

Steam Pump Ranch Condition Assessment Report



for the Town of Oro Valley
December, 19 2014



the architecture company

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Steam Pump Ranch Condition Assessment Report

Table of Contents:

Project Team

I. Executive Summary

II. Introduction

III. Condition Assessment and Cost Estimate

- 1. Pump House**
- 2. Pusch Ranch House**
- 3. Bunk Houses**
- 4. Garage / Workers Housing**
- 5. Procter / Leiber Residence**
- 6. Carlos' House / Former Barbecue Pavilion**
- 7. Chicken Coops**

Project Team

Oro Valley Parks and Recreation

- i. Lynanne Dellerman, Recreation & Cultural Resources Manager
- ii. James Gardner, Parks Manager

Consultants Team

The Architecture Company

- i. Richard Fe Tom, AIA, Architectural Historian
- ii. Kegan Tom, AIA, LEED AP BD+C
- iii. Bernard Buford, Cost Estimator

Hess Structural Engineering

- i. Steven Hess, PE

I. Executive Summary

Condition Assessment Summary

This report provides an updated condition assessment report on all of the existing buildings within the historic core as established by the 2014 Oro Valley Cultural Heritage Preservation Plan and the 2008 - Steam Pump Ranch Master Plan. The report includes both current conditions and recommendations for temporary structural stabilization to allow future restoration of the historic buildings.

General Conditions and Recommendations:

The most at-risk building to the least at-risk building is as follows:

- i. Pump House
- ii. Chicken Coops
- iii. Bunk House
- iv. Procter / Leiber House
- v. Carlos' House / BBQ and Garage / Workers Housing
- vi. Pusch Ranch House

All recommendations provided for the buildings, unless noted specifically in the condition assessment section of the report are for temporary stabilization in which restoration and permanent stabilization of the structures would occur by the end of 2017.

In all buildings, adobe walls were being destroyed by animals. For all of the structures we recommend locating hardware cloth along the perimeter of the buildings to prevent the rodents burrowing into the walls. This detail is provided in the Pusch Ranch House Section. For buildings that are vacant, we recommend locating traps to catch the rodents that come inside.

For all buildings, we also recommend keeping water 2' to 3' away from the building to prevent further basal coving and settlement. Some of the cracks developing in the walls are due to water collecting near the base of the building.

Locations of exposed adobe should be covered with tarp or a thin lime plaster 1/8" to 1/4" thick to prevent further erosion of the adobe. Tops of adobe walls are critical to protect and keep water out to prevent the entire wall from eroding.

Windows and doors should be sealed wherever there are cracks or openings that are allowing water to enter and deteriorate adobe walls. Where adobe has cracked around windows or deteriorated under windows, is where water is entering around the window frame.

With the site being located close to the Canada del Oro Wash and with so many cracks in the existing buildings, we recommend a soils report and drainage study prior to any long term stabilization performed to the buildings. A soils report is not necessary for the temporary stabilization of the buildings.

Each section of this report should be reviewed for more in-depth conditions, recommendations and cost options specific to each structure.

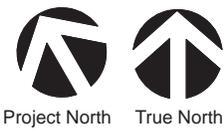
Cost Estimate:

Below is the cost range for each structure. This range reflects the spread from the total sum of critical costs to the combined sum of critical costs and recommended repair costs:

- i. Pump House: \$24,500 to \$178,500
- ii. Pusch Ranch House: \$3,500 to \$5,000
- iii. Bunk Houses: \$10,000 to \$14,700
- iv. Garage / Workers Housing: \$4,000 to \$6,500
- v. Procter / Leiber House: \$11,500 to \$22,000
- vi. Carlos' House / Former BBQ: \$4,000 to \$4,500
- vii. Chicken Coops: \$19,500 to \$23,000



Steam Pump Ranch Site Plan



Scope of Work

The Architecture Company was commissioned to provide an updated condition assessment report on all of the existing buildings within the historic core as established by the 2014 Oro Valley Cultural Heritage Preservation Plan and the 2008 - Steam Pump Ranch Master Plan. The buildings in the historic core include the following structures:

- i. Pump House
- ii. Pusch Ranch House
- iii. Bunk Houses
- iv. Garage / Workers Housing
- v. Procter / Leiber Residence
- vi. Carlos' House / Former Barbecue Pavilion
- vii. Chicken Coops

This assessment addresses areas of critical work and recommendations for temporary structural stabilization for the next two to three years on those portions of the buildings that Oro Valley has determined to be preserved. The portions of the buildings that are not to be preserved were not reviewed. The Pusch Ranch House and the Procter / Leiber House were also assessed for previous work performed.

The cost estimates are presented where the items with the highest priority are listed first and the least priority are listed last. The cost estimate items are also separated by Critical Repairs and Recommended Repairs. This will allow the Town of Oro Valley to address the most critical repairs first and proceed with the recommended repairs as funding allows.

Capital Needs Assessment Process

Richard Fe Tom, AIA and Kegan Tom, AIA with The Architecture Company (TAC) held a kick off meeting on November 20, 2014 with Oro Valley Parks and Recreation, James Gardner, Parks Manager and Lynanne Dellerman, Recreation & Cultural Resources Manager to allow TAC to understand the general intent of the master plan, possible changes to the master plan and where critical areas of deterioration have been noted.

An on-site meeting on November 25, 2014 with all of the above mentioned parties and Steven Hess, structural engineer, met to assess the 7 historic structures on site. An additional site meeting was performed on December 3, 2014 by TAC to review the Steam Pump House with the tarp removed. A

final site meeting was performed on December 16, 2014 to verify all items were identified.

The current conditions and deficiencies have been identified through photo documentation for each structure. A floor plan, based on the floor plans provided in the Steam Pump Ranch Master Plan and our visual assessment, have been provided for all structures except the chicken coops. The floor plans have been provided to identify locations of photos and areas of repairs only.

The recommendations provided in this report are not intended for long-term stabilization. The long-term solutions will be resolved when each structure starts to be fully restored. The critical issues and recommendations throughout this report focus on retaining as much of the original buildings as identified by Oro Valley to be preserved. The recommendations are based on keeping the repair and maintenance costs low with the practicality of solutions and the understanding that future preservation and construction for long term stabilization will be performed within one to three years.

There are many locations where the cracks in the walls and deterioration of the adobe are not addressed in this report as they are not deemed critical to the structural stability of the building.

Once the recommendations were established, a cost estimate for each item identified was determined. The cost estimate, provided in the assessment of each building, includes labor, material cost, project management and structural engineering fees where applicable. The cost does not include archeological costs as there can be a wide range for archeological fees depending on what is discovered. Estimates for archeological fees should be verified with archeologists if SHPO requires archeological research to be completed prior to any grading.

The Architecture Company (TAC) applies diligence and judgment in locating and using reliable sources of information. This statement of probable cost is made on TAC's knowledge of this project and past experience. TAC has no control over the costs of labor, equipment of materials or the contractor's method of pricing and makes no warranty expressed or implied as to the accuracy of such opinions as compared to the bid or actual costs.

A review of the report with James, Lynanne and TAC was completed on December 18, 2014.

Historic Overview

Much of the general history of Steam Pump Ranch can be found in the Steam Pump Ranch Master Plan and the National Register of Historic Places. The history of this site and the historic buildings should continue to be preserved to allow the story and history of the site to be told.

Any work to the buildings, especially to the exterior, must meet the Secretary of Interior's Standard for Treatment of Historic Properties as the site is currently registered under the National Register of Historic Places.

Definitions

1. Definitions of Conditions:

Excellent: Component of system is in "as new" condition, requiring no rehabilitation and should function in accordance with expected performance.

Good: Component or system is sound and performing its function, although it may show signs of normal wear and tear. Some minor rehabilitation work may be required.

Fair: Component or system falls into one or more of the following categories: a) Workmanship not in compliance with commonly

accepted standards, c) Obsolete, and/or d) Approaching end of expected performance. Repair or replacement is required to prevent further deterioration or to prolong expected life.

Poor: Component or system has either failed or cannot be relied upon to continue performing its original function as a result of having exceeded its expected performance, excessive deferred maintenance, or state of disrepair. Present condition could contribute to or cause the deterioration of other adjoining elements or systems. Repair or replacement is required.

Resources:

The following resources were used in developing this report

- i. Poster Frost Associates, Steam Pump Ranch Master Plan, Draft Final Report, April 2008.
- ii. Town of Oro Valley and Oro Valley Historic Preservation Commission, Oro Valley Cultural Heritage Preservation Plan: Developing and Sustaining a Community Sense of Place, Revised 2014.
- iii. National Register of Historic Places, July 24, 2009.

Current Floor Plan

- Adobe walls still standing
- - - Estimated locations of failed and removed adobe walls

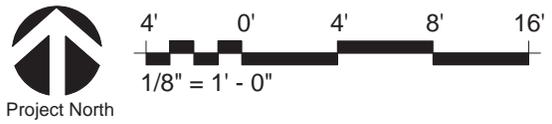
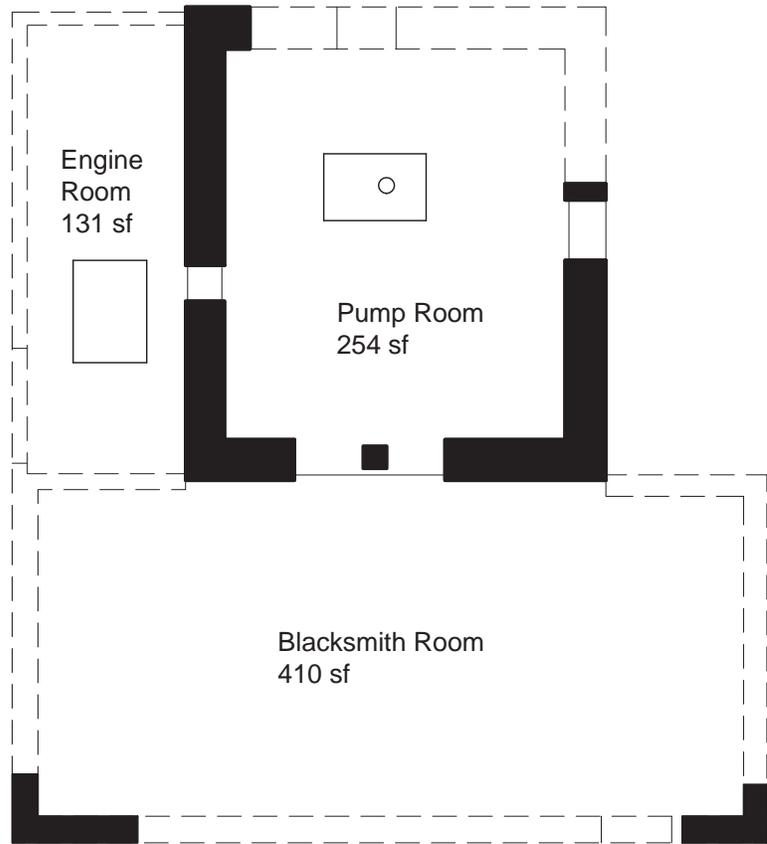


Fig. 1.01 Southwest Corner of the Pump Room



Fig. 1.02 Southeast Corner of the Pump Room and South Room

III. Condition Assessment | 1. Pump House

History

The Pump House, built around 1875 is one of the oldest structures on the site and one of the most historically significant. It is also in the most critical condition of all of the buildings.

Oro Valley's Proposed Treatment

The Town of Oro Valley is planning to work on the Pump House in two phases. Phase 1 will stabilize the adobe structure. Phase 2 will construct a protective structure or "ghosted" structure that allows the existing adobe structure to stay intact while remaining protected. Stabilization of the structure is expected to start by April of 2015. Once stabilization is complete the construction of the "ghosted" structure will begin. The Town of Oro Valley expects this project to be on-going into July of 2015.



Fig. 1.03 View Looking at the Existing Pump Room of the Pump House

Permanent stabilization of the adobe, stabilization of the adobe during and after construction of the new protective structure is not covered in this report and will be determined by others.

