A.A. ANDERSON LODGE CONDITION ASSESSMENT

A.A. Anderson Lodge
Shoshone National Forest
Wyoming

Funded by the Historic Architecture Assistance Fund
Managed by the
Alliance for Historic Wyoming

October 30, 2015

Prepared by:

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INTRODUCTION

Property Information

Current Property Name
Abraham Archibald Anderson Lodge

Historic Property Name
Abraham Archibald Anderson Lodge

Property Location
Washakie Wilderness, Shoshone National Forest, Wyoming; Section 26 T48N R105W.
Elevation: 9080 feet
Latitude: 44.1015
Longitude: -109.433

Owner
USDA Forest Service Shoshone National Forest Service

Original Architect
Unknown; vernacular. Built under the direction of A. A. Anderson.

Original Construction Date
c. 1890

Alterations Date
1994

Historic Status
The Anderson Lodge and Hired Hand's Cabin are listed in 1987 as contributing resources of the Anderson Lodge National Register Historic District, under criteria A, B, and C.

Smithsonian Number
48PA250

Historic Integrity
High

Building Area – Lodge (Habitable Area)
Main Level: 750 square feet
Lower Level: 197 square feet
Total: 947 square feet

Building Area – Hired Hand's Cabin (Habitable Area)
Main Level: 238 square feet

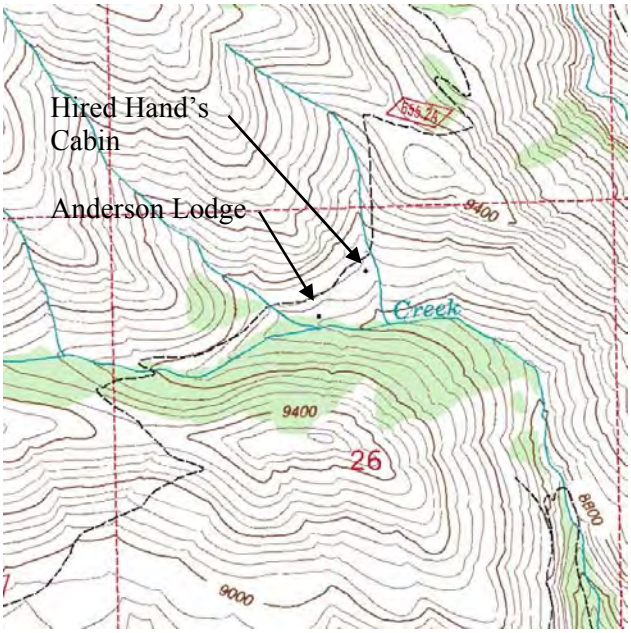

Figure 1: USGS topographical map of the buildings' locations. Scale 1:12,500.

Figure 2: Anderson Lodge, viewed from the northeast.

Purpose & Methodology

Purpose
In June 2015, The Alliance for Historic Wyoming commissioned CTA Architects Engineers (CTA) to provide an assessment of the A. A. Anderson Lodge and Hired Hand's Cabin. This assessment has been funded by a Historic Architecture Assistance Fund (HAAF) grant provided by the Wyoming Main Street Program in response to the grant application which stated that the: "Building has received little or no maintenance for twenty years, In order to plan for its future, up-to-date baseline data on conditions are

required."[1] The grant application described the services needed as follows:

> Assessment of main lodge condition and immediate and mid-range maintenance needs. This information is needed to develop long-range preservation plan and develop a strategy for funding future preservation work. No preservation work on the structures is planned for the 2015 season.

The parameters of the project were emphasized in the application's following statement:

> Anderson Lodge is extremely significant to the local communities, particularly to the near-by town of Meeteetse. Several local groups, including the Park County Historic Preservation Commission, are willing to be active participants in work at the site. Anderson Lodge presents an exceptional opportunity for local community members to become more actively engaged in historic preservation focused stewardship. The importance of this project to the community is, in part, attested by the degree of cooperating partner contribution.

The partners referenced above are the Park County Historic Preservation Commission and the Shoshone National Forest.

Methodology

CTA responded to this request with the services of an historic preservation architect and a structural engineer, both experienced in assessing and rehabilitating historic structures. The team was comprised of Lesley M. Gilmore, AIA, Director of CTA's Historic Preservation Services, and Samantha L. Fox, EI, structural engineer with Beaudette Consulting Engineers (BCE).

Livingston Outfitters provided CTA's team – in consort with the six-person archaeology team led by Lawrence Todd of Greybull River Sustainable Landscape Ecology (GRSLE) - a pack ride into the site on July 12, 2015. This horse and mule ride was approximately seven miles from the Jack Creel Trailhead, wending along Greybull River, Anderson Creek, and Vick Creek. CTA's team had time to assess the two buildings – the A. A. Anderson Lodge and the Hired Hand's Cabin – that same day and the next. The CTA team packed out the afternoon of July 13, 2015. The Archaeology team remained on site to complete their site investigation, which included analysis of the soil and exploration of site drainage possibilities. This work is summarized in their report (dated October 30, 2015) included in the Appendix – Anderson Lodge (48PA250) NRHP District: 2015 Supplemental Documentation.

CTA's team measured both buildings and assessed all visible components. During the assessment, reference was frequently made to the Anderson Lodge Preservation Stabilization Plan, dated 1991. This 1991 plan was commissioned by the Greybull District of the Shoshone National Forest and resulted in the 1993-1994 preservation work performed on the building. Some of the specified treatments were not implemented, due to the shortage of time; the intent to complete this work in the future was not fulfilled. Some of the materials intended for this future work were left on site: three bags of Type S lime (Chemstar), one bag of Type I White Portland cement

Figure 3: Construction materials left over from the 1993-1994 preservation project, stored in the crawlspace under the Living Area.

[1] Lawrence Todd, Historic Architecture Assistance Fund grant application, April 2015.

(Lehigh), and perforated PVC piping in the lower level crawlspace; and log roof poles by the Hired Hand's Cabin.

Access to the building, and ladders, were provided by the GRSLE crew. The building key was provided by the Shoshone National Forest.

This report reflects observations on the dates of the building inspections. The inspections were based on those building components that relate to the Scope of Work and that were accessible to view; some material probes and selective removal supplemented the visible evidence where necessary. CTA makes no representations regarding latent or concealed defects that may exist in the building. This report is made only in the best exercise of our ability and judgment.

Drawings

The CTA/BCE team measured the buildings sufficiently to provide a basis for CTA to prepare AutoCad base plans for the various levels of the buildings. For orientation purposes, the existing condition plans follow this introduction.

Images

Unless note otherwise, all photographs included herein have been provided by CTA and BCE. The other images used throughout are credited accordingly.

Hazards

Hazardous materials are typically found in construction of this time period. Until testing is performed, it should be assumed that lead-based paint and various asbestos-containing materials are present. Asbestos is often in window glazing putty, insulation, and vinyl tile and mastics. Asbestos is also found in plaster and mortar, albeit less frequently.

Acknowledgments

CTA would like to thank the following (listed in alphabetical order) for their assistance with the preparation of this report:

- ~ Lawrence Todd, Chair Park County Historic Preservation Commission
- ~ Bryan, Livingston Outfitters
- ~ Kent Houston, Park County Historic Preservation Commission (soils scientist)
- ~ Mary Jane Luther, U.S. Forest Service, Retired
- ~ Kyle Wright, MA, Forest Archaeologist & Tribal Liaison, Forest Service – Shoshone National Forest

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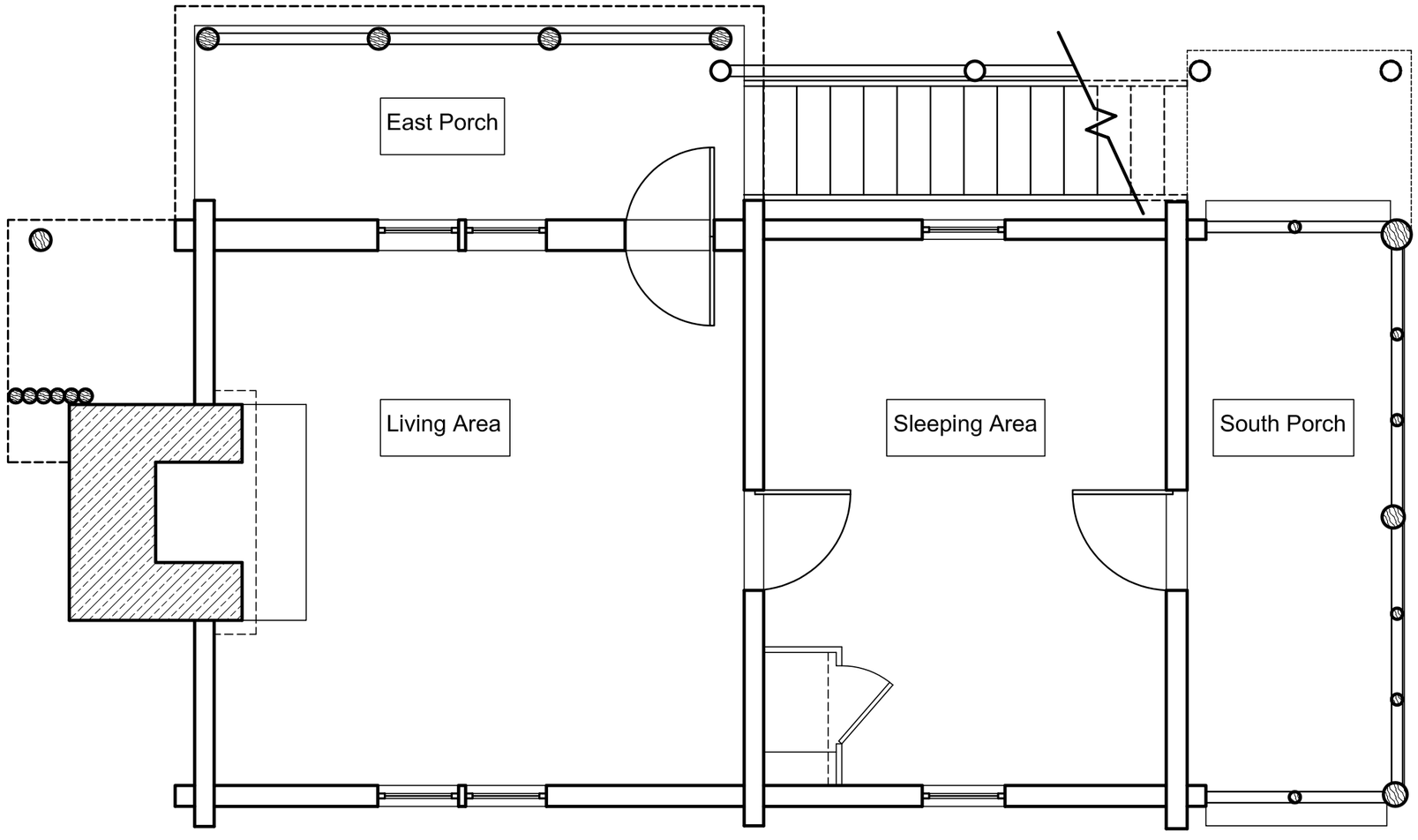


