier in this case, though the below grade condition was not observed. Wood beams are carried by the logs and extend about two feet to the edge of the roof. The beams run through the interior to the opposite side. In some cases, there is a stud on the outside face of the log to provide additional support for the beam above. Its not clear if this is original or was added later. The wood-framed walls are highly under-structured. The logs carry the weight of the roof and transfer that weight to the foundation system. The 1x4 wood slats between the logs are simply infill and not load bearing. It is unclear if the logs have the structural capacity to carry the roof loads. The logs appear to be in good condition, however the wood infill wall between the logs is in very poor condition. In addition to being coated in a lead-based paint, there is heavy deterioration in the wood itself. In addition, as stated above there appears to be a thin wood veneer over the 1x4's but this has entirely failed.

Wood Walls

Recommendations:

1. **Good** (Stabilization)
   a. Not applicable

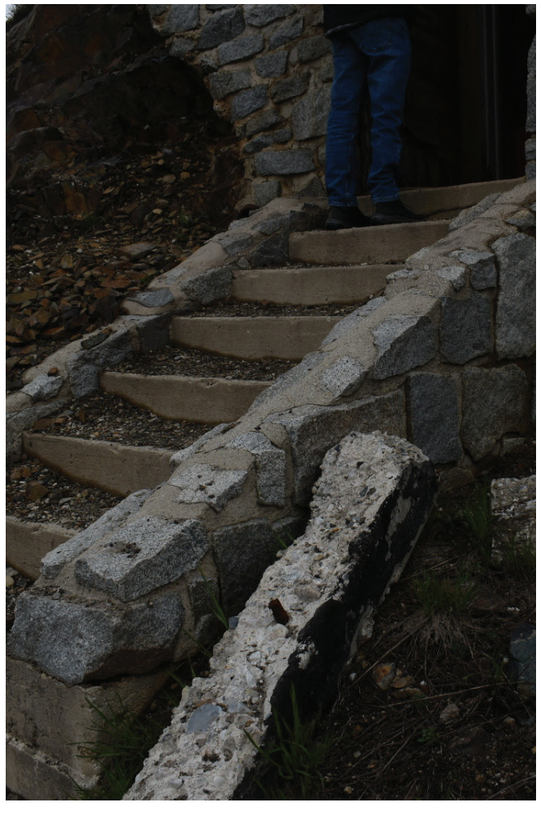
2. **Better** (Code Compliance)
   a. To better carry the roof loads, the infill wall between the logs should be removed and rebuilt. The best way to accomplish this is to pour a new foundation wall between the logs (see section on vault). Once that is complete, a new wood stud wall can be built on the new foundation wall. This wall can be sheathed and should be protected on the outside of the wall with a house wrap and covered in new treated 1x4's. The inside should also be finished in the 1x4 slats. This wall should be extremely breathable. Water will infiltrate this system, and the intent is that it will dry out passively. The walls should be painted on the inside. If reasonable, the piers, if they exist, should be supplemented structurally. Ideally, the logs should be painted to protect them from further weathering.

3. **Best** (Restoration)
   a. Same as above
   b. In addition to the recommendations listed above, any detailing on the interior should be restored.

Stoops

Assessment:

The stone stoops situated along the south face of the building are in good condition structurally speaking. Though they provide access to the elevated structure, current code requirements dictate that a landing be present outside the doors and that a landing is at level with the floor. Furthermore, code requires accessible entry to the building. This is not the case with these stoops. As one exits, the building one steps directly down one step from the door. The steps appear to meet current code with regard to the rise and run, however, there are no handrails or guard rails associated with this component. The final step down to grade is about 18 inches and is. due to erosion.