Summary of Current Conditions and Deficiencies

There has been minimal work performed on the Pump House. The roof has collapsed and a small portion of the East, South and West walls of the Pump Room are still standing. Currently plywood caps are placed at the top of the remaining parapets and plastic tarp has been attached around these remaining adobe walls to help prevent water from eroding the remaining adobe wall. Wood bracing supports have been added to the East wall to prevent the adobe from further collapse. These wood bracing supports have failed and are not sufficient. See additional notes in the Photo Documentation of Current Conditions, Deficiencies and Recommendations section on the following pages.

The existing tarp has been moderately adequate and has deteriorated. New tarp needs to be added with care to ensure no water enters from the top of the walls or if water or moisture enters, the moisture can be released until permanent stabilization can occur. Plywood boards located on the top of the parapet have dried and are cupping.

The remaining walls are in critical condition and a large wind storm could blow down the remaining walls. Repairs and remediation must occur as soon

as possible to prevent losing the remaining adobe structure. Repairs identified in the recommendation section are for temporary stabilization only. The permanent stabilization will be determined by the design team providing the long term stabilization plan.

Summary of Recommendations

The recommendations listed below are critical and in order of priority. These recommendations should be completed as soon as possible.

- i. Provide new temporary wall bracing supports on all walls to prevent the structure from falling to either side. Refer to the following pages for additional explanation of required supports and Fig. 1.13. Provide additional support for the East wall at the lintel where the lintel has lost support on one side and is very fragile. The lintel needs additional supports to stabilize it. This includes better vertical support for the cantilevered lintel along with the horizontal bracing. These wall bracing supports should remain in place until permanent stabilization of the walls occur.
- ii. Provide new tarp over the top of the structure to prevent the top of the wall from getting wet and melting the wall. Carefully adjust the tarp to allow some relief along the sides of the wall to permit the walls to breathe.

If construction of the ghosted structure and the

permanent stabilization of the adobe walls does not occur by April of 2015, we recommend the following repair:

- i. Repair the basal coving and provide a new concrete footing and stem wall under the existing adobe wall. Locate the top of stem wall 6" above the highest finish grade. Lay adobe block on the stem wall and up to the portion of adobe removed to pour in the new footing. This is typically completed in 3' lengths. Use unstabilized adobe from the surrounding site. This repair, unlike the recommendations above, will provide a long term stabilization to the adobe structure. We strongly recommend using a contractor that is familiar with unstabilized adobe and has successfully completed similar work on other historic projects. Additional long-term stabilization items need to be determined by the design team providing the long-term stabilization repairs. Because the basal coving has a critical impact to the structural stability and has a high cost, we are recommending this repair only if long term stabilization does not start by April of 2015.
- ii. If funding is not available to provide the permanent foundation as described above prior to the construction of the ghosted structure, the work done around the remaining adobe walls must be completed with care. Vibrations and grading near the structure can damage the ruins and potentially cause the adobe walls to fall down. The contractor should also work closely with a structural engineer, a contractor who understands how to work with adobe and the architect to determine if minimal areas,

such as the corners where there is basal coving, should be fixed prior to starting construction to ensure that the remaining walls will not be damaged during construction.

Additional recommendations that are not critical, but should be considered if construction does not start by April of 2015 and if erosion of the adobe starts to appear:

- i. Regrade around the small corner walls at the Blacksmith Room if water appears to be flowing towards or ponding near the adobe walls
- ii. Regrade around the Pump Room walls only if water appears to flow towards those walls.

Summary Cost Estimates

Critical Repair Costs:

- i. Temporary wall bracing supports: **\$19,000**
- ii. New tarp: **\$5,500**

Critical Repair Costs (If construction of the ghosted structure will not start by April 2015):

- i. Repair the basal coving and provide a new concrete footing and stem wall: **\$151,000**

Optional Repair Costs (If construction of the ghosted structure will not start by April 2015):

- i. Regrade around the small corner walls at the Blacksmith Room: **\$500**
- ii. Regrade around the Pump Room walls: **\$2,500**

Photo Documentation of Current Conditions, Deficiencies and Recommendations



Fig 1.04: Pump Room, Looking at the Southeast Corner

Conditions/ Deficiencies

Roof: Roof is completely gone. Remaining joists are in fair condition. Due to roof having fallen down the adobe walls have lost support at the top of the wall and are more susceptible to collapse from a windstorm.

Wall: Major wall separation due to East wall pulling away from structure.

Wall: Existing wood support is not touching the ground, preventing support from fully supporting building.

Recommendations

Provide new, improved wall bracing on the East, South and West Walls. See Stabilization detail, Fig. 1.13.

See recommendation above.

See recommendation above.



Fig 1.05: Pump Room East Wall

Wall: Existing parapet is covered with plywood cap. Adobe has separated from the bond beam / plate and adjoining wall.

Wall: Horizontal 2x bracing support is falling down and is not sized or located correctly.

Wall: Evidence of wall deterioration from water leaks from roof. Portions of adobe wall not covered with tarp during the initial visit.

Not critical to short term structural stability.

See recommendation in Fig. 1.04.

Loosely cover walls with tarp to prevent adobe from eroding from driving rain. Attach tarp in a manner to allow water and moisture to escape.



Fig 1.06: Pump Room East Wall Door Header and Current Supports



Fig 1.07: Existing Corners at Blacksmith Room



Fig 1.08: Typical Basal Coving, Image from South Wall of Pump Room

**Conditions/
Deficiencies**

Door: Header at doorway and door frame are not stable. Adobe under the header has separated from the adobe.

Door: Minimal support under existing door header at the East wall. Supports are standing on a barrel.

Wall: Top of adobe wall is not covered with tarp.

Grade: Water might be ponding around adobe walls.

Walls: Basal coving occurring along the base of all walls.

Recommendations

See recommendation below.

Provide 2 additional wood 4x posts under door header and horizontal bracing to provide support of the header and wall above the header.

Any tops of parapets that are exposed, cover with tarp to make sure the top of the wall is protected to prevent further erosion.

Carefully grade dirt away from adobe walls so water does not flow near walls.

Repair the basal coving and provide a new concrete footing and stem wall under the existing adobe wall. Locate the stem wall 6" above the highest finish grade. Lay adobe block on the stem wall and up to the portion of adobe removed to pour in the new footing. This is typically completed in 3' lengths. Use new unstabilized adobe made with soils from the surrounding site. Because the basal coving has a critical long term impact to the structural stability, we are recommending this repair only if long term stabilization does not start by April of 2015.



Fig 1.09: Southwest Corner at Joists

**Conditions/
Deficiencies**

Roof: Existing joists

Roof and Walls: Southwest corner appears to be in fair condition. Minor deterioration of adobe from water getting in at the top of the parapet.

Wall: Existing, original tie rods to hold adjacent structure that has since fallen. The steel rods used to anchor wall has little value against lateral resistance.

Recommendations

See recommendations from Fig. 1.04. See recommendations from Fig. 1.05.



Fig 1.10: South Wall of Pump Room, Looking into the Pump Room

Door: Header and frame supports appear to be stable.

Wall: Basal coving occurring along the full length of the wall

See recommendations in Fig. 1.04 and 1.08.



Fig 1.11: South Wall of Pump Room, Looking into the Pump Room

Wall: Plywood cap at top of adobe wall appears to be protecting the top of the adobe.

Continue to cover the top of the wall with tarp to help keep water out.



Wall: Plywood cap at top of adobe wall appears to be protecting the top of the adobe.

Continue to cover the top of the wall with tarp to help keep water out.

Wall: No stucco on any of the adobe walls.

Cover with tarp, see recommendation in Fig. 1.05.

Wall: Cracks in adobe wall

Stabilize wall as indicated in detail below in Fig. 1.13.

Grade: Dirt appears to slope away from the building.

If water is ponding within 2' of adobe walls, carefully re-grade to prevent water from sitting near or flowing towards to adobe walls.

Fig 1.12: West Wall of Pump Room, Looking East

Stabilization Detail

Note: Locate bracing every 8'-10' O.C. on all walls. Provide bracing at the end of each wall, each side of openings and at corners. Contractor to work closely with a Structural Engineer on-site to help identify the best locations for supports and have the Structural Engineer design the bracing.