1 / A-1 A.A. Anderson Lodge - First Floor Plan

1/4" = 1'-0"

Scales apply when printed on 11" x 17" sheet

NORTH REF.

Drawn By CNH
Checked By LMG
Date 7/20/2015
CTA # ANDERSONRNCH
Cad File Anderson Floor Plans

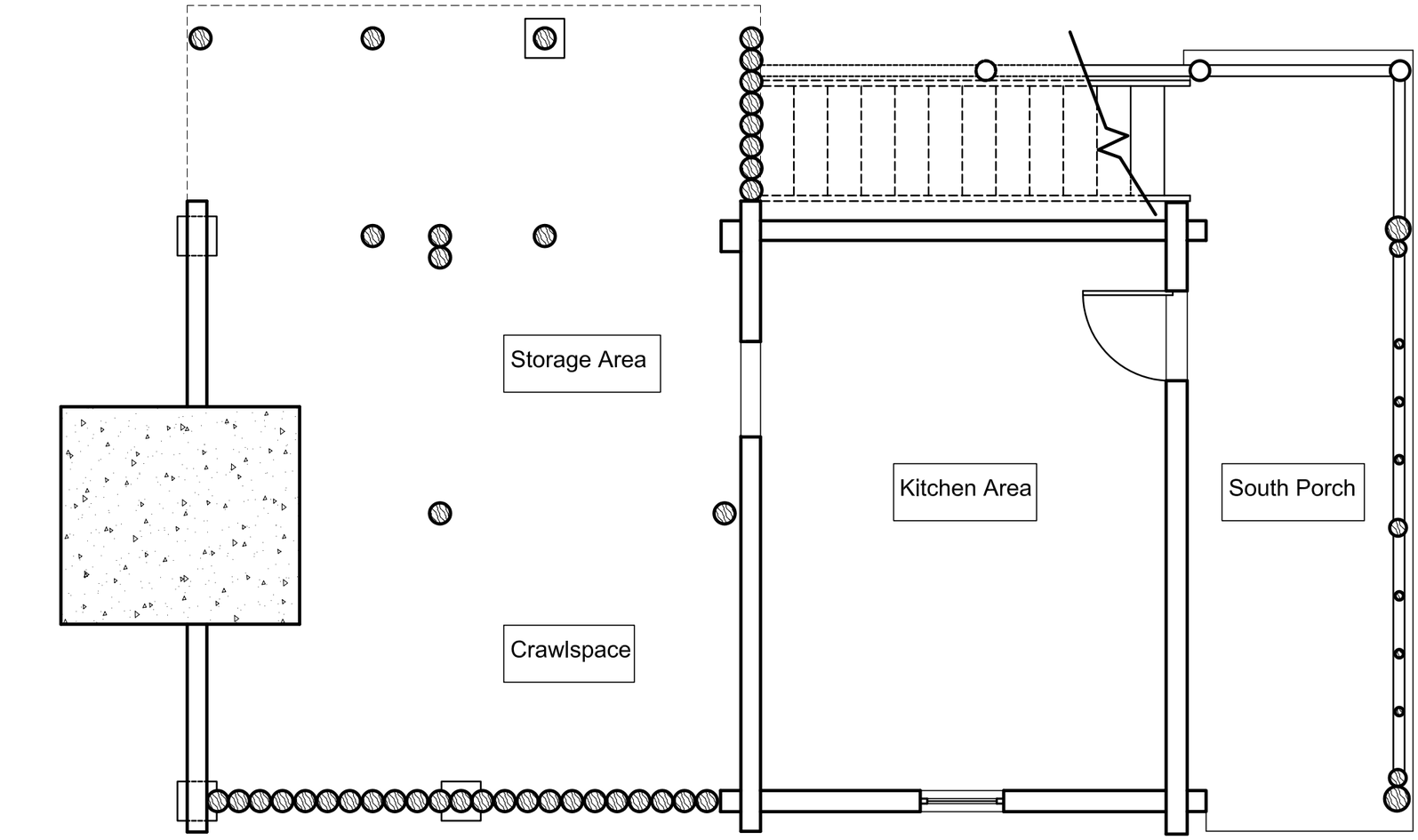
A.A. Anderson Lodge
Section 26 T48N R105W, Washakie Wilderness
Shoshone National Forest, WY

CTA Bozeman, MT

1st Flr Plan

REF SHEET# n/a

SHEET# A–1



1
A-2

A.A. Anderson Lodge - Lower Floor Plan

1/4" = 1'-0"

Scales apply when printed on 11" x 17" sheet

NORTH REF.

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Checked By LMG
Date 7/20/2015
CTA # ANDERSONRNCH
Cad File Anderson Floor Plans

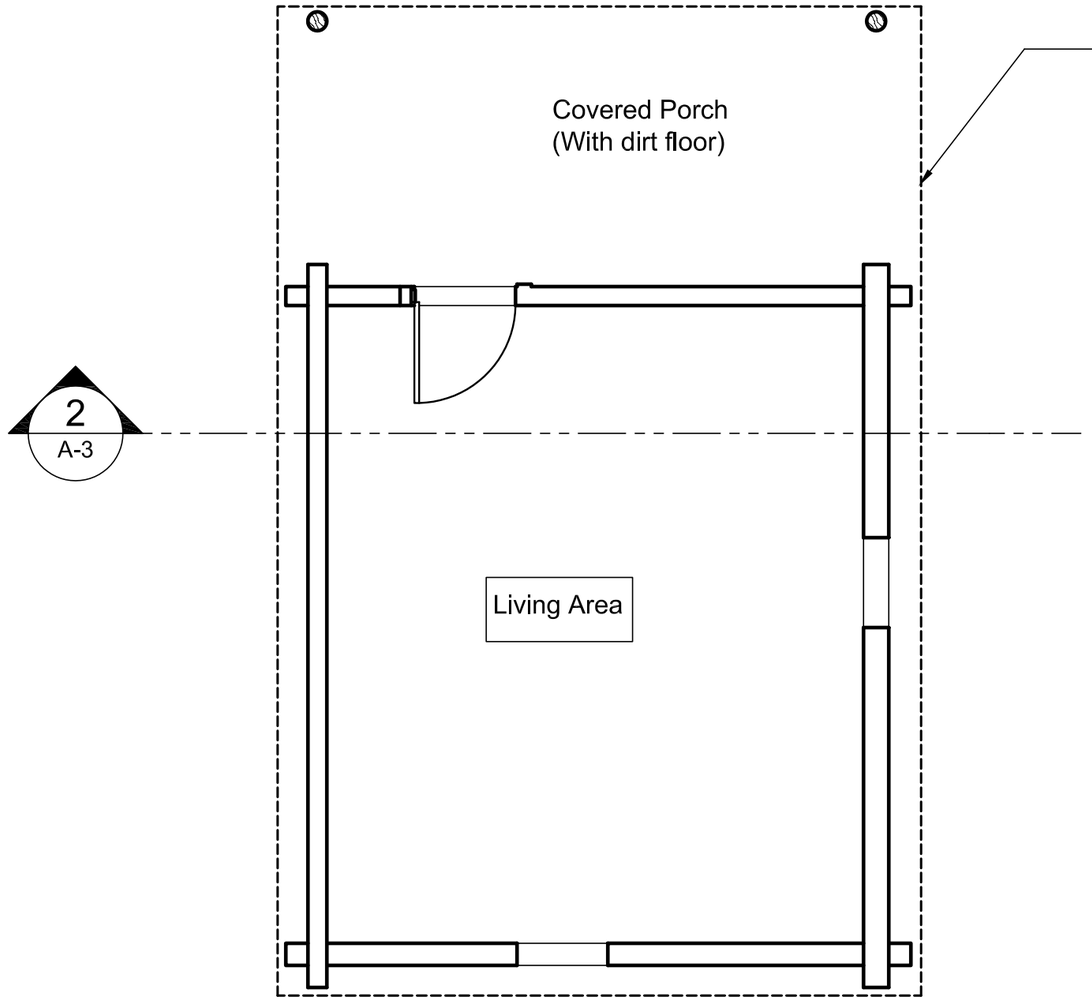
A.A. Anderson Lodge
Section 26 T48N R105W, Washakie Wilderness
Shoshone National Forest, WY