Stoops

Recommendations:

1. **Good** (Stabilization)
   a. not applicable

2. **Better** (Code Compliance)
   a. To better meet accessibility code and to ensure that these restrooms are usable the stoops should be disconnected from the building and shifted 5 feet away, if this does not encroach in the right of way. Rather than moving them, or relocating them, they should be reconstructed. The stone that is currently on the Stoops should be reused on the new stoop and it should be reconstructed in the exact manner. The intent of this is that the finished look of the stoop will be the same. Because this is new construction it will require a reinforced masonry or concrete wall supporting the stoop. In the gap between the stoop and the building a new landing should be constructed on level with the finished floor of with the structure.
   b. New guardrails and handrails should be installed the reconstructed stoops. Because the stoops rise more than 30 inches vertically a 42-inch guardrail is required by code. This guardrail should be as light as possible, so it does not conflict with the primary architecture of the structure. This may be achieved by utilizing one by two steel bar stock with aircraft cable strung tightly between. The handrails should hang off the guardrail structure.
   c. Again, to enhance accessibility, one of the restrooms should be wheelchair accessible. Because the stoops were shifted 5 feet this allows for a ramp structure to be constructed. The ramp should be as light as possible, similar to the guardrail. This can be constructed of steel and will require both a handrail and a guardrail and cannot exceed a 5% slope.

3. **Best** (Restoration)
   a. Same as above.

Interior Furnishings

Assessment:

As is the case of the interior walls, the interior furnishings, which includes the toilet partitions and the toilets, of the structure are in very poor condition as well. The toilet partitions are made of wood and are highly damaged. Apart from being in poor condition, part of the dividing wall is missing as are two of the toilet partitions. The toilet fixtures are in extremely poor condition. Nothing on the interior meets modern building code. In addition, there is a significant amount of hazardous material on the interior.

Interior Furnishings

Recommendations:

1. **Good** (Stabilization)
   a. Removal of all interior furnishings including partitions and toilets.
   b. Abatement of all hazardous material.

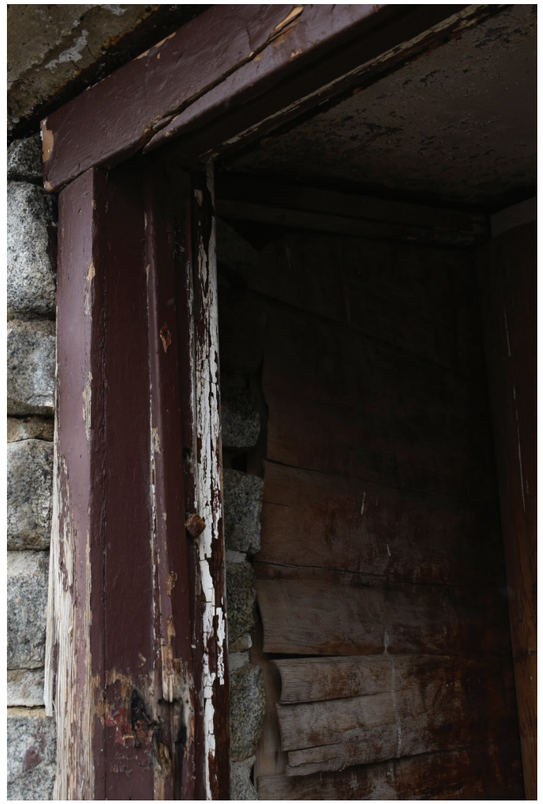
2. **Better** (Code Compliance)
   a. Same as above.
   b. In addition, and to better meet modern building codes, a new partition wall should be constructed between the two halves of the building. Each of these spaces should be unisex restroom. Each of these spaces should also only be a single user facility.
   c. The holes in the slab should be infilled with new concrete and a new hole should be introduced in a location that meets current code (see section on Vault).
   d. The slab should be thoroughly cleaned and sealed with an epoxy floor finish.
   e. New pit toilet fixtures should be installed above the holes.
   f. New toilet roll paper holders and sanitizing hand stations should be installed in each of the rooms.

3. **Best** (Restoration)
   a. Same as above.

Doors

Assessment:

Both doors are currently missing. Each of these doors has been covered with a plywood sheet. There is a door on the interior of the building which has a wood panel below and a single light above. This may be the original door. However, because it is in such poor condition it is likely not usable. The door frame is one of the more interesting features of the building. It is a simple door frame, about three inches wide, but it is scribed to the stone jamb surrounding it.