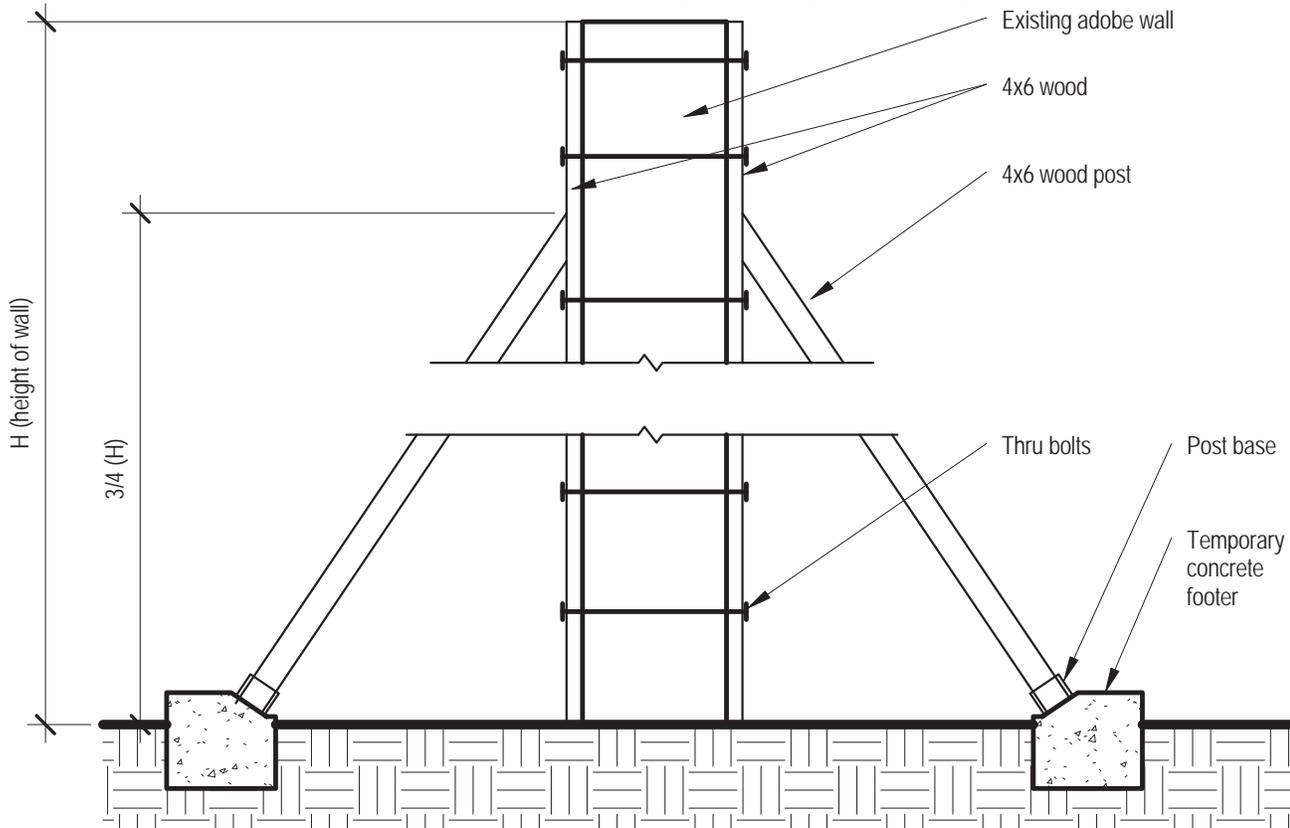


Fig 1.13: Bracing Detail

Current Floor Plan

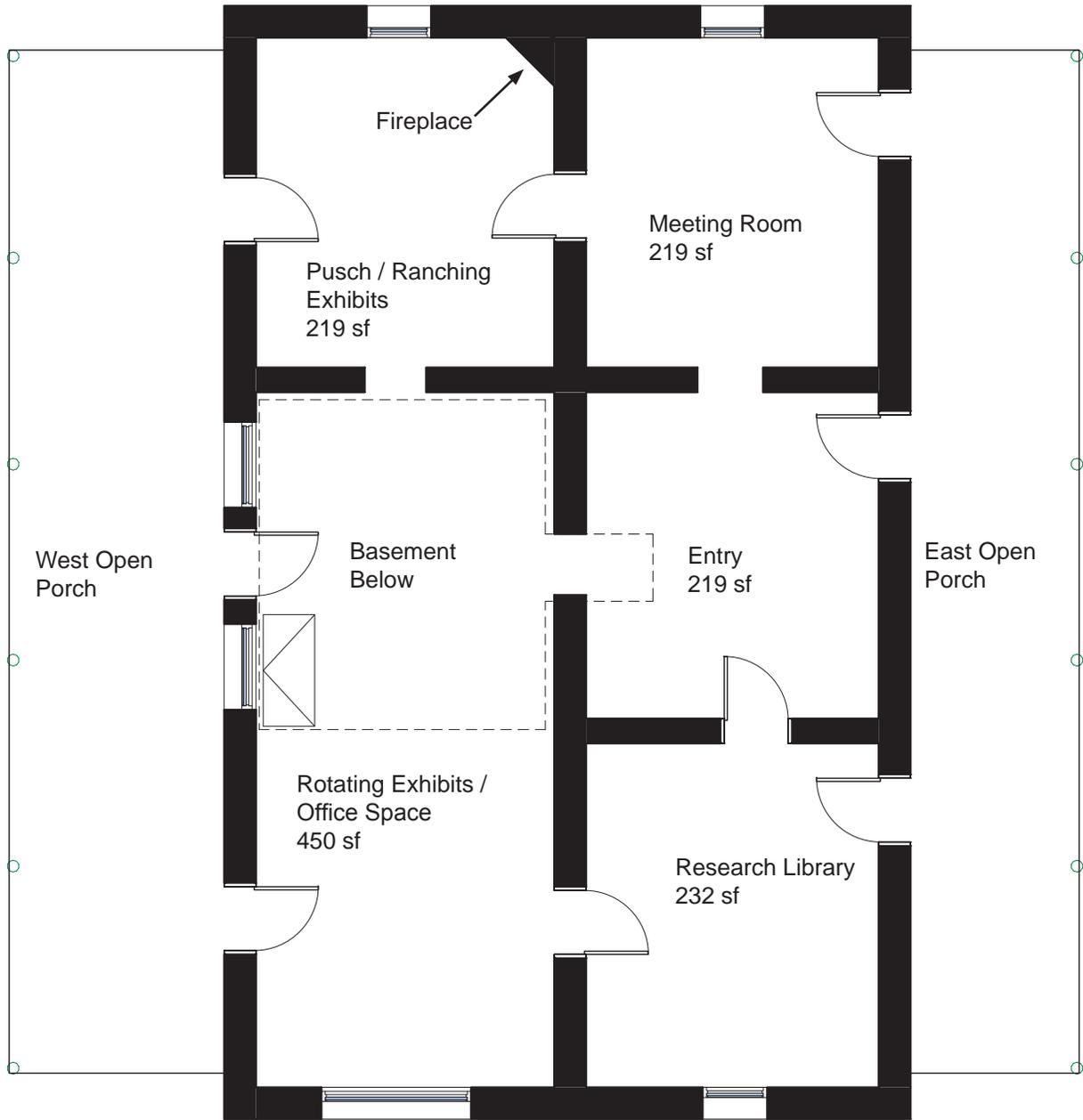
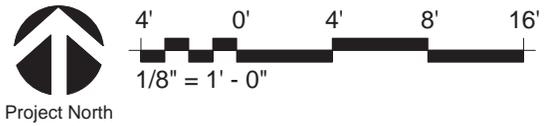


Fig. 2.01 Southeast Corner



III. Condition Assessment | 2. Pusch Ranch House

History

The Pusch Ranch House is a Sonoran Style House built out of adobe around the 1880s. It was the second structure built on the Steam Pump Ranch and served as the Pusch Family Residence.

Over the years, the open porch was enclosed and several additions were made to the house. In 2010, work began to return the Pusch Ranch house back to the original core. Six rooms and the basement were restored, where 2 of the rooms were combined, the porches were re-opened and the newer additions were removed.



Fig. 2.02 Northwest Corner

Assessment of Previous Work Performed

The recent work completed, around 2010 at the Pusch Ranch House appears to be in good condition, however there are cracks that have developed since the recent construction.

Summary of Current Conditions and Deficiencies

The structural condition of the house is stable. There are cracks developing on the South wall, West wall and North wall. These cracks do not appear to impact the structural stability of the house at this time. There is rodent activity around the house, which is creating damage to the exterior walls. There is deterioration under the South window at the Research Library, which might be caused from water leaking through the window.

Summary of Recommendations

We have identified three critical repair items in order of priority:

- i. The recommendation with the highest priority for this building is to stop the rodent damage. Close all openings in the basement with wire hardware cloth and install wire hardware cloth with 1/2" x 1/2" holes or smaller located along the perimeter of the building that is adjacent to dirt (mostly the North and South elevations) to prevent the rodents from digging into the walls. The cloth should be at least 8" to 12" below and above the ground and extend 12" to 24" away from the building. See detail in Fig. 2.09. Keep the grade lower than the finished floor elevation and allow the water to flow away from the building.
- ii. Some of the cracks at the Pusch Ranch House have been hand marked. These marks/crack detectors need to be able to

identify the date and size of the crack and the extent of movement in the wall over time.

The cracks in this building are not considered a critical stabilization item for the Steam Pump Ranch Site, however the movement in the building should be continuously monitored. If large movement occurs, a structural engineer should review this structure in more depth and review a soils report to determine if the soils under the building needs to be modified to prevent further damage to the structure.

- iii. Repair water infiltrating at office window.

An additional item that is recommended, but not critical is:

- i. After the hardware cloth is installed as described in Critical Repair Item i, provide large rocks to match the color of the decomposed granite around the perimeter of the building to hide the hardware cloth. This will reduce the visual impact of the metal screen while allowing access to the metal screen when maintenance is required.

Summary Cost Estimates

Critical Repair Costs:

- i. Prevent rodent damage: **\$2,500**
- ii. Installation of crack detectors: **\$500**
- iii. Repair South window at Office: **\$500**

Recommended Repair Costs:

- i. Rocks to cover hardware cloth: **\$1,500**

Photo Documentation of Current Conditions, Deficiencies and Recommendations



Fig 2.03: Southeast Corner

**Conditions/
Deficiencies**

Recommendations

Roof: Built up roof, no leaks apparent. Roof appears to be in good shape.

Wall: Crack in wall. Markings on wall indicate that crack on wall is being measured.

Continue to monitor crack. This crack is not seen as a critical repair.



Fig 2.04: South Window at Research Library

Window/Wall: Crack in wall at window allowing water to enter adobe.

Seal any cracks around the window and patch stucco to prevent water from entering.



Fig 2.05: East Open Porch

Floor: Minor cracks in concrete floor.



Fig 2.06: West Open Porch

Roof: LED Lights.



Fig 2.07: North Wall Rodent Damage

Conditions/ Deficiencies

Wall: Rodents digging holes at base of wall. This hole appears to lead into the basement.

Cracks on the interior wall by fire place are possibly caused from fire- place settling due to rodent activity under fireplace.

Recommendations

Replace torn screen in basement to prevent rodents from entering. Locate wire hardware cloth, similar to material installed near the basement stairs, along perimeter of wall. See detail below. Refill hole.



Fig 2.08: North Wall Rodent Damage

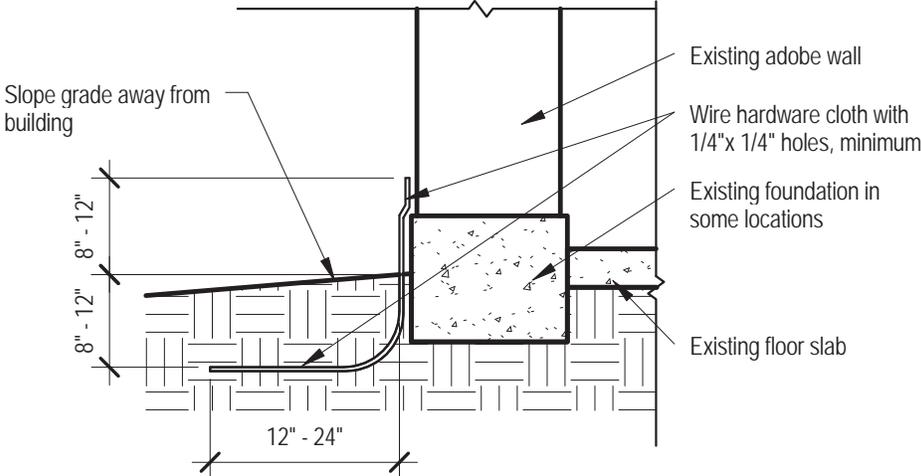


Fig 2.09: Suggested Location of Wire Hardware Cloth

Provide large rocks to match the color of the surrounding decomposed granite to reduce the visual impact of the metal screen at the Pusch Ranch House.

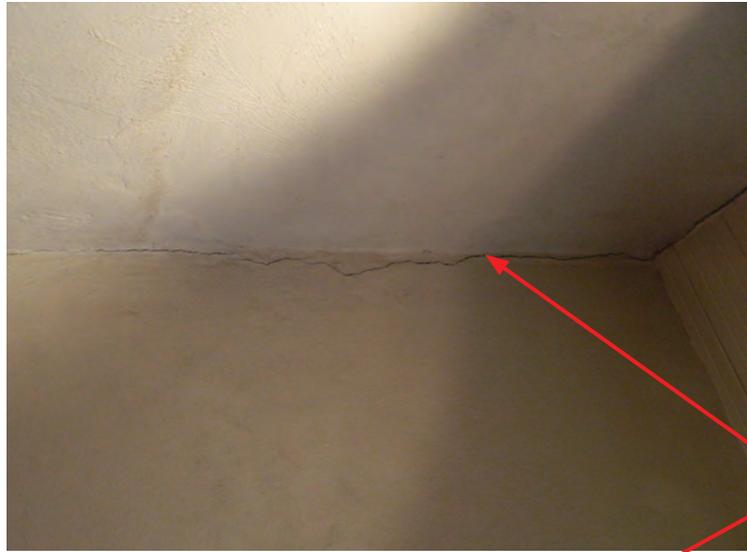


Fig 2.10: Southeast Corner in Rotating Exhibits / Office Space



Fig 2.11: South Wall in Rotating Exhibits / Office Space



Fig 2.12: Access to Basement in Rotating Exhibits / Office Space

**Conditions/
Deficiencies**

Recommendations

Wall: Crack at intersection of wall and ceiling along south exterior wall and East wall of the Research Library.

Monitor crack for movement.

Doors: Basement access door.

Basement: Holes under beam covered with hardware cloth. Appears to be keeping rodents out.

Floor: Wood floor in good condition.



Fig 2.13: View Above Fire Place in the Pusch / Ranching Exhibits

**Conditions/
Deficiencies**

Wall: Crack above fire place due to possible settlement at fire place.

Recommendations

Fill rodent hole and grade water to flow away from building to help prevent water from getting into the base of the building. See additional recommendations in Fig. 2.07 and 2.08.



Fig 2.14: Baseboard at Wall in the Pusch / Ranching Exhibits

Wall: Wall

Wall: Baseboard is separating along the north wall in the Meeting Room and the Pusch Family and Ranching Exhibit room. Possibly due to settlement occurring or rodent activity along that wall. Current separation of baseboard appears minor.

Not a critical repair at this time.