CTA
Bozeman, MT

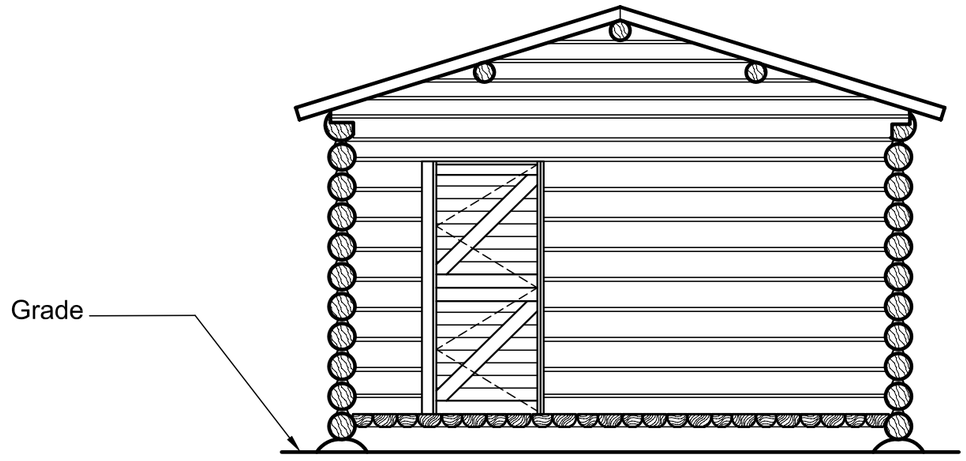
Lower Floor

REF SHEET# n/a

SHEET# A–2



1 A-3 Cabin Floor Plan
1/4" = 1'-0"



2 A-3 Cabin Section
1/4" = 1'-0"

Scales apply when printed on 11" x 17" sheet

NORTH REF.

Drawn By CNH
Checked By LMG
Date 7/20/2015
CTA # ANDERSONRANCH
Cad File Anderson Floor Plans

A.A. Anderson Cabin (48PA250)
Section 26 T48N R105W, Washakie Wilderness
Shoshone National Forest, WY

CTA
Bozeman, MT

Cabin

REF SHEET# n/a

SHEET# A–3

EXECUTIVE SUMMARY

General

This assessment of the Anderson Lodge and the Hired Hand's Cabin has been facilitated and funded by the Alliance for Historic Wyoming. This report is a combined effort of architect and engineer. It is organized to provide basic building and historical information first, then more detailed information regarding the current conditions. The primary deficiencies and priority recommendations concern the structure of the two buildings; these are discussed in BCE's report which immediately follows the Architectural Assessment. See the Table of Contents for the organization of this report.

This Executive Summary is provided as a brief synopsis of the findings and recommendations made herein – for both the structure and the architecture of the buildings.

Property Significance

The property's significance is stated succinctly in the Anderson Lodge National Register of Historic Places District nomination:

> The Anderson Lodge site (48PA250) is a cultural resource with quality of significance in American history that meets three criteria of National Register eligibility. Criterion A) the site is associated with events important to broad patterns of history: the national conservation movement and development of the USDA Forest Service governmental agency, from 1891 to 1907. Criterion B) it is associated with a person of national and local significance: A.A. Anderson, instrumental in development and management of the first national Forest Reserves, from 1901 to 1906, and an artist and rancher of local importance. Criterion C) it embodies distinctive characteristics of construction and use: the unique, two story, multiroom, log lodge built in 1890 and used as artist's studio, ranch outbuilding, and Forest (Reserve) administrative site. Anderson Lodge is one of the few extant administrative structures directly tied to development of the first National Forest (Timberland/Forest Reserve), built by the first and only Special Superintendent of Forest Reserves, and within and administered by the USDA Forest Service, Shoshone National Forest.[2]

The current situation is similar to that presented in 1991, when the buildings were assessed and plans were made to stabilize the buildings. The subsequent 1993-1994 stabilization efforts have done much to prolong the life of these two structures, allowing us to reiterate the following sentiment from the 1991 report:

> Combined with the reality that the structures and landscape have had minimal detrimental impact due to deterioration [sic] age or use, it is a unique opportunity for the agency to assume a leading role in the preservation and protection of this site.[3]

Building Use

Neither Anderson Lodge nor the Hired Hand's Cabin have been used or maintained for twenty years.

The buildings were endangered during the Little Venus Fire of 2006. Nearly the entire timber stand south of the Lodge burned during this fire, yet the structures were saved.

Preservation Parameters

The basis and point of comparison for this report is the Anderson Lodge Preservation Stabilization Plan Report, prepared in 1991. The Treatment Recommendations provided therein establish parameters that are applicable today:

- ~ Are in accordance with the Secretary of the Interior Standards for Preservation Projects and Rehabilitation.
- ~ Are sensitive to the integrity and significance of the buildings
- ~ Are respectful of its location in a wilderness
- ~ Consider costs and basic funding availability
- ~ Are easy to understand for contracting and/or implementing[4]

[2] Judy A. Rose, Anderson Lodge National Register nomination, April 15, 1987, Section 8-page 1.

[3] Conservation Services, *Preservation Stabilization Plan: Anderson Lodge*, 1991, page 50.

[4] Conservation Services, *Preservation Stabilization Plan: Anderson Lodge*, 1991, page 50.

Fortunately, the first preservation intervention at this site was one that promoted retention of as much of the visual appearance and original fabric as possible. The adage to "preserve rather than repair, repair rather than replace" was a guiding principle as it will be for these current efforts.[5]

Building Condition

General

The Lodge has remained relatively intact primarily due to the 1993-1994 preservation efforts. However, that project did not implement a number of the most critical recommendations. Only a few of the footings were installed and minimal drainage corrections appear to have been addressed. Representatives from GRSLE provided the following information regarding prior drainage work efforts.

> There are several indications that there was some drainage work undertaken. First, Mary Jane [Luther] talks about digging trenches and hauling stream gravel to help drainage along walls. Have at least one photo to confirm (see Figure 4). Second, we mapped three diagonal (NW to SE) shallow swales/berms (about 30 cm wide, 5-10 cm deep, well sodded in) upslope of cabin. I had to trip over them for several days to recognize that they were "not natural."[6]

Figure 4: c.1993 shaping of drainage improvements along the west side of Anderson Lodge, with cobbles on slope ready to be put in before backfilling with sediment stock piled to the south. Workers shown carrying bucket of gravel/cobbles from Vick Creek channel for fill. Image courtesy of Mary Jane Luther, USFS retired, Meeteetse, WY.

[5] Conservation Services, page 50.

[6] Lawrence Todd, review of report draft, September 26, 2015.

On-site storage of unused materials implies the intent to return to implement these crucial treatments. The project was subsequently not completed, resulting in many of the same needs – and consequent recommendations – today.

The Lodge's south end had settled some 12" previously, as reported in 1991. This settlement has worsened over time. This has caused the windows to rack and the daubing between the logs to fall out.

The Hired Hand's Cabin was not preserved in 1993-1994, as intended. The roofing and structure have deteriorated further and little daubing mortar remains, allowing air, water, and snow into the building's interior. The entry and windows are open and the building is not secure. Fortunately, the Cabin has not settled, so it is salvageable.

Figure 5: Anderson Lodge continues to settle to the south, as seen at the left in this photograph from the east.

Building Assessments

The architecture and structure of each of the two buildings on site have been assessed for current condition and comparison to the conditions noted in the 1991 report. See separate sections of this report for these detailed analyses. A brief analysis of the mechanical system in the Lodge is included.

Hazardous Materials

The Lodge and Cabin were built when asbestos-continuing materials (ACM) and lead-based paint were in common use. In addition, the openness of the buildings has allowed for animal entry and disposition of excrement. Comprehensive testing should be performed prior to renovation to identify where such components are and to plan for their remediation during remodeling activities.

Until testing is performed, presence of the following should be assumed:

- ~ Excrement
- ~ Lead-based paint –interior varnish
- ~ Plaster (ACM)
- ~ Daubing Mortar (ACM)
- ~ Pointing Mortar (ACM)
- ~ Glazing Putty (ACM)

Figure 6: Erosion of daubing mortar has resulted in gaps between the Cabin's wall logs; photograph taken looking southeast.

Summary of Prioritized Recommendations

General

The following recommendations are extracted directly from the condition assessments in the body of this report, in abbreviated form. They are listed in descending order of priority. Tasks are for the Lodge, unless noted otherwise. The hazardous materials should be abated by professionals prior to treatment of associated components.

Immediate Need (within 1-3 years)

1. Comprehensively test and remediate the building components for animal excrement and asbestos; test for lead.
2. Roofing:
   a. Repair and replace the log pole ends of the Lodge.
   b. Provide new ridge and purlin logs at the Cabin's porch roof, splicing them into the logs of the main Cabin structure.
   c. Replace the log poles of the Cabin roof, providing positive connections to the existing beam and purlins.
   d. Replace the roofing materials (corrugated metal and asphalt, respectively) and flashing at the Lodge and the Cabin.
   e. Provide sheet metal edge flashing to direct water away from the roofing poles.
3. Improve drainage per the soils scientist's recommendations, which are summarized as follows. These recommendations are presented – and expounded on - in the report "Anderson Lodge NRHP District: 2015 Supplemental Documentation" included in the Appendix.
   a. Open two existing trenches above the Lodge to help drain surface water from a snowdrift.
   b. Rebuild spring box and drain away from slope that feeds Lodge portion of landslide. Find and disconnect buried waterline to cabin.
   c. Install French drain from soil pit to east of Lodge below the clay bulge at depth of 90 cm or where the soil texture sands and gravels increase.
   d. Install French drain along north and west sides of Lodge adjacent to the foundation.
   e. Install French drain under the Lodge and above the foundation pillars that drains to the west.
4. Repair the Lodge foundations by providing new piers of rubble stone, reinforced concrete, or CMU.
5. Repair flooring framing below the Living Area floor.
6. Provide a door between the crawlspace and the Kitchen.
7. Rebuild the west wall of the Cabin.
8. Remove built-up dirt from Cabin crawlspace; replace with site-gathered gravel.
9. Provide windows and shutters in the Cabin.
10. Nail down the flooring in the Cabin to facilitate closure of the entry door. Adjust/plane the door as required to close. Provide locking hardware.
11. Replace the daubing mortar at the wall logs (exterior and interior) of the Cabin.
12. Remove debris and excrement from the interior of the buildings. Clean all surfaces.
13. Repair the wood balustrade at the east porch.
14. Tighten and secure all the screen wall framing at both levels of the south porch.
15. Rebuild the exterior stairway.