Doors

Recommendations:

1. **Good** (Stabilization)
   a. Replace the one of the existing plywood sheets with a new painted plywood sheet that is secured with a lock and is set on hinges to allow easy access in and out of the building.

2. **Better** (Code Compliance)
   a. Remove the plywood sheets.
   b. The wood frame should be salvaged and reinstalled.
   c. Install 2 new hollow metal doors in each of the openings.

3. **Best** (Restoration)
   a. In addition to the recommendations above, instead of two new hollow metal doors, a new door based on the existing door inside the building should be constructed. However, rather than having an upper glass panel, this should be a solid wood panel To enhance the security of the building.

Windows

Assessment:

The two windows in the building are extant. They are currently covered in a plywood sheet on the outside. Both windows appear to be in fairly good condition.

Windows

Recommendations:

1. **Good** (Stabilization)
   a. Not applicable.

2. **Better** (Code Compliance)
   a. Remove the plywood sheets.
   b. Restore the windows.

3. **Best** (Restoration)
   a. Same as above

Vault

Assessment:

The vault was not observed. However, it can be assumed that it is in very poor condition.

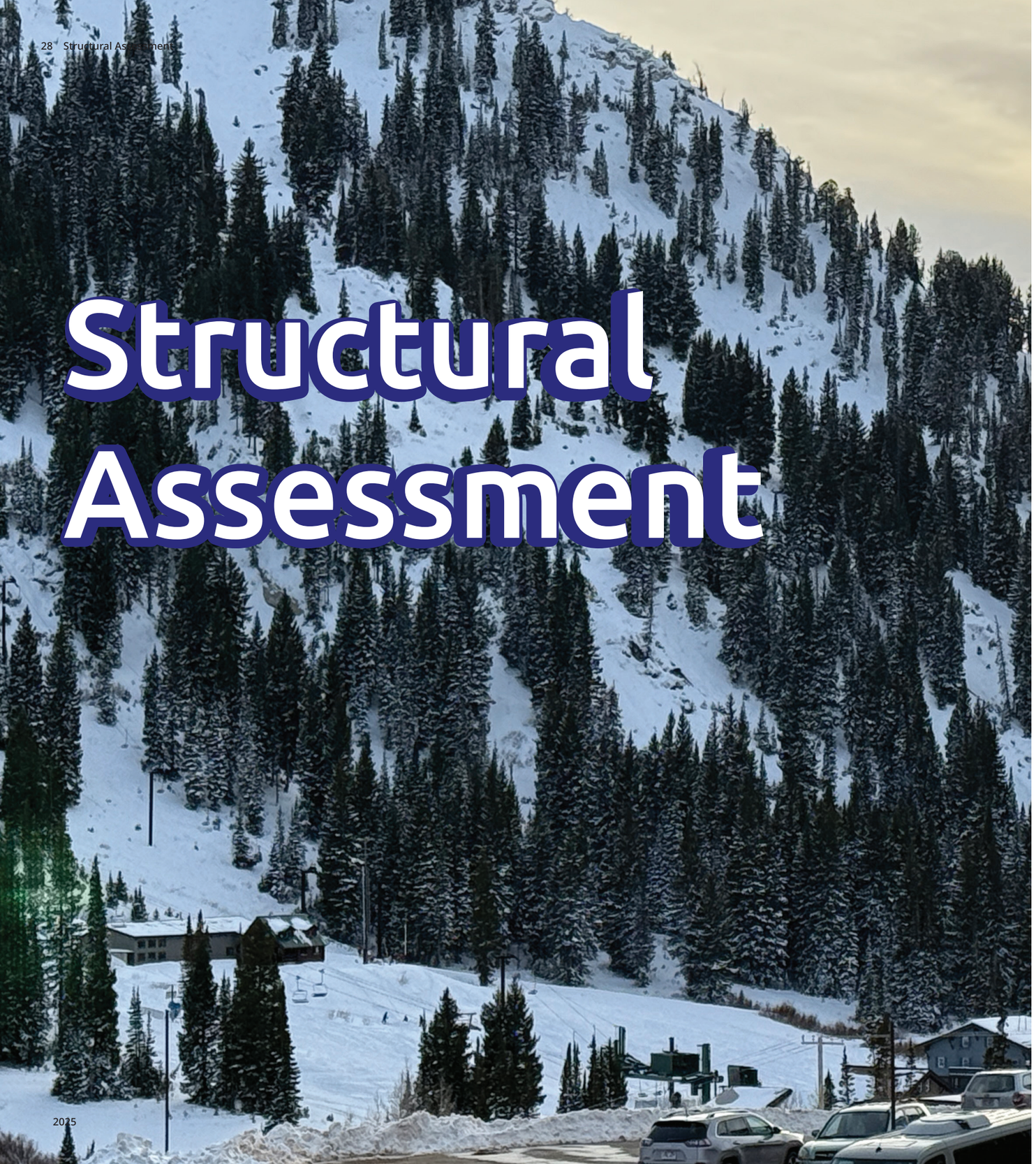
Recommendations:

1. **Good** (Stabilization)
   a. Not applicable.

2. **Better** (Code Compliance)
   a. Remove the existing vault. This will require that the building be shored and a significant amount of excavation take place.
   b. Install 2 new vaults below each of the reconfigured restrooms.

3. **Best** (Restoration)
   a. Same as above

Structural Assessment



Structural Assessment

Building Description:

The subject building is a small structure located on a steep hillside north of the highway. The footprint of the structure is 15 feet by 12 feet, excluding the roof overhangs. The building has been placed by excavating into the adjacent fragmented rock hillside. The age of construction is approximately 1935.

The type of construction is unreinforced stone exterior walls on two sides (south and east walls) with a six-inch thick poured-in-place, board formed concrete roof slab. The two other sides are enclosed with wood framed walls with spaced timber columns placed for support of the roof slab. The floor appears to be a concrete slab on grade. It is unknown if there is a concrete foundation or just stone rubble.

Structural Condition:

The stone walls appear to be in excellent condition with no signs of settlement or cracking. Mortar used for construction of the walls is a Portland cement mix that shows no signs of significant deterioration. The west end of the south wall has not been finished straight but has a jagged edge. It is assumed that this edge of wall was placed against the existing rock hillside, but that the rock is fragmented and has spilled away from the wall forming a rough gap between building and hillside.

The top of the concrete roof slab has been exposed to weather and snow melt for many years and shows significant signs of deterioration on top with exposed aggregate and spalling of concrete. However, observation of the underside shows the concrete in good condition with no significant signs of cracking, water damage, or spalling of concrete. Steel lintels placed over the doors for support of the roof slab show signs of rust due to the water run-off from the roof.

The timber support posts appear to be in good condition and have not been adversely affected by moisture and appear to be supporting the roof adequately at the present time.

Also, no noticeable signs of settlement of the structure were observed.

Structural Repair Recommendations

Repair Recommendations:

1. Due to the excellent condition of the stone walls, no re-pointing of mortar or repair work is recommended. However, if the jagged edge of the south wall needs to be improved for aesthetic reasons, this area can be rebuilt or natural stone from the hillside can be placed to fill the gap.
2. The rusting steel lintels should be cleaned and sealed to inhibit further deterioration. Replacement may be required if field investigation indicates that the steel has been compromised.
3. The timber posts supporting the roof slab appear to have no positive connection with the slab. Steel brackets should be placed with bolts into the timber posts and drill and epoxy anchors into the roof slab. This will help ensure stability in the event of lateral ground motion induced from a significant earthquake event.
4. Even though the concrete roof slab has supported heavy snow loading for many years, repairs are recommended to prolong the longevity of the structure. The following repair options are recommended based on cost.

Low-Cost Option - Clean loose debris and seal the existing concrete. Then place an underlayment and mechanically attach a membrane roof system over the concrete. This option will help slow the deterioration of the concrete but is considered a temporary repair. Additional repairs may be required in the future.