Fig 2.15: Baseboard at Wall in the Meeting Room

Wall: Baseboard

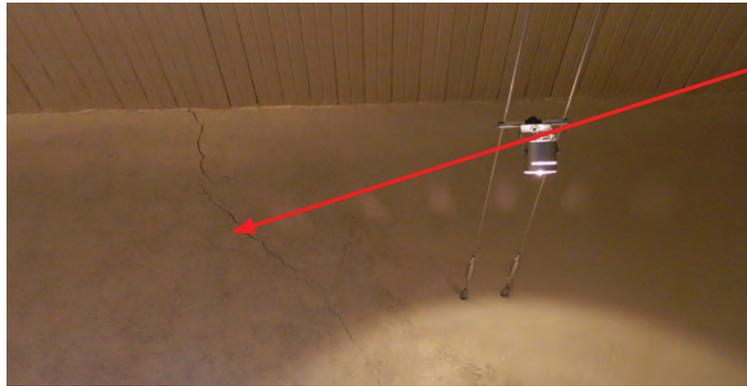


**Conditions/
Deficiencies**

Recommendations

Wall: Crack along east wall near fire-place.

Fig 2.16: East Wall in the Pusch / Ranching Exhibits



Crack on the South wall above the door

Fig 2.17: South Wall in the Meeting Room



Wall: Crack on south wall in the Research Library.

Fig 2.18: Southeast Corner in the Research Library



Fig 2.19: North Wall Basement

**Conditions/
Deficiencies**

Basement: Screen in Basement along North wall is torn. Other openings in basement have been secured.

Recommendations

Replace torn screen in Basement with wire hardware cloth to prevent rodents from entering.

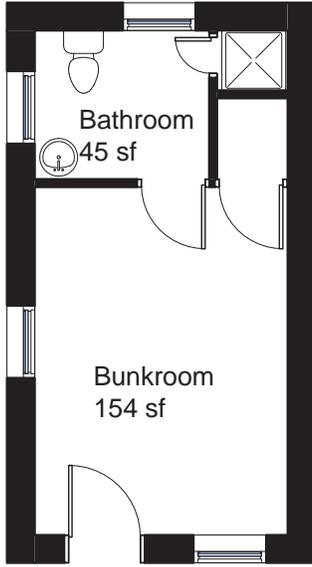


Fig 2.20: Northwest Corner in Basement

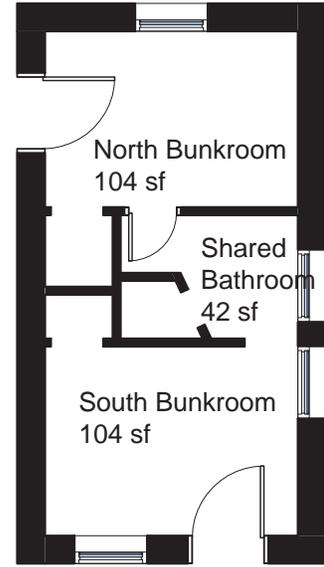
Basement: Dirt collecting at base of wood column. Possible Rodent activity.

Clean debris and close opening and any cracks to prevent animals from coming in.

Current Floor Plan



Bunk House A
339 sf



Bunk House B
336 SF

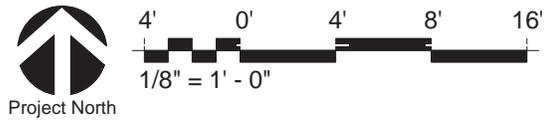


Fig. 3.01 South Elevations of Bunk Houses



Fig. 3.02 North and East Elevations of Bunk Houses, Pusch Ranch House Beyond

III. Condition Assessment | 3. Bunk Houses

History

The bunk houses are two small adobe structures, built around the 1940s and originally constructed for worker housing. A ramada was originally constructed between the two houses.

Summary of Current Conditions and Deficiencies

Both bunk houses are in poor condition and should be the top priority in terms of stabilization.

The roof was recently redone. Due to the short roof eave, the water from the roof appears to be landing near the base of the wall and causing additional water damage at the base of the wall.

Basal coving is occurring on both structures and water appears to be coming in through the doors and windows. Stucco has fallen off in some locations, creating pockets to allow water to enter the adobe walls. Due to water entering the adobe walls, portions of the adobe walls have started to erode.

Due to the lack of a concrete or rock foundation, rodent activity around both of these buildings are significant and is adding to the deterioration of the exterior adobe walls.

The interior walls appear to be 2x4 wood construction and seem to be in fair condition. The North Bunkroom of Bunk House B was not entered. The Shared Bathroom in Bunk House B was also difficult to see due to the debris and the amount of items currently stored in Bunk House B. The floor in both bunks was difficult to observe due to debris on the floor. There is evidence of water coming in through the front doors of both Bunk Houses into the interior rooms. The wood roof structure is exposed on the interior.

Summary of Recommendations

These recommendations are to provide temporary stabilization of the structure for the next 2-3 years. We have identified the following critical repair items in order of priority:

- i. Provide gutters with downspouts on both bunk houses. Locate downspouts with extensions away from the building such that water flows away from the building.
- ii. Make windows and door frames water tight by resealing around all doors and windows. If windows continue to leak after sealing providing flashing above the windows and

doors where windows appear to continue leaking. This should be done prior to applying the thin lime plaster.

- iii. Install wire hardware cloth along the perimeter of the building. We would recommend the same solution described in the Pusch Ranch House (see Fig. 2.09) without the rocks to hide the wire mesh. After the hardware cloth is installed, set rodent traps inside to reduce additional damage.
- iv. Provide a thin lime plaster, 1/8" to 1/4" thick on exposed, interior and exterior adobe walls of both bunk houses. Apply plaster over flashing to help make windows and doors watertight. Make patches obvious to indicate where the temporary repair has occurred to indicate future repair is required in that location.

Additional items that are recommended, but not as critical are:

- i. Remove all of the dirt, debris and items stored inside the bunk houses to allow the interior of the building to be monitored for stabilization, termites and rodent activity.
- ii. Lower grade around both Bunk Houses to be slightly lower than the finish floor of the house, especially at the exterior doors. Due to the lack of foundation, this must be graded very carefully to prevent the walls from moving or getting damaged. Regrade around building to ensure good drainage away from buildings so that water does not collect within 2' -3' of the building.
- iii. Reattach blocking that is falling out at the roof/wall location.

Summary Cost Estimates

Critical Repair Costs:

- i. Gutters and downspouts: **\$2,000**
- ii. Seal and flash windows and door frames: **\$1,500**
- iii. Prevent rodent damage: **\$3,500**
- iv. Lime plaster: **\$3,000**

Recommended Repair Costs:

- i. Remove debris: **\$2,000**
- ii. Lower grade: **\$2,500**
- iii. Reattach blocking: **\$200**

Photo Documentation of Current Conditions, Deficiencies and Recommendations



Fig 3.04: Bunk House A, North Elevation



Fig 3.05: Bunk House A, North Elevation



Fig 3.06: Bunk House A, East Elevation



Fig 3.07: Bunk House A, East Elevation Base detail

Conditions/ Deficiencies

- Roof:** New roof
- Openings:** Water appears to be getting in around vent.
- Walls:** Stucco starting to fall off and creating a pocket where water can enter.

Recommendations

Provide flashing at top of vent.

Patch stucco with a 1/8" to 1/4" lime based stucco, typical for the exterior of both bunk houses where adobe is exposed. Make patches obvious for future repairs to know where patches have been made.

- Windows / Walls:** Water leaking along window and creating erosion at header and under the window. This is typical at all windows in both bunk houses.

Add plaster to reduce any gaps or cracks. Seal around window frame to prevent water from entering and/or provide flashing at the head of the window to reduce the amount of water getting trapped into the wall. Both flashing and sealing the frame of the window will create the most water tight system. If budget will not allow for both, at a minimum seal around the windows to reduce the water into the walls. This is typical for all windows and doors on both bunk houses.

- Roof:** New roof.

Provide gutters and downspout along the eaves of both roofs to drain water away from building.

- Walls:** Basal coving and rodent activity.

Place a thin lime plaster 1/8" to 1/4" thick over exposed walls at base. This is a temporary patch. Install wire hardware cloth along perimeter of the building.

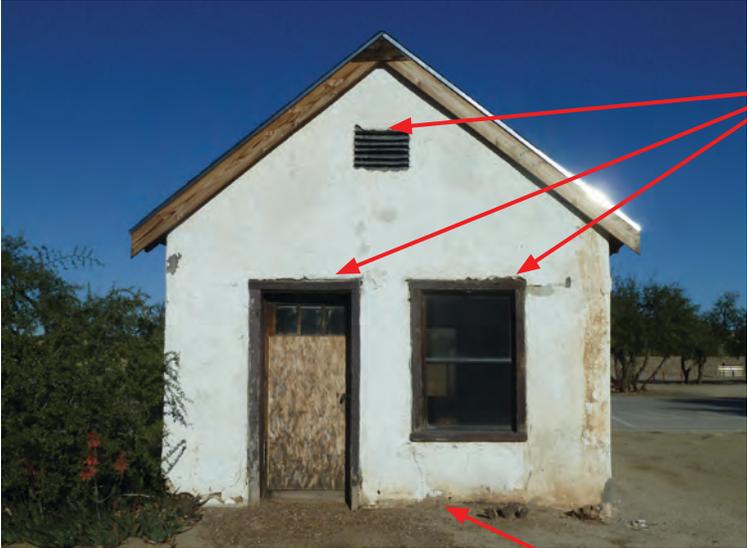


Fig 3.08: Bunk House A, South Elevation

Conditions/ Deficiencies

Openings: Water infiltrating around openings.

Recommendations

See recommendations from Fig. 3.04 and 3.05



Fig 3.09: Bunk House A at South Elevation Door, View from Inside Looking Out

Grading: Grade around both Bunk Houses is higher than the interior finish floors.

Re-grade exterior dirt to be slightly lower than interior finish floor. Grade dirt so water flows away from adobe walls.



Fig 3.10: Bunk House A, Southwest corner

Walls: Adobe missing at corner.

Patch stucco with a 1/8" to 1/4" lime based stucco. Refer to recommendation in Fig. 3.04.

Doors: Cracks around door frame due to water getting in around door frame.

Refer to recommendations on Fig. 3.05.



Fig 3.11: Bunk House A, Northwest Corner

**Conditions/
Deficiencies**

Walls: Large amount of adobe missing at corner.

Recommendations

See recommendation in Fig. 3.07.



Fig 3.12: Bunk House A, West Elevation

Walls: Damaged adobe. Same location as Fig. 3.11.

See recommendation in Fig. 3.07.

Walls: Vegetation near adobe walls.

Remove the larger bushes and trees whose trunks are within 2' of the building. Smaller plants (aloe vera, agave, etc) might hinder drainage. Remove smaller plants adjacent to adobe.



Fig 3.13: Bunk House A, Near Southwest Corner



Fig 3.14: Bunk House A, South Elevation, Interior of Bunkroom

**Conditions/
Deficiencies**

Walls: Crack near South door.

Floor: Floor is full of dirt. Difficult to full see condition of floor.

Recommendations

Patch with a 1/8" to 1/4" lime based stucco, typical for the interior of both bunk houses where adobe is exposed. Make patches obvious for future repairs to know where patches have been made, indicating a damaged area that needs further repair.

Refer to recommendation in Fig. 3.09. Remove debris and dirt from the interior.



Fig 3.15: Bunk House A, South Elevation, Interior of Bunkroom

Walls: Crack by South window and crack by South door. Caused by water collecting at base of wall and/or water leaking from window

Refer to recommendations in Fig. 3.14



Fig 3.16: Bunk House A, Bunkroom Floor

Floor: Cracks in concrete floor.

Not critical to stabilization.



Fig 3.17: Bunk House A, Closet and Bunkroom

**Conditions/
Deficiencies**

Floor / Walls: Large amount of dirt, possibly from rodent activity.

Stored items located throughout the Bunkroom and Closet

Recommendations

Refer to recommendations in Fig. 3.07 and 3.14.

Remove all unused items to allow space to be maintained.



Fig 3.18: Bunk House B, North Elevation

Roof: New roof.

Walls: Erosion at corner from water damage.

Windows / Walls: Possible water damage to adobe under window from water getting in around window frame.

Walls: Possible rodent damage. Dirt is located higher than floor interior.

Refer to Fig. 3.06 for recommendations.

Refer to Fig. 3.05 for recommendations.

Refer to Fig. 3.07, 3.08 and 3.09 for recommendations.