Moderate Need (within 3-5 years)

1. Chimney: Repoint the top and at the swell. Insert oakum between the chimney and the wall.
2. Lodge log walls:
   a. Provide oakum at the interior and exterior vertical joints.
   b. Provide oakum between the fireplace surround and the log walls.
   c. Touch up the daubing mortar where missing and deteriorated. Apply limewash.
   d. Treat bottom of stockade logs with liquid epoxy consolidant.
3. Patch floor board at east porch.
4. Resecure the crooked porch floorboard at entry door.
5. Patch tongue-and-groove flooring in Living Area (one 4'-length).
6. Replace the canvas floor covering at main level of the south porch.
7. Replace the canvas lining of the wardrobe in the Sleeping Room.
8. Provide shutters and windows, where missing at Lodge. Replace the daubing

mortar around the window openings, using oakum for dynamic joints.

Long-Term Need (within 10 years)

1. Provide screening at the both levels of the south porch.
2. Replace the damaged side casing at the exterior Kitchen door. Provide more sensitive manner of securing the door – consider hinges and secure latch.
3. Repair the front screen door.

District Boundary Expansion Need

The district boundary defined in the 1987 National Register of Historic Places nomination form for Anderson Lodge was based upon inaccurate geographic information. A revised boundary, based upon contemporary reliable GIS data, is proposed by representatives of the Park County Historic Preservation Commission in the report included in the Appendix: *Anderson Lodge NRHP District: 2015 Supplemental Documentation*. The suggested boundary revision includes locations of the structures and other features, as well as "…the system of trails and paths that interconnect the various areas of the site and engage it with the broader Forest Service trail system."[7] This more accurate district would encompass approximately 25 acres.

Construction Cost Estimate

The estimated Construction Cost to rehabilitate the building is approximately $275,000 to $3250,000, depending on the exact methods of work, phasing of work, and availability of qualified contractors. The costs have been developed in 2015 dollars. If the work is performed in subsequent years, escalation costs (based on 3% annual increase) should be added to the estimate. The estimate is not a guaranteed amount.

The Construction Estimate includes the work of professional contractors and their overhead and profit; general conditions; and contingency factors. The estimate does not include professional architectural and engineering design services. Final cost is dependent upon receipt of at least three bids from qualified contractors, timing of bidding, and unknown conditions discovered during construction.

The detailed Construction Cost Estimate is included in the Appendix.

[7] Lawrence C. Todd and Kent Houston, Park County Historic Preservation Commission, "Anderson Lodge (48PA250) NRHP District: 2015 Supplemental Documentation," October 30, 2015, page 15 & 16.

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PROPERTY DESCRIPTION

Wyoming Archipedia Entry[8]

Anderson Lodge is located in hilly northern Wyoming backcountry, accessible only by horse or foot. Located at 9080' elevation within the Shoshone National Forest, the two-story lodge is set into the steep northern slope of a narrow east-west valley. The lodge is slightly above Vick Creek which slices through the deep recess, dividing the sage-covered northern slope from the spruce-fir forested southern slope. Anderson Lodge, constructed in 1890 before the Forest Service was established, represents three important aspects of area history: development of the USDA Forest Service and the national conservation movement, original owner A.A. Anderson's vital role in protecting these lands, and the lodge's unique log construction. The property's 1987 listing in the National Register of Historic Places reflects the Lodge's role in these significant events.

Born to a wealthy New Jersey family in 1847, Abraham Archibald Anderson lived in New York and also maintained a home in Paris where he lived for 10 years and developed a career as a painter. His varied interests led him to Wyoming, where he purchased remote lands in 1883 and established his Palette Ranch No. 1 in what would later become the Washakie Wilderness. Anderson built the lodge as a painting studio in 1890, and retreated to the ranch frequently for long stays during which he would paint and hunt.

Soon after the Anderson Lodge was built, lands adjacent to Anderson's ranch were set aside as the nation's first forest reserve. President Benjamin Harrison proclaimed the land the Yellowstone Timberland Reserve on March 30, 1891. In 1897, the U.S. Congress authorized administrative control of the forest reserves under the auspices of the Department of the Interior. However, due to the lack of on-site supervision and minimal attention from Washington, stewardship of the reserve was neglected. Angered by the effects he observed of unsupervised sheep grazing and uncontrolled burning of timber, Anderson lobbied President Theodore Roosevelt for proper management and conservation of the natural resources in the reserve. In 1902 Roosevelt enlarged the reserve, renamed it the Yellowstone Forest Reserve, and appointed A.A. Anderson as the Special Superintendent of Forest Reserves. Anderson served in this capacity until he resigned in 1906, soon after the 1905 transfer of the reserves into the newly-formed Forest Service within the Department of Agriculture.

Figure 7: Greybull River in the Shoshone National Forest, as seen from pack ride leaving the Anderson Lodge site.

During his tenure as Special Superintendent, Anderson took measures to survey the 13,000 mile boundary of the reserve, to redistrict it, and to actively manage the land and reduce the grazing hazards, performing these duties from his ranch. Anderson Lodge thus acted as his studio and as a Forest administrative site. After Anderson's death in 1940, the structures remained privately owned, ultimately by the Hunt Oil Company. The property is now owned by the USDA Forest Service, Shoshone National Forest. The Lodge remains one of the few extant administrative buildings tied directly to the development of the first National Forest.

The lodge is atypical in that it is a small structure in big country. It is not a large rambling building that can accommodate many; rather it is an intimate building with two rooms and a screened porch on the upper level, and a kitchen and partially screened porch on the smaller, lower level. The two levels are connected by exterior steps on the east that lead from grade up to an exterior shed-roofed entry porch. The interior space is basically comprised of two log pens, two-story at the front and one-story at the back (north), protected by a gable roof clad with

[8] This description was prepared by Lesley M. Gilmore for the Wyoming Archipedia project for the Society of Architectural Historians, January 2015.

galvanized sheet-steel panels. The roof structure is of small diameter logs supported by log beams extending the length of the building. The two stacked porches are inset beneath the south gable end. The building is anchored at the north end wall by a massive rubble stone chimney, with sloped shoulders, for the living room fireplace. The stone is native to the site, with large units securing the corners. A covered outside area east of the chimney, used to store tack and packs, is defined by a shed roof of log rafters supported by wood posts.

The locally harvested logs were peeled and unfinished; they are joined with extended saddle notches at the corners and the center pen wall. Generally the logs are rounded, but a few are hewn. The chinks between the logs are filled with wood strips into which the mortar is set. The logs are beveled to ease the setting of the multi-paned wood casement windows, which are protected with exterior wood shutters. The three porches and their roofs are supported by log posts, into which the screen supports and railings have been mortised. Hewn log flooring is supported by log beams. The unscreened east entry porch is open to the north, facilitating unloading of horse packs. The guardrail is filled with turned balusters and the stairway handrails are supported by turned newel posts, adding a rare finishing touch. Other structures on site include the scant remains of a corral at the uphill side of the Lodge and a Rocky Mountain cabin, for a hired hand, situated on a level area northeast of the Lodge.

The site is located within the Washakie Wilderness, designated in 1964 and now encompassing 704,274 acres. Specific use regulations – including prohibition of motorized vehicles - were established to protect this rugged and scenic land and the varied wildlife that inhabit it. Typical access begins at the Jack Creek Trailhead, turns to follow the Greybull River Trail to the Anderson Creek Trail, and then the Vick Creek Trail. All of these trails are on the Shoshone National Forest North Half Map.

Figure 8: West elevation of the Lodge.

Figure 9: Puncheon flooring on the east, upper level, porch. Photo taken looking south.

Terminology

The terminology used throughout this report conforms to that established in the 1991 *Anderson Lodge Preservation Stabilization Plan Report*. The primary building components are as illustrated below. The room names – as indicated on the existing condition plans – correspond directly to those used in the 1991 report.

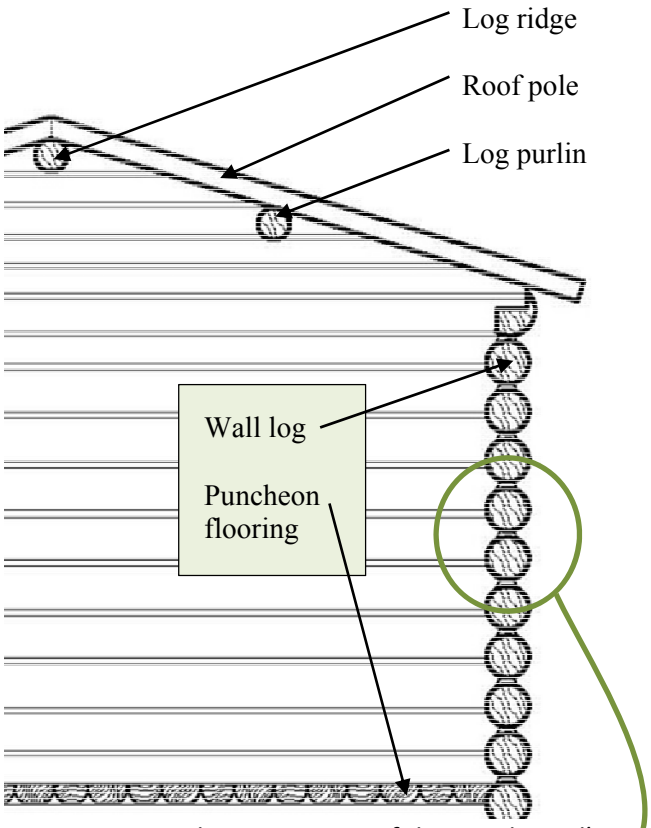

Figure 10: Partial Cross-Section of the Hired Hand's Cabin.