Medium-Cost Option – Power tool remove loose and spalling concrete, apply a full bonding adhesive, then place a 1-1/2” thick cementitious full bounding repair compound on the complete roof slab. Clean and/or remove all deteriorated rebar and replace with new as needed. Some mechanical anchorage between the new topping and existing slab may be required. Placing an elastomeric coating (or similar) is also recommended for waterproofing the slab. This option may be a viable solution to repair and strengthen the existing slab for an extended period. However, this is dependent on the state of degradation of the underlying existing concrete.

High-Cost Option – Remove the complete roof slab and pour a new reinforced concrete slab. This would require placing new steel posts in place of the existing timber to meet the current code. Drill and epoxy dowels between stone walls and new slab would also be required. Placing an elastomeric coating (or similar) is also recommended for waterproofing the slab. This option is considered a permanent repair that will strengthen the roof for many years and will also add increased stability of the overall structure.

5. Seismic Performance. Due to the age and type of construction, the structure is suspect in resisting lateral loading from a significant seismic event. However, due to the site location and considering the structure is minimal in size, constructed with concrete and thick stone, and is embedded into the rock hillside, estimated damage would not be great. Upgrading the structure by reinforcing the unreinforced stone walls and anchoring the roof and foundations may be economically unfeasible and is not warranted for a structure of this type and use.

Electrical

The need for minimal electrical lighting is essential to the ongoing functionality of this facility. Integrating electrical lighting into the historic stone restroom facility should preserve the structure's historic integrity while meeting modern functionality and safety standards. Alta's alpine environment adds additional layers of complexity to an otherwise simple solution.

Lighting:

For the exterior a subtle, low-profile, sconce light attached to the structure adjacent to the doors will maintain the historic character but provide needed lighting for access to the facility. The lighting installation should avoid chasing or drilling into historic stone. Use mortar joints for any necessary anchors. The conduit needed for the exterior sconces should be run on the interior of the building, ideally concentrated in the storage closet on the interior. Any surface-mounted conduit should be painted or powder-coated metal conduit (e.g., bronze, black, or stone-colored) to match or complement interior finishes. The exterior sconces should be rated for outdoors with GFCI outlets and waterproof junction boxes due to heavy snow and moisture.

In addition, having code minimum lighting for the ramp and stairs is required for safety and accessibility. The lighting on the stairs and ramp may be integrated into the railing structure.

For the interior, warm, moisture-resistant LED fixtures are recommended. Because the roof structure is concrete, these lights will need to be surface-mounted fixtures. Selecting an appropriate light fixture that blends with the bare aesthetic will be important. The fixture needs to provide the necessary light but not draw attention to itself.