Fig 3.19: Bunk House B, East Elevation

Roof: Mesquite tree can hit roof during wind storms.

Trim lower tree branches so no branches within 2' to 3' of the roof.



Fig 3.20: Bunk House B, Southwest Corner

**Conditions/
Deficiencies**

Recommendations

Roof / Walls: Tree branches hitting building.

For recommendations refer to Fig. 3.19.

Walls: Stucco falling off due to water leaking around windows.

For recommendations refer to Fig. 3.04.



Fig 3.21: Northwest Corner in Basement

Walls: Stucco falling off.

For recommendations refer to Fig. 3.06 and 3.07.



Fig 3.22: Northwest Corner in Basement

Walls: Not able to see behind plywood support. Erosion at corner possibly due to water coming off of room and lack of gutter and downspout.

Support seems sufficient for now.

Roof: Blocking is starting to fall out.

Replace or reattach where possible to prevent animals from entering.



Fig 3.17: Bunk House B, South Bunkroom Window on East wall

**Conditions/
Deficiencies**

Walls / Windows: Cracks due to water infiltrating around window.

Walls: Vinyl wall covering.

Recommendations

Refer to recommendation in Fig. 3.05 and 3.14.

Remove to ensure there is no damage to adobe under covering.



Fig 3.18: Bunk House B, South Bunkroom, Northwest Corner

Floor: Dirt and stored items. Unable to see condition of floor.

Remove dirt, debris and stored items to reduce places for rodents to live.



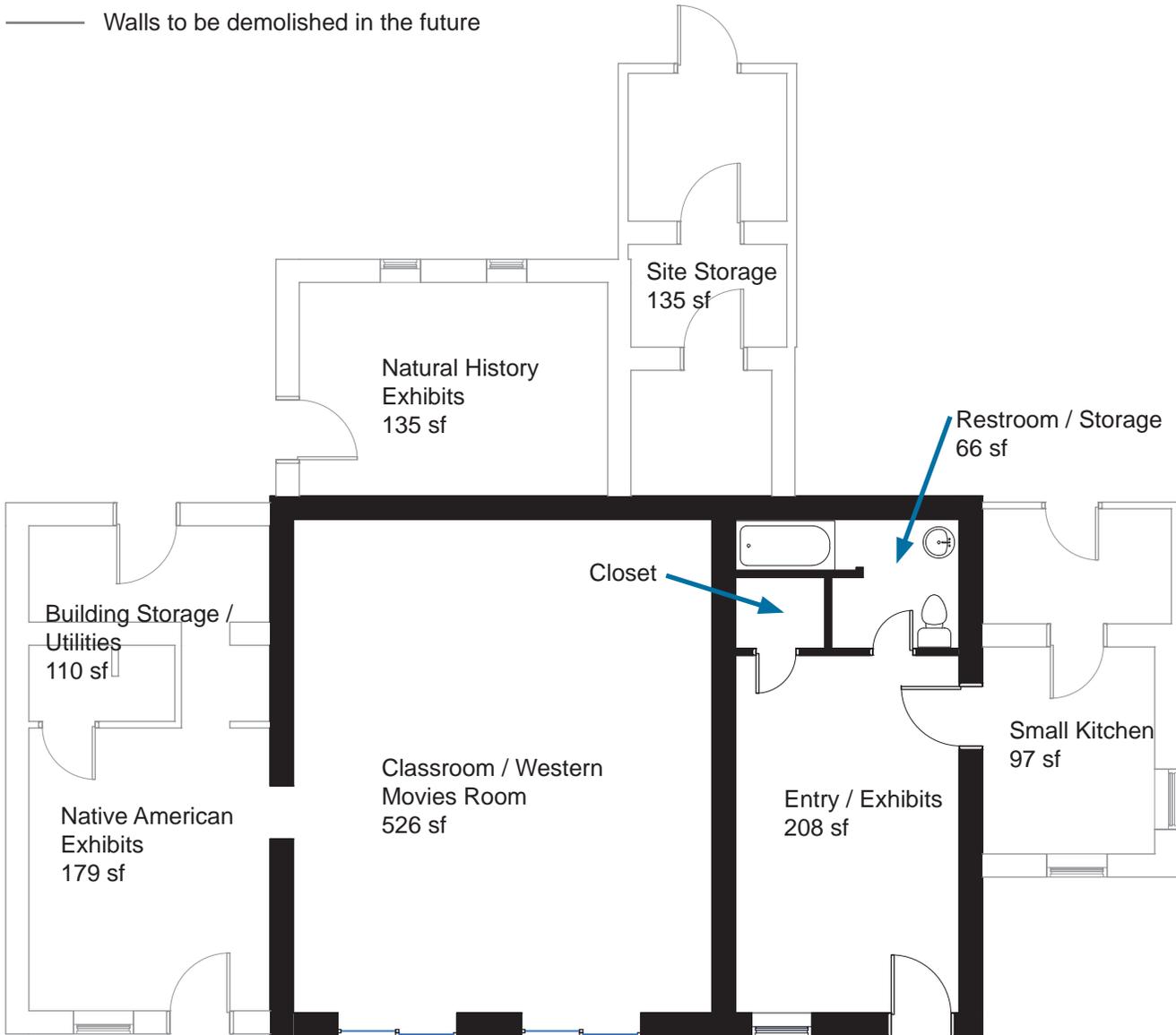
Floors / Walls: Dirt and stored items. Possible rodent activity.

Remove dirt, debris and stored items to reduce places for rodents to live.

Fig 3.17: Bunk House B, Shared Bathroom

Current Floor Plan

- Existing Adobe walls to remain
- Walls to be demolished in the future



Project North



III. Condition Assessment | 4. Garage / Workers' Housing

History

The Garage / Workers' Housing was built in multiple stages between the 1930s to the 1960s. It was originally constructed as the garage for the Procter / Leiber House

Summary of Current Conditions and Deficiencies

The Classroom / Western Movies, Entry / Exhibits and Restroom / Storage rooms were reviewed for stabilization to prevent future deterioration. The adjacent rooms were only reviewed if they impacted the structure of the rooms to be preserved.

Previous stabilization issues appeared to have been addressed at an earlier time. The critical issue in this building are the damages from rodent activity.

Summary of Recommendations

These recommendations are to provide temporary stabilization to the structure that will remain only. We have identified the following critical repair items in order of priority:

- i. Clean up debris and board up small openings in the walls if rodent holes are apparent after cleaning. Install wire hardware cloth along the perimeter of the portion of the building that will be preserved where possible. We would recommend the same solution described in the Pusch Ranch House (see Fig. 2.09) without the large rocks to hide the hardware cloth. Install rodent traps to help reduce the number of rodents.
- ii. Water appears to be collecting along the North exterior wall of the Restroom / Storage. Provide a thin lime plaster, 1/8" to 1/4" thick on exposed adobe. Make patch obvious to indicate where the temporary repair has occurred and that future repair is required in that location.
- iii. Direct water away from the corner by the Restroom / Storage and the Site Storage by adding gutters and downspouts to the roof around the portion of the building to be kept. Locate downspouts to direct water away from the building. Remove vine growing in that corner.

The following repair items are not critical to the stabilization of the structure, but should be consid-



Fig. 4.01: Southeast Corner



Fig. 4.02: North Elevation

ered if rodent activity in the portion of the building to remain continues:

- i. The wall and structure between the Classroom / Western Movies Room and the Entry where an earlier roof leak deteriorated the wall is currently stable, however if rodents begin to dig into that wall, provide a temporary thin lime stucco 1/8" to 1/4" thick on the exposed adobe wall.
- ii. Board up the West opening in the Classroom / Western Movies Room if rodents continue to enter the space after hardware cloth is installed around the perimeter of the building to be preserved.

Summary Cost Estimates

Critical Repair Costs:

- i. Prevent rodent damage: **\$2,000**
- ii. Lime plaster: **\$500**
- iii. Gutter and downspout: **\$1,500**

Recommended Repair Costs:

- i. Repair damaged wall: **\$2,000**
- ii. Board up openings: **\$500**

Photo Documentation of Current Conditions, Deficiencies and Recommendations



Fig 4.03: North Elevation looking East

Conditions/Deficiencies

Majority of the North elevation will be demolished in the future.

Recommendations



Fig 4.04: Northeast Elevation

Location of building that will be preserved. Interior is in fair condition.



Fig 4.05: North Elevation by Restroom / Storage, looking West

Portion of building that will be demolished in the future.

Walls: Water collecting in the corner and eroding base of wall. Possible rodent activity, see Fig. 4.11 for view of this location at the interior.

Place thin lime plaster, 1/8" to 1/4" thick over missing stucco. Add gutters to roof line above the area of the building that will be restored and locate downspouts to flow away from building. Remove vine.



Fig 4.06: South and East Elevations, looking Northwest

**Conditions/
Deficiencies**

Recommendations

Portion of building to be preserved. In fair condition.

Lower building will be demolished in the future.



Fig 4.07: South Elevation

Portion of building to be preserved. This portion appears structurally stable.

Roof: Roof in good condition.



Fig 4.08: Southwest Corner of the Classroom / Western Movies Room

Wall: Crack in wall

Not a critical repair at this time.

Doors: Opening to the Native American Exhibit to the West.

If the Native American Exhibits Room to the West of the Classroom / Western Movies Room is having rodent problems, we recommend blocking the opening to prevent rodents from entering the Classroom.

Floors / Walls: Pile of dirt, appears to be rodent activity.



Fig 4.09: Northwest Corner of Classroom / Western Movies Room

**Conditions/
Deficiencies**

Recommendations

Walls: Cracks in at corner and on the North wall of Classroom / Western Movies Room.

Not critical to repair at this time.

Floor: Cracks in concrete floor.

Not critical to repair at this time.



Fig 4.10: Northeast Corner of Classroom / Western Movies Room

Walls: Adobe deteriorated from earlier roof leak. Roof leak appears to be fixed. Stucco finish from other side still standing.

Wall is stable as is for short term. If rodent damage in wall creates more damage, provide a thin lime plaster 1/8" to 1/4" thick to prevent rodents from entering the wall.

Structure: Column added to support the beam.

Support appears sufficient at this time.

Floor / Walls: Large amount of dirt, possibly due to rodent activity.

Remove dirt and inspect adobe to ensure that large portions of adobe wall aren't missing. Repair as needed and close rodent holes if any.



Fig 4.11: Bathtub in Restroom / Storage



**Conditions/
Deficiencies**

Wall: Wall is damaged near base. Possibly from water infiltrating from exterior or rodent activity.

Recommendations

Refer to recommendation in Fig. 4.05.

Floor: Floor is full of dirt.

Refer to recommendation in Fig. 4.11.

Fig 4.12: Toilet in Restroom / Storage



Walls / Floor: Closet in the Entry / Exhibits Room is full of dirt. Appears to be same activity from Northeast corner of Classroom / Western Movies Room.

Refer to recommendations in Fig. 4.10.

Fig 4.13: Closet on the North Side of the Entry / Exhibits Room



Walls: Damage to wall from water leak. Same wall as the East wall of the Classroom / Western Movies Room in Fig. 4.10.

Refer to recommendation in Fig. 4.10.