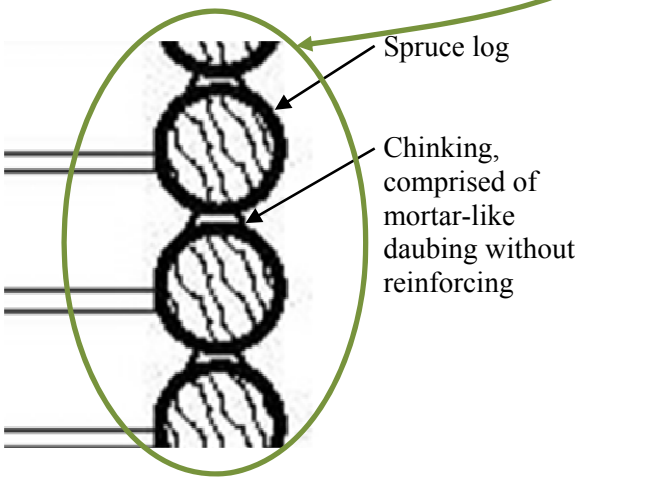

Figure 11: Log construction terminology.

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EXTERIOR ARCHITECTURAL ASSESSMENT - LODGE

General

The following assessment is presented from the top down to the base of the building. The assessment of the interior components follows this Exterior Assessment. The assessment of the Hired Hand's Cabin follows.

The wood appears to be Spruce and none of the exterior wood appears to have been finished with a protective coating.

Roofing

Description

The main portion of the building is protected with a side gable roof of 5:12 rise:run ratio. The roof extended over the east porch has a gentler slope of 2.5:12. The north end gable of the building is interrupted by the large mass of the stone chimney. The south end is fronted with the two-story porch that increases the usable floor area.

The current roofing is of corrugated galvanized steel, which was identified in the 1991 report as "a more recent corrugated metal overlay."[9] The roofing paper at gaps between the log poles was probably installed at that time. The sheets are long – probably the standard 10 feet – with an 18" exposure. The dimension of the lapping was not discernable, yet the sheets are lapped in the right direction (of water runoff). The ridge is covered with a prefabricated sheet metal roll ridge that has corrugated fins that lap over the roofing sheets.

The roofing was flashed into the mortar joints of the chimney. It is unclear if the flashing by the ridge ever fit into the mortar joints. An attempt has been made – perhaps in 1993-1994 – to cover the open joint between the ridge and the chimney with sheet metal.

The roofing felt was lapped onto the side rake logs and pole ends, fastened with sheet metal bars held in place with large-headed fasteners.

Condition

The galvanized steel roofing has rusted throughout, which is typical for long-term exposure of unpainted galvanized steel. Some of the roofing nails have popped up and some of the panel edges are lifted. At least one pinhole of daylight was visible in the east slope of the roof above the Sleeping Area. It can be assumed that the rust will be creating more pinholes, which will increase in size over time.

The movement of the building away from the chimney has caused the flashing to disengage. There is currently a sizable gap between the chimney and the roofing. There is no visible indication (in the Living Area) of the water penetration that would accompany this opening, so it is assumed that the log roof structure is absorbing this moisture. The tops of these logs were inaccessible.

Figure 12: Image of current roofing. Photograph taken from the northwest.

Figure 13: The roofing felt was fastened to the rake poles with metal strips that remain.

[9] Conservation Services, page 4.

Recommendations

Remove and set aside the existing sheet metal roofing and remove the roofing felt. Provide membrane underlayment, then reinstall the sheet metal roofing. Underlayment materials such as Titanium UDL 30 have the following features that would benefit this project:

1. Fire resistance.
2. Light weight and strength: Six times lighter and twenty times stronger than 30# felt.
3. Limited lifetime warranty.
4. Inert to mold.

Product literature is included in the Appendix.

Provide proper flashing at the chimney. The flashing should be detailed with base and counterflashing, to accommodate movement.

Figure 14: The building's movement away from the chimney has caused the erstwhile sheet metal flashing to fail to cover the gaps between the roofing and the chimney.

Roof Edge & Drainage

Description

An inherent quality of the roofing style is the overhang of the poles beyond the support beams. The front porch poles extend 15" beyond the beam; the roof poles of the primary roof extend 7½" beyond the 10" beam. These eave extensions help keep roof runoff away from the base of the walls below; however, the exposed end grain of the poles makes the ends vulnerable to water penetration and consequent rot. There appear to be remnants of an original protection systems comprised of lapped roofing felt fastened to the pole ends with rectangular steel nailing straps. This system could have provided a modicum of protection to the pole ends, but once the roofing felt was saturated, it would hold the moisture up against that wicking end grain of the pole. While the felt was in good condition, it would hide any damage occurring behind it.

It is unclear if the 1991 specified liquid-application of epoxy consolidant was implemented; however, this treatment would not be visible today and could be responsible for the good condition of many of the pole ends.

Mylar tape adhesive remain on the lower eaves of the west slope, remaining from the protection efforts implemented during the 2006 Little Venus Fire.

Figure 15: Deteriorated ends of roofing poles at the east porch.

Condition

As in 1991, the roofing members are in good condition, with the exception of the ends of many of the roofing poles, which are deteriorated from water penetration. This condition is addressed in the Structural Analysis.

The 1991 report proposed a fascia detail with an EPDM roofing membrane wrapping over the face of the pole ends. This detail was not implemented; it was probably deemed intrusive to the original appearance of the roof poles.

Figure 16: The roofing felt was fastened to the pole ends with a nailing strap. Much of the felt has rotten and fallen away.

The erosion issued identified in the 1991 report remains "…the number one cause of building problems."[10] Some of the recommended regrading to "provide for positive drainage away from the structure"[11] occurred as part of the 1993-1994 preservation project. This regrading was deemed necessary because: "Returning the grades to their original elevations are not practical since some areas have built up over three feet."[12]

The current site investigation team included a soils scientist, who dug test pits to ascertain the soil type. The soils scientist's findings and recommendations are included in the *Anderson Lodge NRHP District: 2015 Supplemental Documentation* report included in the Appendix.

The soils scientist discovered two drainage features, of unknown construction date, located northeast of the Lodge. These two small ditches would have directed water flow (from snowdrifts) away from the Lodge and slide area. "French drains were planned in 1991 for placement under the roofline, and PVC pipe was transported and currently stored in the Lodge crawl space, but were not installed during the earlier restoration and stabilization work."[13]

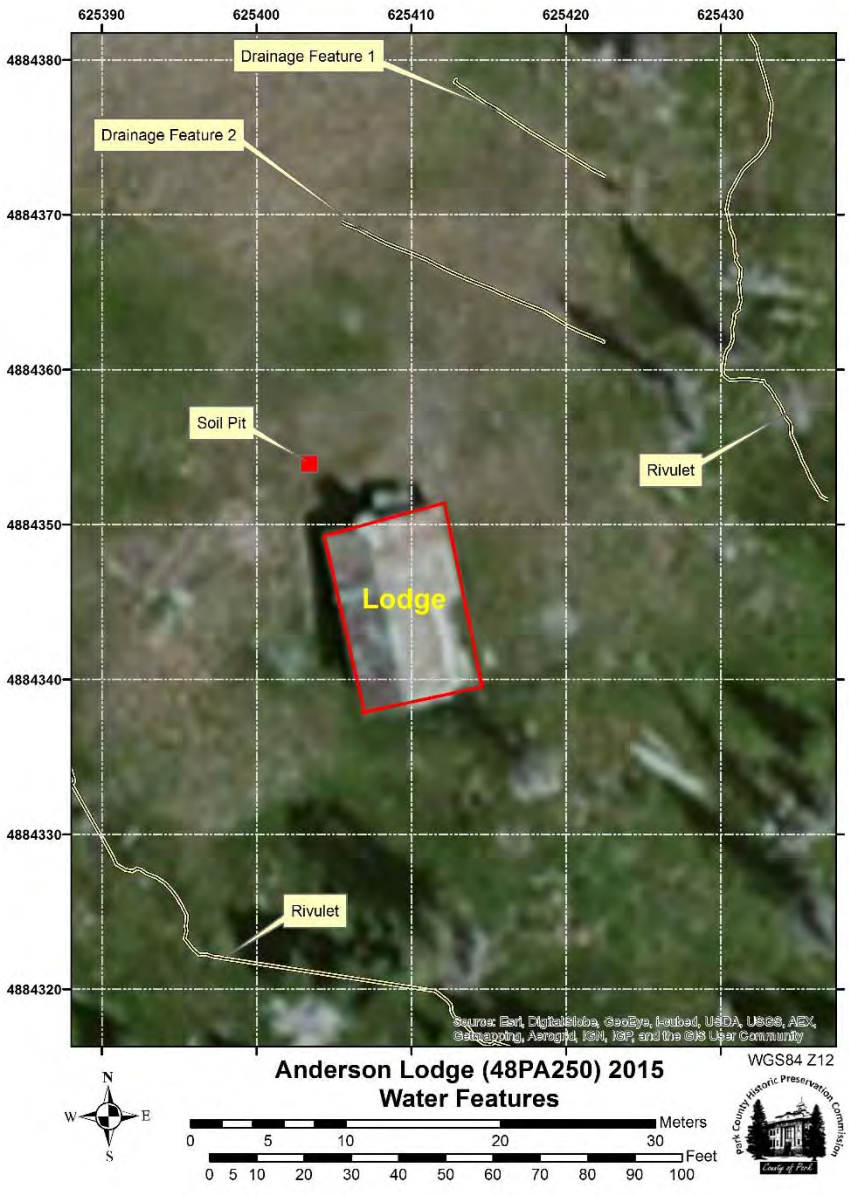

Figure 17: Excerpt from the 2015 Supplemental Documentation report, depicting the current site condition with two drainage features. Image courtesy of Lawrence Todd and Kent Houston.