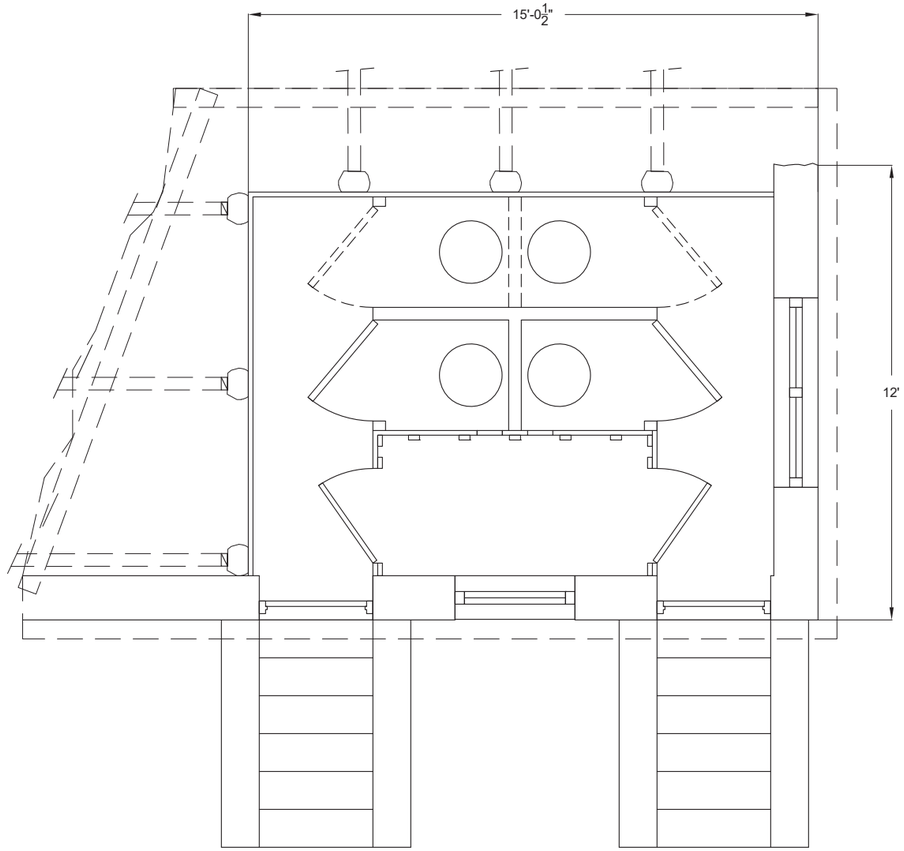
- Light Color Temperature: Use warm white (2700–3000K) to mimic natural light and maintain a historic feel.
- Lighting Controls: Install occupancy sensors and daylight sensors if feasible and in discreet locations to reduce energy use and light pollution.

There may be an opportunity to use an alternative power supply if grid connection is impractical:

- Solar Panels: Use ground-mounted panels nearby.
- Battery Storage: Install in the interior closet.

Appendix

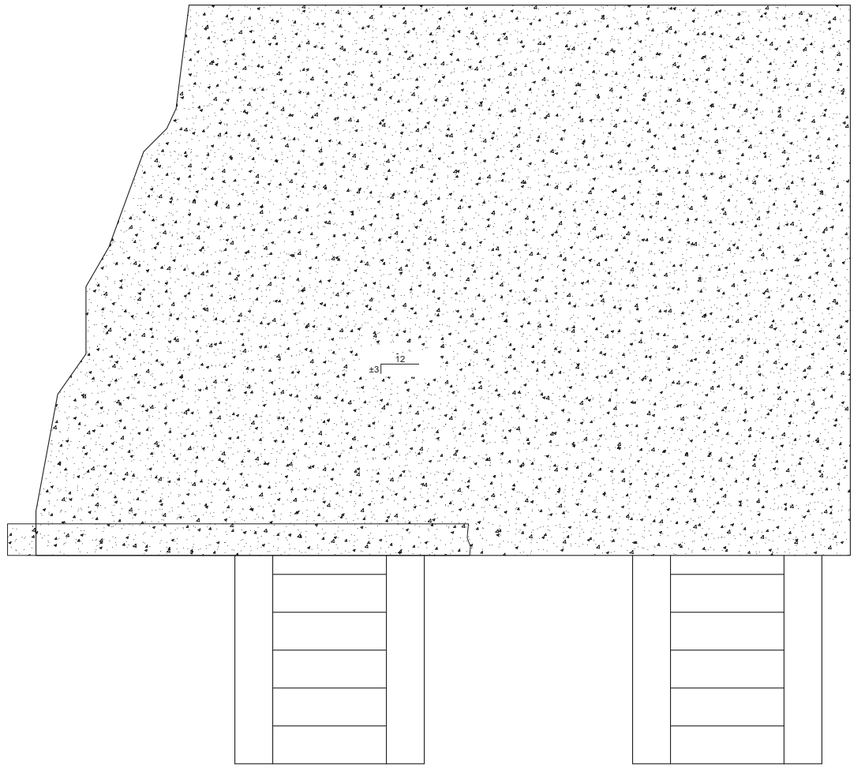
Plans



FLOOR PLAN

1/4" = 1'-0"