Fig 4.14: Center of West Wall of Entry / Exhibit Room

Current Floor Plan

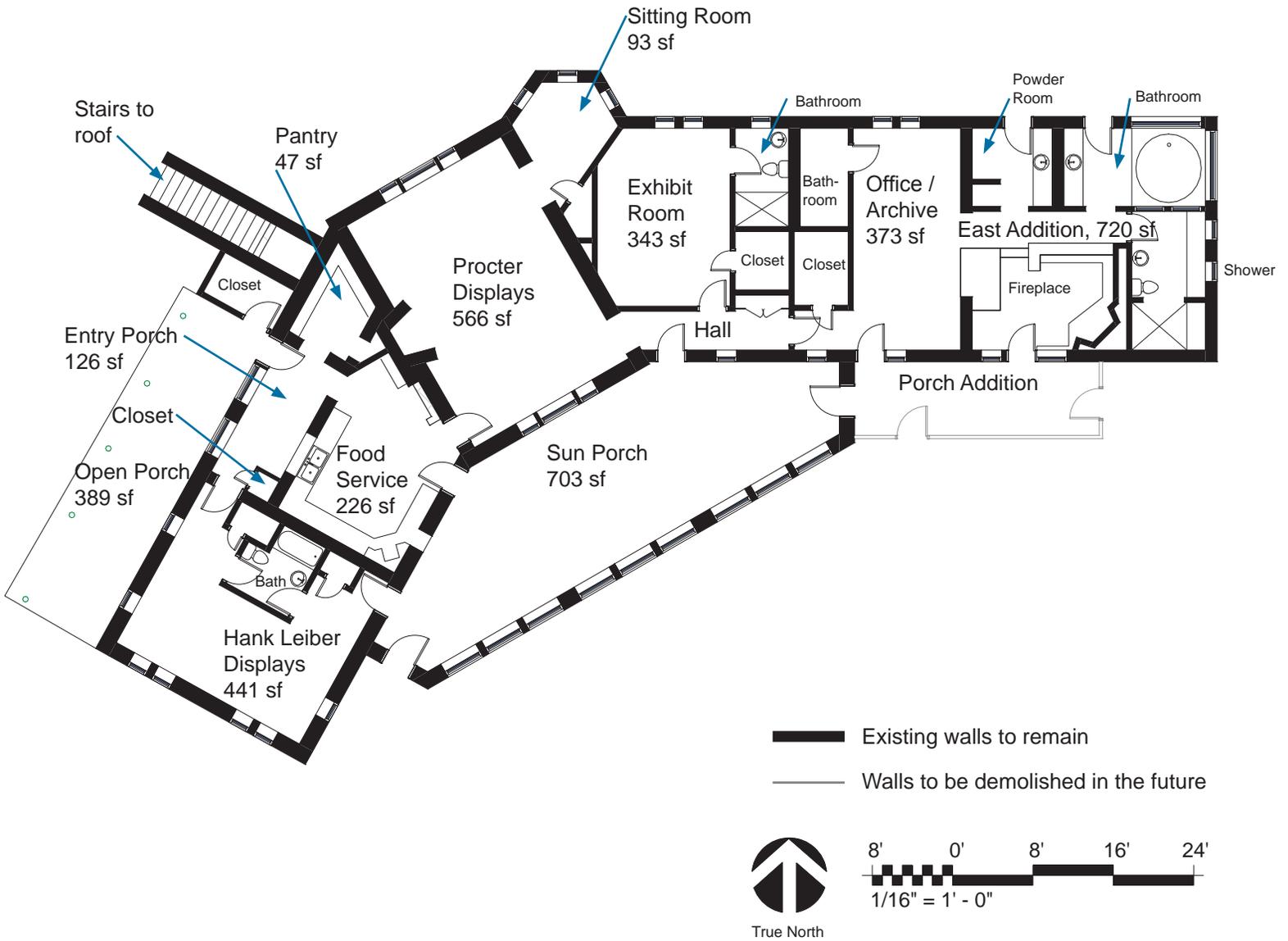


Fig. 5.01: North Elevation



Fig 5.02: Northwest Elevation, looking at Main Entrance into House

III. Condition Assessment | 5. Procter / Leiber House

History

The Procter / Leiber house was originally built for John Procter and his family in 1933. The house was constructed out of adobe with a concrete foundation. Modifications were made to the interior of the house over the years. The East Addition was built in the 1980s.

Assessment of Previous Work Performed

Recent repair work to the roof above the Procter Displays Room and the Northwest wall of that room started in 2010. The Procter / Leiber House appears to be in fair condition. Settlement is occurring in the north corner near the Sitting Room. This might be due to water collecting near that corner and/or unstable soil under the building's foundation. The stucco on the parapet is cracking, allowing water to infiltrate the adobe. Water appears to be getting in around the Procter Displays Room window. This might also be due to settlement in the North corner. The new ceiling and beams in the Living Room appear to be in good condition. The ceiling in the Sitting Room is in poor condition from a leak in the roof. The leak appears to have been fixed.



Fig. 5.03: South Elevation, Looking at the Enclosed Porch

Summary of Current Conditions and Deficiencies

The Procter Leiber house is overall in fair condition. There are cracks developing in the floors and walls and some water infiltration at the doors, windows and roof and areas of ponding water on the roof and at the base of the building. There also appears to be some termite issues in the wood at the open porch and some rotted 1x sheathing. Rodents have caused damage to some interior walls.

Summary of Recommendations

The 2008 Master Plan proposed that the building be taken back to the original configuration, with some of the interior rooms re-opened. The master plan is currently being reassessed with the possibility that the East Addition be preserved. At this time, the only addition to be removed will be the Porch Addition, to the South of the East Addition and Office / Archive. These assessments and recommendations include all rooms except for the Porch Addition.

These recommendations are to provide stabilization for the next 2 to 3 years only to the portions

of the structure to remain. We have identified the following critical repair items in order of priority:

- i. The clay canales are dumping water near the foundation of the building. This appears to be causing some compromise to the foundation in areas where the water is collecting. We would recommend extending canales, providing splash blocks and grading and channeling the water 3' to 4' away from the building so water does not collect near the building. If settlement continues, provide a downspout or flexible downspout extension at the canales to be able to better control the water.
- ii. The roof over the East Addition needs to be built up more to allow water to flow out of the canales correctly. Currently the roof is lower than the canales, creating a ponding area and allowing water to leak into the sink in the Bathroom of the East Addition.
- iii. Repair roof over the Food Service Room, portions of that area of the roof appear to be leaking.
- iv. The window and door frames are starting to deteriorate especially on the North Elevation and allowing water to enter in between the frame and adobe walls. All gaps between the adobe wall and frames should be sealed to prevent deterioration of the walls. This should be done as soon as possible as it is critical to keep water from entering into the walls. As water infiltrates through the window and door frames, it can deteriorate the adobe under and above the

windows and doors.

- v. Repair the stucco on the top of the parapet at the Procter Displays Room to prevent water from entering the top of the wall.

There are two options for repair:

Option 1: Apply a thin lime stucco, 1/8" to 1/4" thick over all of the cracks and locations of exposed adobe. The thin lime stucco is only a temporary solution.

Option 2: Apply a full lime stucco system on the parapet. The full lime stucco system will provide protection for a longer period of time. Due to the nature of stucco, especially on the tops of parapets, this will need regular maintenance to ensure water is not entering from the top of the parapet.

- vi. Fix clay tile roofs over the Sun Porch so that water will not enter the porch.
- vii. Close open holes and pipes so that rodents aren't able to enter the building.
- viii. Repair adobe site wall near the Porch Addition. Cover with tarp until repair occurs.

Additional items listed in priority that are recommended, but not critical to the structural stability are:

- i. Inspect and treat the building for termites. There is currently termite activity in the Open Porch.
- ii. Portions of the Open Porch appear to be structural unsound. Be mindful of putting additional load to the roof at the Open Porch. If the porch needs to be accessed, then the porch roof will need to be structur-

ally reinforced. At this time the clay tiles over the Open Porch can be repaired so that water no longer leaks over open porch.

- iii. If rodent damage along the perimeter starts to create significant damage, provide a hardware cloth around the perimeter of the building as described in the Pusch Ranch House. The current damage from rodents at the exterior of the house appears minor in comparison to the other buildings on site.

Summary Cost Estimates

Critical Repair Costs:

- i. Grading and water control: **\$4,000**
- ii. East addition roof repairs: **\$2,000**
- iii. Roof repair at kitchen: **\$500**
- iv. Make windows and doors watertight along the North elevation: **\$1,500**
- v. Parapet:
 - Option 1 thin lime stucco: \$1,000**
 - Option 2 full lime stucco system: \$2,500**
- vi. Clay roof tiles at Sun Porch: **\$1,000**
- vii. Close openings: **\$500**
- viii. Adobe site wall repair: **\$1,000**

Recommended Repair Costs:

- i. Termite treatment: **\$2,000**
- ii. Structurally reinforce Open Porch: **\$2,000**
- iii. Rodent prevention: **\$5,000**

Photo Documentation of Current Conditions, Deficiencies and Recommendations



Fig 5.04: Stairs Leading to Roof

Conditions/ Deficiencies

Wall: Stucco damaged on top of stair wall.

Recommendations

Currently not critical to the structure of the building. Apply a thin layer of lime based stucco 1/4" to 1/8" thick to prevent additional damage. Apply stucco to allow future work to know location of patch.



Fig 5.05: Northwest Elevation at Procter Displays Room Window

Roof: Canales do not extend very far from the wall.

See recommendation below.

Site: Water is collecting at base of building. Interior of living room is cracking, possibly due to settlement and water collecting near the corner of the building.

Grade dirt and channel ponding area away from the building. Extend canales to match other canales to direct water further away from the building. Provide splash blocks at the base of the building. If settlement continues, provide a downspout at the canales to be able to better control the water.



Fig 5.06: Northwest Elevation, at Procter Displays Room and Stairs to Roof.

**Conditions/
Deficiencies**

Wall: Rodent activity along the base of the walls.

Recommendations

Install wire hardware cloth along the perimeter of the building if rodent activity begins to create significant damage around the perimeter of the building. We would recommend the same solution described in the Pusch Ranch House if that appears to work. In addition to the hardware cloth we would recommend installing rodent traps in or around the building.



Fig 5.07: North Elevation, at Exhibit Room

Wall: Canales along the North wall of the Exhibit Room and Office / Archive have been extended.

See recommendations below.

Site: When water falls from canales, a depression in the dirt is created, allowing the water to collect near the base of the building.

Provide a splash block and regrade to get water away from the building. If water continues to pool near the base of the wall, provide downspouts at the canales to better control the water away from the building.

**Conditions/
Deficiencies**

Recommendations



Fig 5.08: East Window in Sitting Room

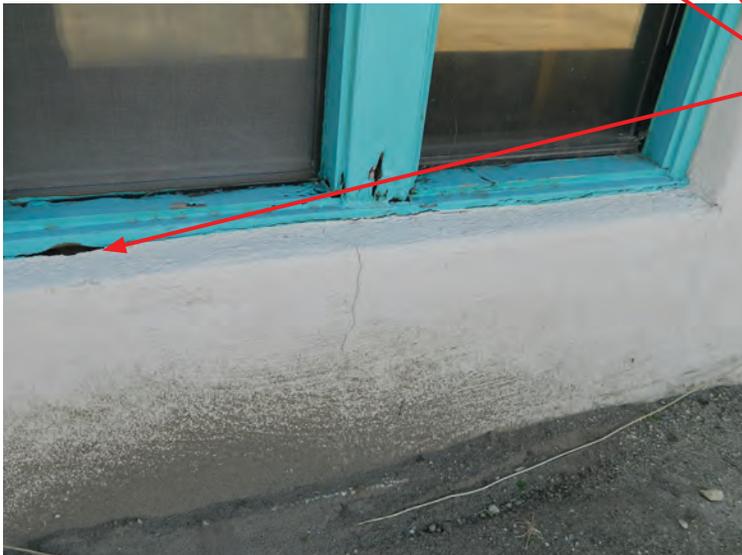


Fig 5.09: North Window in Office / Archive Room

Windows: Wood framed windows have deteriorated allowing for water to penetrate and compromise the adobe wall. This promotes additional problems with termites and rodents.

Seal cracks around the window and frames to make the windows water tight. This is typical for all windows in the Sitting Room, Exhibit Room and Office / Archive. This is a critical repair and should be done as soon as possible. If budget allows, treat for termites.



Fig 5.10: Northeast Corner

Wall: Canales have been extended. When water falls from canales, a depression in the dirt is created, allowing the water to be collected near the base of the building.

Refer to Fig. 5.07 for recommendations.



Fig 5.11: North Wall near Powder Room Door in East Addition

**Conditions/
Deficiencies**

Wall: Hole in wall allows animals to enter.

Recommendations

Fill hole with steel wool or expandable foam to keep animals out or attach a metal screen



Fig 5.12: East Elevation at East Addition Bathroom

Wall: Hole in wall allows animals to enter. Pipe from bathtub.