[10] Conservation Services, page 10.
[11] Conservation Services, page 10.
[12] Conservation Services, page 10.
[13] Lawrence C. Todd and Kent Houston, "Anderson Lodge (48PA250) NRHP District: 2015 Supplemental Documentation," October, 2015. See Appendix.

Recommendations

Treat the vulnerable log pole extensions with liquid epoxy consolidant. Provide sheet metal aprons and drip edges at the rake and eave edges, designed to not hold water against the wood and to direct it away.

The following actions have been proposed in the Anderson Lodge NRHP District: 2015 Supplemental Documentation report:

> In order to redirect both surface and below ground water flow, which may decrease rate of movement of the rotational landslide in the Lodge area, five actions are recommended:
>
> 1. Open two existing trenches (see Figure 5 in the Supplemental Documentation report) above Lodge to help drain surface water from a snowdrift.
> 2. Rebuild spring box and drain away from slope that feeds Lodge portion of landslide. Find and disconnect buried waterline to cabin.
> 3. Install French drain from soil pit to east of Lodge below the clay bulge at depth of 90 cm (~35 inches) or where the soil texture sands and gravels increase (Figure 5, Drain A, Table 2). This depth may vary.
> 4. Install French drain along north and west side of Lodge adjacent to foundation (Figure 5, Drain B, Table 2).
> 5. Install a French drain under the Lodge and above the foundation pillars that drains to the west (Figure 5, Drain C).[14]

See also Structural Analysis.

Figure 18: The stone chimney anchors down the north end of the Lodge. Photograph taken looking southeast.

Figure 19: The building movement has caused the vertical joint between the plumb chimney and the log wall to increase over time, to as much as 2½" at the top. Note the 1993-1994 daubing mortar that filled the joint at the time.

[14] Todd and Houston, page 7 & 8. See Appendix.

Stone Chimney

Description

The building is heated with a wood burning fireplace that drafts into a brick-lined stone chimney. The 3'-9"-deep by 6'-0"-wide stone chimney rises above the north end gable wall where it abuts the log structure. Its local rubble stone mass is defined by large stone units at the corners. The flue is vented through square openings at the top, which is capped with a concrete slab. A bronze National Register plaque is mortared to the north face.

The stone is locally available basalt.

Condition

The chimney is generally in good condition and stable. The mortar is loose in the top foot of the chimney; the smaller stone units will dislodge if not stabilized soon. Some mortar joints have eroded where the chimney swells for the firebox. As noted above, the sheet metal chimney flashing no longer engages the chimney, allowing water and snow-melt to penetrate the structure.

The chimney itself is straight and true, yet the joints between the chimney and the log wall continues to expand as the building settles to the south. This joint was daubed in 1993-1994; this daubing remains, next to the growing cap (1/2" at the base of the chimney; 2½" at the top). This opening occurs at both the east and west side of the chimney.

Recommendations

Repoint the top of the chimney and where the chimney swells at the firebox. Insert oakum (or backer rod and sealant) in the joints between the stone and the log wall.

Log Walls

Description

The building is a double-pen log structure with Spruce logs laid horizontally and joined at the corners with saddle-notching. The log ends are sawn parallel to the walls. The interstitial chink spaces between the logs are filled with daubing sloped to rest on a wood daubing strip nailed lengthwise along the log. It appears that all of the daubing was replaced as part of the 1993-1994 preservation project.

The mortar specified for the 1993-1994 project was as follows:

Figure 20: The sheet metal chimney flashing no longer engages the chimney.

Figure 21: The daubing mortar, aided by wood daubing strips, is sloped to drain away from the log wall.

- ~ 12 parts sand – may be local washed dirt
- ~ 4 parts lime – Type S ASTM C207
- ~ 1 part white Portland cement – Type I, white – ASTM C150
- ~ Water to make dry mix

The mortar mix specified is considered a very soft mix, which should be flexible in terms of building and log movement. This type of a mortar (daubing) application can be sensitive. The specifications required periodic water squirting for two days following application, to reduce rapid drying.[15] Rapid drying would cause premature cracking of the daubing.

The 1991 report used the terms daubing and chinking interchangeably.

Condition

See Structural Analysis for condition of structural log components. Deterioration is typically associated with the exposed ends of the smaller diameter roofing logs. Most of the roof beams are in excellent condition.

The daubing at the south walls is typically in good condition, where it benefits from the porches' protective roofing. However, most of the daubing at the wall below the flue on the lower level porch is missing, exposing the wood daubing strips.

Much of the daubing is missing from the wall openings and the full-height of the inside corners, a result of the building movement. Daubing is missing from isolated areas on each façade, indicating natural aging and movement.

Generally, the daubing in the horizontal joints is in the best condition. This material has endured well, despite the continued building movement. Natural changes, moisture, and expansion and contraction cause daubing to crack and crumble. This is authentic to this type of construction.

Most of the daubing cracks are vertical. It is conceivable that insufficient quantities of water were added or sprayed. The bags of lime and cement in the crawlspace (presumably left from the 1993-1994 preservation project) are of the specified materials, which are appropriate for this type of preservation work.

Most of the daubing at the vertical interior corners has failed, due to the movement of the building.

Recommendations

No log replacement is required.

Minimal or hairline cracks can be treated with a limewash. Replace larger cracks and missing sections of daubing in kind.

Remove deteriorated daubing from the interior corner joints and apply oakum instead. Oakum is more flexible and forgiving material that seals joints well – especially those following the curved contours of the

Figure 22: Daubing missing indicating natural aging & movement.

Figure 23: The daubing mortar is missing from the logs at the south wall facing the lower level porch. The wood daubing strips remain.

[15] Conservation Services, page 79.

logs. Oakum is a soft packing filler that has been used in log construction and the boating industry for more than a hundred years. Oakum is decay and insect resistant.

Stockade Walls

Description

Infill walls of vertical logs, called log stockades in the 1991 report, enclose the crawlspace on the west and east sides of the building. The east wall is now relegated to the east wall of the main porch, as the stockades that defined the Storage Area have been removed; only the vertical columns remain. It is believed that the stockade vocabulary was original to the building. The current stockade walls were installed in 1993-1994.

Condition

The individual logs of the stockade walls are generally in good condition, yet the walls are being pulled down-slope with the eroding soil.

Recommendations

Right the infill stockade walls when the structural work is complete. These walls could serve to keep all but small animals out of the crawlspace. The bottom ends of the logs that rest in the soil might need to be treated with liquid epoxy consolidant.

Figure 24: Building settlement has caused the daubing mortar to fail at the vertical joints of the log walls.

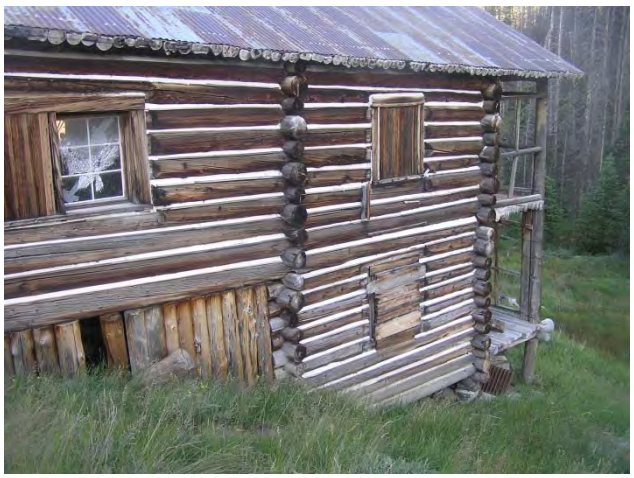

Figure 25: The stockade walls are being pulled down-slope with eroding soil.

Porches – Main Level East Porch

Description

The main porch at the east side of the building provides a covered entry near where the corral originally was at the north end of the building. The roof extends, at a lower slope (2.5:12 rise:run), from the main roof. The adjacent grade drops down to the south, increasing from 1'-6 ½" below the porch floor at the north to 6'-0" at the south. Three sections of 3'-2"-high wooden guardrail renders the visitor safe from falling. The guardrails are set between and fastened to the four log columns that support the roof eave. Each section has six turned balusters which are set into recesses in the top rail and bottom rail.

Current building codes require 42"-high guardrails above rises 30" or greater, yet allow current guardrails to remain on existing buildings as long as they are stable.

Ten unfinished balusters, hung from the ceiling of the Kitchen, probably date from the 1993-1994 preservation project. There are also several balusters in the Living Area, leaning against the fireplace. These balusters match those on the front porch, yet longer for adjustment as required.

The flooring is comprised of twelve puncheon boards that span north-south across the 8"-diameter beams below. The beams align with the porch columns.

Condition

One of the floor boards at the north end of the porch is missing. The floorboard closest to the entry door is crooked.

Six balusters are missing, and five are chewed, probably by horses. The balustrade and the five chewed balusters appear to be stable.

Recommendations

Provide a matching section of floor board at the north end of the porch. A 1'-4" length should allow for fastening to the floor beam below.

Resecure the crooked floorboard at the entry door.

Retain the guardrail construction as is; it is stable, thus permitted by code. Install balusters where missing. The chewed balusters are still stable and speak to the equine nature of the visiting experience.

Figure 26: The east porch, as seen from the north, provides direct access to the main level Living Area.

Figure 27: The guardrails are set between the log columns of the east porch.

Figure 28: A 1'-4" long portion of the puncheon flooring is missing at the north end of the east porch.