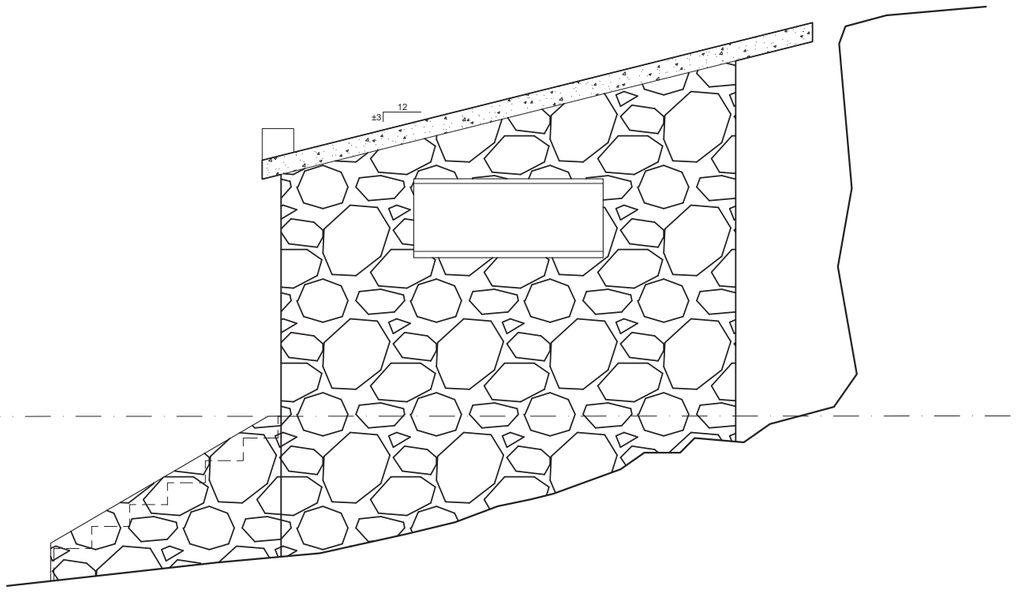
Plans



ROOF PLAN

1/4" = 1'-0"

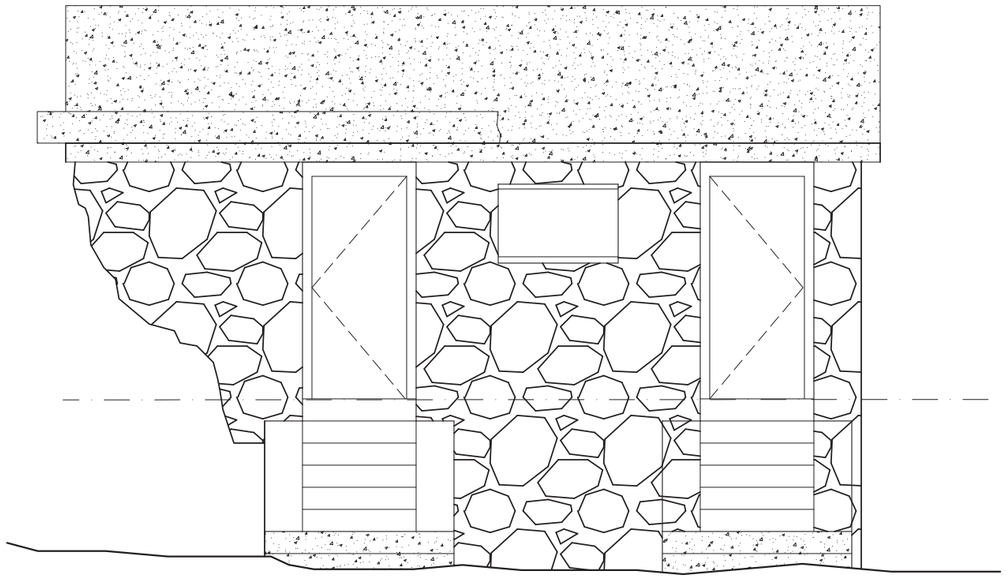
Elevations



EAST ELEVATION

1/4” = 1’-0”

Elevations



SOUTH ELEVATION

1/4” = 1’-0”

Rendering