Fill hole with steel wool or expandable foam to keep animals out or attach a metal screen. Cap pipe.

Site: Dirt is above finished floor

Regrade dirt so it is below finish floor.



Fig 5.13: Site Wall to the South of the Porch Addition

Wall: Edge of wall is damaged.

Repair adobe site wall and re-stucco to prevent additional deterioration. Wrap adobe with tarp until able to repair wall to prevent further deterioration of adobe wall.



Fig 5.14: North Elevation, Open Porch



Fig 5.15: Open Porch, Looking North



Fig 5.16: Open Porch, Looking South



Fig 5.17: Open Porch, Near Front Door

**Conditions/
Deficiencies**

Structure: Termite damage

Recommendations

Inspect building for termites and treat. Repair structurally damaged items.

Roof: Structural damage to porch.

Repair / replace damaged wood and fix clay tiles above.



Fig 5.18: Roof at Open Porch

**Conditions/
Deficiencies**

Roof: Roof tiles have shifted and are not draining water correctly.

Recommendations

Replace broken tiles, and reset tiles that have slipped.



Fig 5.19: Roof at Food Service and Hank Leiber Displays Rooms

Large air handler, appears to be located above a bearing wall.

Roof: Debris on roof.

Clean debris on roof so water is able to flow off of roof.



Fig 5.20: Roof above Food Service Room

Roof: Crack in roof.

Repair roof, leak showing in Food Service Room.

**Conditions/
Deficiencies**

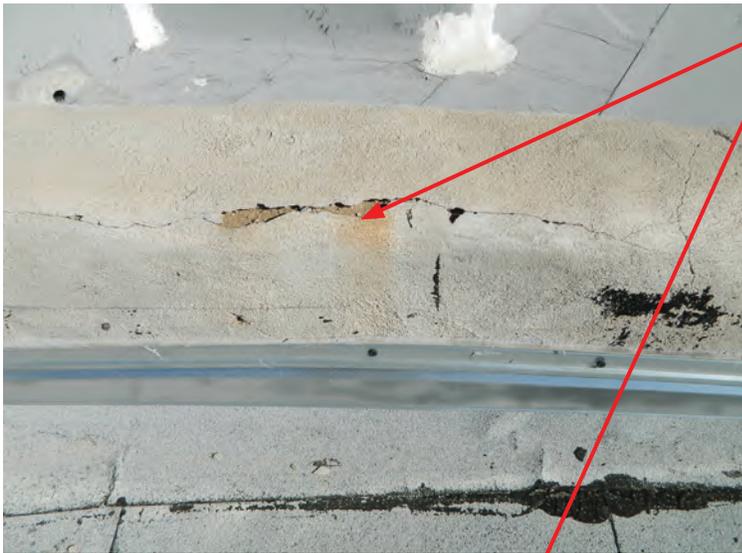
Recommendations



Wall: Stucco on parapets is failing. Refer to the images below.

Roof: Roll roofing above appears to be in good condition.

Fig 5.21: Roof at Procter Displays



Wall: Stucco on top of parapet is cracking. Water is penetrating into adobe wall.

It is critical to repair any cracked stucco on the top of any of the parapet walls to prevent water entering the wall which will cause deterioration of the adobe wall. Most of the damage appears to be on the Procter Displays Room parapets. Provide a thin lime stucco 1/8" to 1/4" over cracks to prevent water from entering as a temporary fix. Locate patches to be obvious so future long term stabilization will know to repair stucco.

Fig 5.22: Parapet Wall at Procter Displays



Fig 5.23: Parapet Wall at Procter Displays Room



Fig 5.24: Roof at East Addition, Near Northeast Corner



Fig 5.25 Roof at East Addition



Fig 5.26: East Addition Bathroom, View of Ceiling by Roof Leak

**Conditions/
Deficiencies**

Roof: Location of roof drain. Located higher than finish level of roof.

Roof: Water is ponding in this area.

Roof: Location of roof drain. Located higher than finish level of roof.

Recommendations

Reroof in this area and slope roof to allow water to drain correctly.

Refer to recommendations above in Fig. 5.24 and 5.25.



Fig 5.27: Porch Addition to Demo

**Conditions/
Deficiencies**

Recommendations

Porch: Porch to be demolished at a later date.

Wall: Adobe site wall with damage at the edge.

Refer to Fig. 5.13 for recommendations.



Fig 5.28: Roof at Sun Porch to Remain

Roof: Clay roof tiles have shifted and cracked.

Refer to recommendation on Fig. 5.18.



Fig 5.29: Roof at Sun Porch near Procter Displays Room Wall.

Roof: Clay tiles are starting to pull away from the wall.

Re-attach or replace clay tiles to prevent water from leaking through.



Fig 5.30: Ceiling in Food Service Room

**Conditions/
Deficiencies**

Roof / Ceiling:
Water damage from
roof leaks at the light
fixture.

Recommendations

Repair roof leak,
refer to Fig. 5.20.



Fig 5.31: Water Heater Closet in Entry Porch

Walls: Rodent activ-
ity.

Clean up dirt to find
location of rodent
activity. Close any
holes.



Fig 5.32: Closet in the Hank Leiber Displays Room, Adjacent to the Water Heater Closet



Fig 5.33: Procter Displays, Looking Northeast

**Conditions/
Deficiencies**

Floor: Cracks in concrete floor.

Recommendations

Not critical to stability of structure.



Fig 5.34: Procter Displays Room Looking Northeast at the Ceiling

Walls: Cracking in North wall of living room.

Refer to recommendation on Fig. 5.05.



Fig 5.35: North Window in Sitting Room

Wall: Wall deteriorating under window due to water coming in from window no longer being water tight and possibly from ponding at the exterior. Some damage due to earlier leak in the roof that has since been repaired.

Refer to recommendations in Fig. 5.05 and 5.08.



Fig 5.36: Ceiling in Sitting Room above North Window

**Conditions/
Deficiencies**

Recommendations

Roof / Ceiling:
Damage from Roof Leak.

Roof leak appears to have been fixed.

Wall: Cracks in wall by window.

Cracks from water leaking around window. Make windows and parapets watertight. Refer to recommendation in Fig. 5.08 and 5.09.



Fig 5.37: East Addition Power Room

Walls: Rodent damage.

Close holes and set traps.



Fig 5.38: Bathroom in Office / Archive

Current Floor Plan

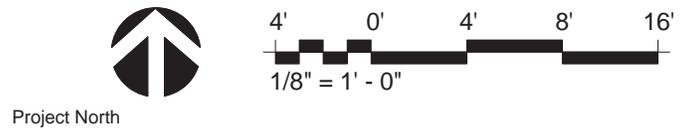
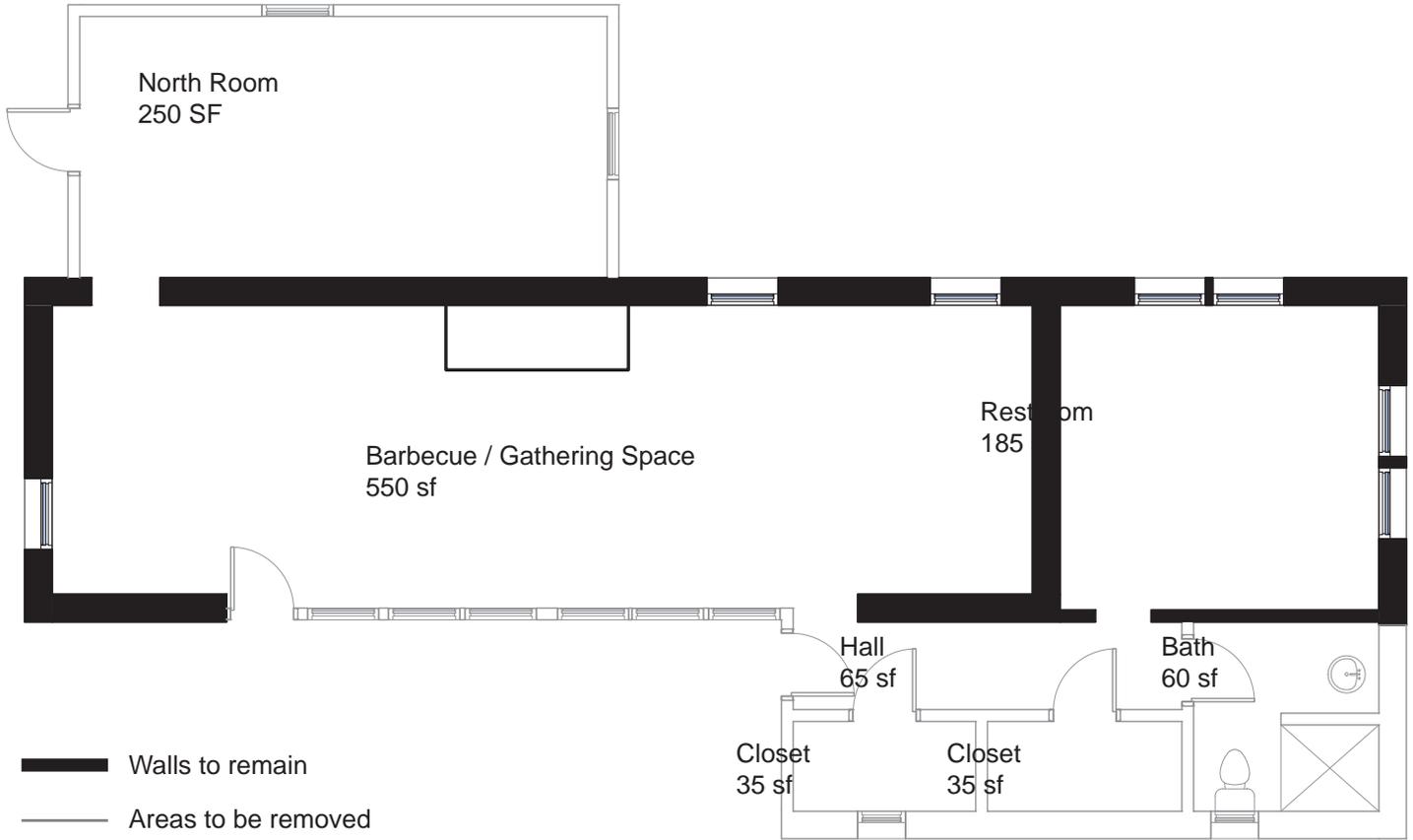


Fig. 6.01 South Elevation

III. Condition Assessment | 6. Carlos' House / Former BBQ

History

The Barbecue was originally constructed as a shade structure around the 1930s to 1950s. Over the years the structure has been added to and enclosed.

Summary of Current Conditions and Deficiencies

The area of the building to be preserved is in fair condition. There are some joists missing in the roof of the Barbecue / Gathering Space. Erosion is occurring under some of the windows. The roof appears to have been recently repaired for leaks.

The wall between the Restroom and the Bathroom is an open stud wall. The exterior walls of the rooms to the South of the Restroom (Hall, Closets, Bath) appear to be constructed of adobe and might be part of the early adobe walls added to the Barbecue. This structure should have additional research to determine if the exterior adobe walls of the closets and bath should be preserved.

Summary of Recommendations

These recommendations are to provide temporary stabilization to the structure only. We have identified the following critical repair items:

- i. Seal around windows to prevent further erosion of adobe walls.
- ii. Provide a thin lime plaster 1/8" to 1/4" thick by the water heater where there is a large area of exposed adobe. Make patches obvious to indicate where the temporary repair has occurred and that future repair is required in that location. Cover any holes in that area to prevent animals from entering and to reduce the amount of dirt from coming inside.
- iii. Provide a gutter and downspout on the North Elevation of the building to be preserved to prevent water from creating basal erosion.



Fig. 6.03: Southwest Corner

- iv. Install wire hardware cloth along the perimeter of the building to prevent rodents from entering. We would recommend the same solution described in the Pusch Ranch House (see Fig. 2.09) without the large rocks to cover the wire. Provide rodent traps on the interior after the perimeter is secure.