Porches – Main Level South Porch

Description

The south porch construction is contained within the south extension of the main roof. The two porch levels access the main and lower levels of the building directly, through entry doors.

The south porch wall has three log columns, between which small-diameter logs form the framework (of three rails and two mullions per opening) for a full wall of screening. The west end of the porch has a similar framework with three rails and one mullion. Portions of a screen wall framework remain at the east end of the porch. The screening is no longer extant.

The flooring, of mostly peeled hewn logs that are planed smooth on the top surface, is comprised of puncheons; these logs appear to be 1993-1994 replacements. Most of the bark is peeled, exposing visible axe marks. The logs are typically 5" wide and 5" deep and span east-west. They hang over the end support beams by 8".

The flooring is covered with white canvas sheeting (same as the material lining the interior walls of the wardrobe), which is tacked (on approximately 2" centers) onto the edge floor boards and bottom of wall logs. The top of the canvas is painted brown.

Condition

The ends of the puncheon members typically are in good condition. The end of one floorboard at the east end of the porch has rotted. Several of the bottoms of puncheons bear the white and dark staining of water penetration (presumably from above). The canvas is heavily worn and stretched, resulting in long wrinkles. There are a few splits and one long tear that extends about 2/3 of the porch length, near the middle of the floor. The paint is heavily worn through to the canvas.

Recommendations

Tighten and secure all the joints of the screen wall frameworks and provide the framework for the east end of the porch. Provide screening, fastened to the framework.

Remove the canvas floor covering and examine all the logs. Allowing the logs to dry might be sufficient for their condition, as they do not appear to be saturated. Provide floorboard section (2' to 3' in length) to replace the rotted board. Provide a new canvas floor covering, fastened in a similar manner (with frequent tacks). The tacks might have to be sized larger than the existing ones, or the holes filled, in order to achieve proper embedment. Coat the canvas with a breathable stain or paint so as to not trap moisture beneath it.

Figure 29: Rotted end of floorboard on the east end of the main level South Porch.

Figure 30: Painted canvas covers the puncheon flooring of the main level South Porch. It is stretched and torn.

Porches – Lower Level South Porch

Description

The lower level porch is accessed from the Kitchen Area and from the exterior stairway landing constructed in 1993-1994. The south porch wall has three log columns, between which small-diameter logs form the framework (of three rails and three mullions per opening) for a full wall of screening. There is no wall or railing at the east and west ends of the porch.

The flooring, of mostly peeled hewn logs that are planed smooth on the top surface, is comprised of puncheons. Most of the bark is peeled, exposing visible axe marks. The logs are typically 5" wide and 5" deep and span east-west. They hang over the end support beams by 8".

Condition

The porch flooring is in good condition; it was replaced in 1993-1994.[16] The screening is no longer extant.

Recommendations

Tighten and secure all the joints of the screen wall framework. Provide screening, fastened to the framework.

Figure 31: The lower level South Porch, as seen from the west.

Stairway

Description

The exterior stairway from the east porch down to the lower level south porch was constructed in 1993-1994, as a conjectural installation typical to what was believed to have been there originally. The stair run spans two 2" stringers that are fastened to the top east stair and bear on the lower landing. The 11"-12" wide rough-sawn timber treads are set into the stringers. Turned newel posts support the simple log rail.

Condition

See structural analysis for discussion of condition and treatment.

Recommendations

Consideration should be given to applying borate treatments to the stringers and logs that will be subject to piled snow and moisture. Such treatment would allow for the use of historically appropriate log members, obviating the need for pressure-treated wood members.

Figure 32: The exterior stairway connecting the main level east porch to lower level South Porch was constructed in 1993-1994.

[16] Conservation Services, page 53.

Openings - Windows

Description

The building was originally provided with ample natural illumination and ventilation through windows located at the west and east elevations. The windows are wood casements fitted with cylinder glass. Each sash is 2'-5¾" wide and 3' high; the stiles and rails are 2-2¼" wide.

The west windows in the Living Area are paired in-swinging casements made of unfinished fir. Narrow muntins hold the six glass panes in each sash. Each sash is 2'-5¾". The east window opening in the Living Area appears to have had in-swinging casements that have been replaced with screen sash.

The windows in the Sleeping Area are replacement single casements with six lites. These fir sash are fitted with two ball-tip hinges, yet no latching. The sash are held in place with nails. These sash were probably replaced in 1994, along with one of the west Living Area windows. The 1991 report called for three window sash to be repaired/replaced – "windows do not need to operate."[17]

The Kitchen has one window opening on the west wall. The window sash has been replaced with a temporary screen which is hinged at the north jamb. The exterior of this opening is protected with individual horizontal boards fastened to the exterior trim.

Figure 33: The windows are located on the west (as shown above) and east elevations of the Lodge.

[17] Conservation Services, Preservation Stabilization Plan: Anderson Lodge, 1991, page 26.

The exterior of most of the windows are protected with wood ledger shutters made of doug fir. Exterior 3¼"-wide tongue-and-groove boards are mounted vertically, fastening to the interior ledger boards. The shutters can be opened, with two 4" steel ball-tip hinges per leaf. They are fastened shut with screws. The south shutter of the west Living Area window is missing.

The exterior trim of the windows is consistent throughout the building. Both head and jamb trim is of square-edged ¾"-thick boards 5-7/8" wide. A 2"-thick sill extends ¾" beyond the edge and face of the jamb trim. The logs are planed and beveled to provide flat surfaces to align and fasten the trim.

Condition

The north screen sash in the east window opening in the Living Area is missing. The hinge-halves and pins remain on the jamb. The south screen remains, without a latch and is missing part of the interior stop. The west casements remain, yet the southernmost is without latching hardware; it is wedged in place with interior-mounted screws. Three broken panes of glass are variously secured with duct tape or blocked with a rag.

The window opening at the west wall of the Kitchen Area is racked by at least 2", with the lower south end pulling the window in the direction of the building's overall settlement to the south. This is probably why the glazed sash was removed and replaced with a screened sash.

Where extant, the exterior shutters are in generally good condition. The exception is the northeast shutter which is splitting at the hinge side.

The windowsills are in good condition. The chinking wash atop the head trim and sealing the edge of the jamb trim is typically cracked and missing (in whole or in part).

The glazing putty (that sets the glass into the sash) could contain asbestos.

Recommendations

Provide shutters, where missing, for window protection. Replace broken panes of glass. If the building movement is stabilized, a new window should be made for the west Kitchen Area opening. Provide windows where missing, if desired. They add an extra layer of protection to the building.

Figure 34: The typical exterior window trim is visible at the east Living Area window north of the main entry door. The typical daubing treatment around the windows (acting as a sealant to air penetration) has failed.

Replace the daubing where missing – this is particularly important at the tops of the windows.

Openings - Doors

Description

All of the exterior doors are constructed of 3¼"-wide tongue-and-groove fir boards 7/8" thick. The three 2'-8"-wide entry doors – into the Living Area, the Sleeping Area (from the upper level porch), and the Kitchen Area (from the lower level porch) – are Dutch doors whereby each leaf is strengthened with vertical exterior boards fastened to interior horizontal boards, for a total thickness of 1¾". The bottom of the top leaf is rabbeted to fit the top of the bottom leaf. With the exception of the 6'-6"-tall lower door, the doors are 6'-8" tall. All of these doors swing into the building.

Each leaf of the main entry door is fitted with two interior surface-mounted 5" ball-tip hinges. A round knob with an exterior rose escutcheon operates the door; the ghost of a rimlock remains on the interior surface. An interior hasp and slide bolt lock the upper half; a slide bolt locks the lower. Both porch doors have two iron strap hinges mounted to the interior of each leaf and are each locked with a rim mortise lockset.

The main entry door to the Living Area has an exterior-mounted pine screen door with stile and rail members 1-1/8" thick and 2-7/8" wide. The center rail is 3" wide and the two cross members are ¾" thick by 2½". The door has a wire pull, and no locking mechanism.

None of the exterior wood appears to have been finished with a protective coating.

Condition

The doors operate smoothly. The front entry door is in good condition. The top rail of the entry screen door has disengaged from the top of the hinge-side stile, causing the latch side of the door to sag. The screening is broken and ripped.

An 18"-long section of the side casing of the exterior Kitchen door has been ripped from the opening. This splintering is likely due to the removal of the nailed cover to the door.

Figure 35: The entry door to the Kitchen Area from lower level porch is representative of the typical Dutch door used at the exterior of the Lodge.

Figure 36: The exterior face of the main entry door into the Living Area, showing the sheen of the varnish on the horizontal fir boards that comprise the interior face.

Recommendations

Confirm smooth operation of all the exterior doors, planing them as required. Repair the screen door: fasten the top rail to the stile and provide new screening. Provide hinges and lockable latch for the exterior storm door to the lower level Kitchen; patch the jamb trim.

Figure 37: The jamb trim at the entry door to the lower level Kitchen has splintered off.

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INTERIOR ARCHITECTURAL ASSESSMENT - LODGE

General

The following assessment is presented from the top down to the base of the building. The Exterior Assessment above addresses exterior components and access to the building.

Ceilings

Description

The main floor ceilings reflect the shape of the gabled roof above. The ridge logs and purlins are exposed, as are the bottoms of the log poles that sheath the roofs. The poles are planed to fit flat onto the tops of the purlins. Roofing paper is visible at gaps between the log poles. The ceilings peak at the ridge beams which are 11'-9" above the floor, and slope down to the side log walls which are 8'-5" high.

The lower level ceilings are defined by the bottom of the wood flooring above, which is supported by the exposed log floor beams. The Kitchen ceiling is 7'-4-5/8" above the puncheon floor.

Condition

The condition of the ceilings is excellent.

Recommendations

No work is required.

Figure 38: Exposed ridge logs & purlins.

Figure 39: The lower level Kitchen ceiling is the bottom of the exposed flooring above.