An additional item that is recommended, but not as critical is:

- i. Provide sheathing on the South wall of the Restroom which is currently an open wood stud wall. If the adjacent rooms to the South are demolished or if rodents appear to be coming into the space from those rooms, close the wall to decrease the number of animals from entering that room.

Summary Cost Estimates

Critical Repair Costs:

- i. Seal windows: **\$1,000**
- ii. Lime plaster and board openings on the interior: **\$500**
- iii. Gutter and downspouts: **\$2,000**
- iv. Prevent rodents: **\$500**

Recommended Repair Costs:

- i. Sheathing at Restroom: **\$500**



Fig. 6.02 Northeast Corner

Photo Documentation of Current Conditions, Deficiencies and Recommendations



Fig 6.04: North Elevation of Portion to be preserved

Conditions/ Deficiencies

Recommendations

Roof: Chimney for the barbecue. Appears to extend beyond the wall to be preserved.

Not a critical stabilization issue at the moment.

Site: Water is collecting at the base of the building from the roof.

Provide gutters and downspouts and drain water away from the building.

Windows: Water might be leaking along window and creating erosion under the window. This is typical at all windows along the North Elevation.

Seal around the window frame to prevent water from entering. This is typical for all windows on the North Elevation.



Fig 6.05: Southeast Corner

Walls: Full length of wall is adobe.

Additional research should be performed to determine if this wall should be preserved.

This portion will not be preserved per the 2008 Master Plan.

Study this portion of building to determine if this section is part of the early adobe construction and should be preserved.



Fig 6.06: South Elevation at the Barbecue

Windows: Windows to be removed and salvaged at a later date.



Fig 6.07: West Elevation

**Conditions/
Deficiencies**

Recommendations

Portion of building not to remain.

Walls: Large hole in adobe and stucco has been removed.

Close openings in adobe wall with exterior rated plywood. Apply a thin lime plaster 1/8" to 1/4" thick to exposed adobe.



Fig 6.08: West Elevation at Water Heater



Fig 6.09: Restroom, East Window

Walls / Windows: Deterioration of adobe walls along north elevation.

Seal any gaps between the window frame and adobe.



Fig 6.10: Restroom, East window



Fig 6.11: Barbecue / Gathering Space, North Window



Fig 6.12: West Wall in Restroom

**Conditions/
Deficiencies**

Walls / Windows:
Deterioration of
adobe walls under
windows.

Recommendations

Seal any gaps
between the window
frame and adobe.

Roof / Wall: Pos-
sible leak in roof.

Fix leak in roof if not
yet repaired.



Fig 6.13: Restroom, South Wall

**Conditions/
Deficiencies**

Wall: Open 2x wood framing.

Recommendations

Attach exterior rated sheathing to one side of 2x framing if portion to be demolished is removed.



Fig 6.14: Above Barbecue

Ceiling / Roof:
Joists missing above barbecue

Structure appears to be ok for now. Additional joists can be added once restoration work occurs.



Fig 6.15: Barbecue / Gathering Space, Looking East

Floor: Large cracks in concrete floor.

Not a critical repair at this time.



**Conditions/
Deficiencies**

Window: Gaps around window.

Walls: Hole in wall near water heater. Refer to Fig. 6.07 and 6.08.

Recommendations

Seal gaps to make window water tight and to prevent damage to the adobe around the window. Keep windows securely closed.

Refer to recommendations in Fig. 6.07 and 6.08.

Fig 6.16: West Wall of Barbecue / Gathering Space



Fig 7.01: Aerial of Chicken Coops, Image from Pima County Map Guide, 2014 Imagery



Fig 7.02: Northwest Corner of Long Chicken Coops



Fig 7.03: Southeast Corner of Long Chicken Coops

III. Condition Assessment | 7. Chicken Coops

History

The chicken coops were constructed around 1930s to the 1950s and were built to house the hens that laid the eggs sold to the Pioneer Hotel. Each coop in the long row of chicken coops are around 10' x 12' each. The smaller wood structure is believed to be the hatchery.

Summary of Current Conditions and Deficiencies

The wood hatchery, is structurally unsound and in poor condition. The roof is partially collapsed and the interior supports have fallen.



Fig. 7.04: Northeast Corner of Hatchery

The long chicken coops are constructed out of adobe and wood and also in poor condition. The adobe is deteriorating and has collapsed on the east end. The roof has collapsed over most of the structure. Most of the doors, windows and small trap doors are gone.

The concrete stem wall and concrete floor in the long chicken coops appear to be in good condition. The adobe walls appear to have a cement stucco finish, which is not beneficial for adobe and should be remediated once the long term stabilization and restoration occurs.

Summary of Recommendations

These recommendations are to provide temporary stabilization to the structure only. We have identified the following critical repair items in order of priority:

- i. The adobe requires protection to prevent further deterioration. Each option can be chosen based on each location of exposed adobe. We recommend Option 1 in locations where the tarp can be securely attached and Option 2 in smaller areas where tarp would be difficult to locate.

Option 1: Cover the adobe with tarp to prevent further deterioration of the adobe.

Option 2: Cover any exposed adobe with a thin layer of lime plaster that is 1/8" to 1/4" thick. Ensure the tops of the adobe walls are protected. The wood on the long coops can remain as is.

- ii. The roof structure has deteriorated in many locations and is collapsing. If funds are an issue the roof can remain as is. However, locating the tarp on the exposed adobe may become more difficult. We strongly recommend supporting the roof and stabilizing the

structure where no longer stable over the full width of each coop. Stabilize the door starting to fall down on the Long Chicken Coops near the East end. This temporary stabilization will prevent further collapse of the roof and reduce the possibility of additional portions of the building collapsing. This will also allow the team that provides the long term stabilization and restoration to see the existing roof and be able to re-build if necessary.

- iii. Brace the four corners of the wooden chicken hatchery each way to prevent the coop from collapsing. Do not cover the wood roof with tarp as there is the potential for ponding on the tarp, which could cause further roof collapse. The latest the hatchery should be braced is before the monsoons.
- iv. Trim trees so no branches can hit the structure, remove all dead branches and remove all mistletoe.

Summary Cost Estimates

The repair costs identified below are in the same order as identified in the Summary of Recommendation Section.

Critical Repair Costs:

- i. Protect exposed adobe:
 - Option 1: \$6,500**
 - Option 2: \$10,000**
- ii. Brace structure: **\$7,500**
- iii. Hatchery bracing: **\$4,000**
- iv. Trim trees: **\$1,500**

Photo Documentation of Current Conditions, Deficiencies and Recommendations



Fig 7.05: Northeast Corner of Hatchery

Conditions/ Deficiencies

Walls: Overall structure is poor, walls are tilted and the entire structure could fall during a severe windstorm.

Recommendations

Support the 4 corners of the building in both directions to stabilize.

Roof: Partial collapse of wood roof structure and deck with portions of corrugated metal roof missing. Center wood support is failing.

See recommendations above. Prop up with posts portions of roof starting to collapse.



Fig 7.06: Southwest Interior Corner of the Hatchery

Structure: Building structure is composed of dimensional lumber. Lumber appears to be in poor condition.

See recommendations above.

Walls: Wood boards are in fair condition.



Fig 7.07: Northwest Corner of Hatchery

Walls: Wall boards in this area are missing or may have been connected with chicken wire.

Door: Door is missing from this location.

Floor: Possibly existing hatchery floor with concrete stem walls.

Floor: Concrete floor is in fair condition



Fig 7.08: Southwest Corner of Hatchery

**Conditions/
Deficiencies**

Windows: Window frames are in poor condition.

Recommendations

No repair, not critical to structural stability.



Fig 7.09: East End of Chicken Coops Looking North

Roof: roof is completely missing in this area

Walls: Tree limbs hitting adobe walls. Large mesquite tree located near to base of adobe walls.

Trim trees and remove mistletoe.

Doors: Exposed adobe at failed lintel where door frames have twisted and are about to fall.

Cover adobe with tarp and support / brace lintel to prevent additional movement of lintel or remove adobe as it is a potential safety hazard.



Fig 7.10: East End of Chicken Coops Looking South

Walls: East end has collapsed. Only portions of adobe wall remaining.

Cover tops of walls where there is no roof with tarp. Ensure that the top of the walls do not get wet and that moisture can still escape from the tarps.

Walls: The grey colored stucco appears to be a cement based stucco on a large portion of the interior and exterior, which is not ideal for adobe walls.

The concrete stucco can remain as a temporary finish, for long-term stabilization the cement stucco should be removed and replaced with a lime based stucco.



Fig 7.11: North Elevation, Center of Coops

**Conditions/
Deficiencies**

Recommendations

Walls: Wood frame at chicken door missing.

Put in new wood frame around opening to keep adobe stabilized.

Walls: Possible animal holes at the base of the wall. Recent activity appears minimal.

See recommendations below.

Roof: Wood roof is collapsing.

Option 1: Leave roof structure as is.

Option 2: Prop up roof areas that are collapsing.



Fig 7.12: North Elevation, Center of Coops Adjacent to Image Above

Walls: Adobe walls are exposed and starting to erode.

Option 1: Cover exposed adobe walls and tops of walls with a thin layer of lime stucco 1/8" to 1/4" thick.

Walls: The grey colored stucco appears to be a cement based stucco.

Option 2: Carefully cover and secure tarp over exposed adobe walls. Ensure the tops of exposed adobe walls are covered to help prevent water from deteriorating adobe. Avoid covering roof with tarp.



Fig 7.13: North Elevation, near West End of Coops

Walls: Concrete stem wall in good condition.

Cover remaining adobe with tarp to try to save as much of remaining adobe as possible.

Walls: Bolt to hold down wood plate exposed showing more than half of adobe wall has eroded.

Cover adobe with tarp or thin lime plaster to try to reduce erosion.

Walls: Adobe wall has eroded. Only stucco from interior remaining.

Trim branches where hitting the structure.

Wall: Large, historic mesquite to be preserved. Roots of tree appear to be pushing wall up.



Fig 7.14: West Elevation

**Conditions/
Deficiencies**

- Wall:** Portions of stucco have fallen off.
- Wall:** Wall boards are in fair condition

Recommendations

See recommendations in Fig. 7.12.



Fig 7.15: South Elevation at West end

- Walls:** Wood boards are in good condition.
- Openings:** Windows and doors are missing or boarded.
- Floor:** Concrete floor in good condition.



Fig 7.16: South Elevation near the West end

- Tree is hitting structure.
- Wall:** Portions of stucco have fallen off.
- Openings:** Glass window and frame in place.
- Walls:** The grey colored stucco appears to be a cement based stucco.

Trim tree and remove all dead branches and mistletoe.

See recommendations in Fig. 7.12.

See recommendations in Fig. 7.10.



Fig 7.17: South Elevation in the Center of the Coops

**Conditions/
Deficiencies**

Roof: Structure at roof has collapsed.

Wall: Stucco missing.

Recommendations

See recommendations in Fig. 7.12.

See recommendations in Fig. 7.12.



Fig 7.18: South Elevation near East End

Trees are hitting structure.

Trim trees, remove dead branches and mistletoe.



Fig 7.19: Chicken Coop at East End

Roof: Wood roof has collapsed.

Wall: Interior of adobe wall appears to be a good condition. Stucco might be concrete based stucco.

Wall: Wall boards are in fair condition. Interior view from Fig. 7.14.

Remove fallen branches on top of roof structure. See recommendations in Fig. 7.12.

See recommendation in Fig. 7.10.

No temporary structural stability required due to short height of boards.



Fig 7.20: Interior of Chicken Coop near West End by Large Mesquite

**Conditions/
Deficiencies**

Roof: Roof collapsed, Support provided to hold up remaining roof.

Wall: Wood wall in fair condition.

Recommendations

Remove debris on roof and trim dead branches off of mesquite tree. See recommendations in Fig. 7.12.



Fig 7.21: Interior of Chicken Coop near Center of Coops

Wall: Wood wall and roof collapsing.

See recommendations in Fig. 7.12.



Fig 7.22: Interior of Coop Near Center of Chicken Coops

Roof: Roof collapsing, coop is adjacent to coop in image above.

See recommendations in Fig. 7.12.

Floor: Concrete floor in good condition.