Ceiling – Plaster

Description

The remaining portion of the root cellar (Storage Area) – at the southeast corner of the crawlspace – has been reduced to the remaining plaster ceiling. The 1991 report recommended removal of the side walls and eroded soil, but retention of the plaster ceiling. The rationale was that reconstruction of the root cellar would be conjectural and thus misleading. The ceiling was retained to provide physical evidence for future research.[18]

Condition

The plaster ceiling in the crawlspace Storage Area is generally stable, yet portions are stained from moisture and delaminating (disengaging) from the lath.

Recommendations

Retain the plaster ceiling as is, as evidence for future research.

Figure 40: Plaster ceiling in crawlspace Storage Area.

[18] Conservation Services, page 51.

Walls - Log

Description

The log structure is visible inside the building, with a more finished appearance than on the exterior. The horizontal joints are covered with wood planks which conceal the daubing mortar. The logs and plans are peeled of bark and appear to be protected with a satin clear finish.

The roof's pole logs bear upon the top of the top wall log. Chinking (daubing) seals the gaps along the top of the wall and between the pole logs. Daubing also seals the full height of the inside corners, following the contours of the logs.

Condition

The logs are in excellent condition, with minimal water-staining from prior leaks (in the joints or the roof) and accumulation of dust. The chinking across the top of the Living Area walls is in good condition. Daylight is visible where the chinking across the top of the Sleeping Area walls; approximately 24 lineal feet of chinking is failing here.

The settlement of the building has caused the vertical daubing at the inside corners to dislodge and fall, leaving only the stains where it once was. Almost all of this vertical daubing is missing from the south inside corners of the Sleeping Area and the west and southeast inside corners of the Living Area. It appears that there never was chinking at the northeast inside corner of the Living Area, implying that the logs at the corner have retained a tight seal.

The building's movement has caused the chinking between the wall logs and the fireplace stone to disengage.

The lower side walls of the Kitchen Area have racked from settlement to the south. The daubing has fallen from the full-height of the northwest and southwest inside corners.

Recommendations

Clean the walls to remove dust and staining. Remove deteriorated daubing and provide new where missing. Seal the vertical inside corner joints with oakum. This will provide a more flexible and durable seal, with a traditional material.

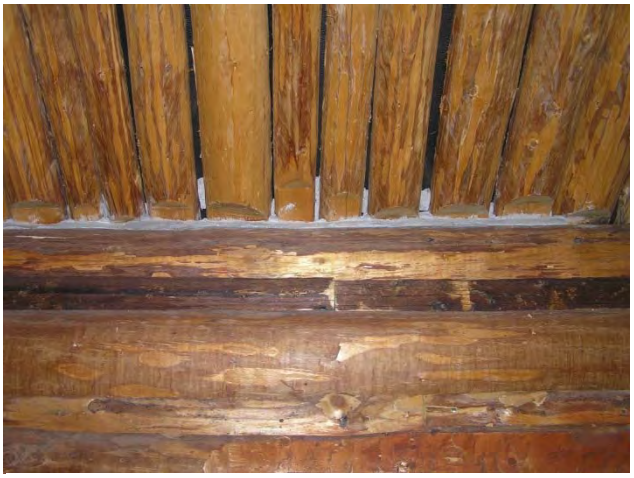

Figure 41: Chinking across the top of the Sleeping Area wall.

Figure 42: Dislodged vertical daubing at the southwest corner of the Sleeping Area. See also missing daubing at top of wall, designated by the arrow tip.

Fireplace

Description

The wood-burning fireplace is set onto a concrete hearth and is framed with a stone surround. The firebox is faced with stone and terminated with a segmental brick arch which features a darkened and rough-faced stone keystone. Brick arched niches flank the surround above the firebox arch. A rough-faced wood log mantel caps the composition, with beveled ends that extend beyond the surround. The top and sides appear to be varnished.

The stone is probably local stone, cut into generally rectangular ashlar units that appear to have been pointed with a beaded joint. This indicates a level of sophistication and talent on the part of the mason.

The hearth is a concrete slab raised approximately 6 inches above the floor level. The upper perimeter edge of the hearth is trimmed with steel piping. The firebox has a concrete floor, slightly depressed from the hearth level. Currently a stove sits in the firebox; its flue extends up the chimney flue.

Figure 43: The fireplace has a commanding presence at the north end of the Living Area.

Condition

The stone and mortar joints are in good condition, albeit heavily soiled. The brick in the firebox is blackened with soot. The hearth is cracked in the center front and the stone support beneath is visible on the west where the floor is deflecting.

The wood floor has disengaged from the hearth, indicating that the concrete hearth is stable, while the rest of the wood construction is settling to the south.

The stone surround has separated from the wall since the 1993-1994 preservation project, as evidence by the staining of the fallen sealant or mortar at the wall joint. The surround has also separated from the body of the chimney by 1½".

Recommendations

As the structure is stabilized, the stonework on the chimney surround should be either raised up to its original position or stabilized in its current one. Seal the joints between the stone fireplace surround and the log walls with oakum, which will provide good packing that will flex with building movement.

Figure 44: The stone surround of the fireplace has separated from the log wall.

Figure 45: The wood flooring has settled and disengaged from the concrete hearth.

Cabinetry

Description

The Sleeping Area has a closet in the northwest corner of the room. This interior walls of this wardrobe are wood-framed and finished with the same vertical tongue-and-groove fir treatment as its door. The interior walls and ceilings are lined with white canvas tacked in place. This installation appears to have occurred in 1994 (it is not the original material, yet probably was a replacement in kind).[19]

Condition

The structure and exterior finish of the wardrobe and its door are in good condition. Some of the interior canvas lining has been chewed for nesting. There is animal excrement on the floor of the wardrobe.

Recommendations

Remove the excrement and thoroughly clean all wood. Replace all the canvas lining (some of which is chewed; the rest has probably absorbed excrement odors).

Figure 46: The wooden wardrobe in the northwest corner of the Sleeping Area.

Figure 47: The interior canvas lining in the wardrobe has been chewed by animals.

[19] This treatment was not addressed in the 1991 report.

Windows

Description

See exterior for the general description of the windows. Three of the windows were replaced in 1993-1994.

The interior is finished neatly with square stock 4½" eased edge fir trim. The logs are beveled and planed to provide a flat surface for the trim. The stool trim crosses the full width of each window opening; the outer edges are aligned with the jamb trim. Mortar is daubed as a wash across the tops of the windows and used as sealant at the jambs and stool.

The sash are fitted with 2-2½" fully-mortised 5-knuckle ball-tip steel hinges and latched with slide bolt locks. Some of the hinges are brass-plated.

Condition

The top wash of chinking across the head of the Living Area windows is missing or heavily cracked. Much of the side chinking is missing as well. The daubing is missing from the wall openings in the Kitchen Area, where the building settlement has been most severe.

Until testing is performed, it is assumed that the glazing putty contains asbestos.

Recommendations

See exterior assessment. Remove damaged and provide new daubing around the windows. Consider use of oakum instead, as it is better able to respond to building movement.

Figure 48: The logs have been beveled and planed to provide a straight substrate for the window trim.

Figure 49: The window opening at the west wall of the Kitchen Area is substantially racked. The daubing that sealed the window joints has failed and fallen, due to building settlement.

Doors

Description

The doors are solid wood doors constructed of horizontal interior boards sandwiched with vertical exterior boards. The exterior boards are wider, rougher-faced, and unfinished. The interior boards are narrower, smooth-faced, and finished with a glossy varnish.

The main entry doors - into the Living Area and into the lower level Kitchen Areas - are 2'-8" wide. Both Sleeping Area doors are 3'-wide. The interior door into the Sleeping Area has vertically oriented fir boards secured with ledgers.

The door opening from the Kitchen Area to crawlspace is 2'-10" wide, as defined by more recently installed bucks (presumably 1993-1994). This 6'-1" tall opening does not have a door.

The hardware is standard for the period of original construction: mortised locksets with brass-plated knobs and oval escutcheons with beaded borders (Sleeping Area interior door), and ball-tipped hinges. Some of the doors have rimlocks instead. Some of the exterior doors are nailed shut.

The doors are trimmed in the same fashion as the windows – with 4½" eased edge fir. The logs are beveled and planed to provide a flat surface for the trim.

Condition

The doors are generally in good condition, yet have become difficult to operate where the building has settled. The head trim of the exterior door of the Sleeping Area is stained by tar, presumably from leaking of the roof above.

Recommendations

Provide a door between the Kitchen Area and the crawlspace, in order to keep animals out of the Kitchen Area. Adjust the doors as required to facilitate smooth operation. Clean the tar off the wood trim.

Figure 50: The interior face of the entry door to the Living Area shows the sheen used in the finish on the horizontal boards of both leaves of the Dutch door.

Figure 51: The door from the Sleeping Area to the main level South Porch.

Trim

Description

The window and door trim is discussed in Windows and Doors above. The base of the walls on the main level are finished with a simple wood baseboard approximately 8" tall. The Kitchen does not have a baseboard.

Condition

See Windows and Doors above. The baseboard is dusty and dirty.

Recommendations

See Windows and Doors above. Wash the baseboards.

Figure 52: The main level rooms have a simple wood baseboard, as seen on the south wall of the Living Area (looking southeast towards the entry door).

Flooring

Description

The flooring in the Living Area is 3¼"-wide tongue-and-groove fir flooring laid in 4' to 4'-3" lengths that span north-south. From the crawlspace below, the bright and clean appearance of this flooring indicates that it isn't original. There is no sub-flooring; it is assumed that the floorboards are 1½" thick. The boards are supported by 5"-6" diameter log joists installed (with bark on) in 1991; the joists span east-west.

The wood flooring in the Sleeping Area also spans north-south, yet is concealed with sheet linoleum. The linoleum sheets are tacked frequently at the hemmed seams. The wood flooring telegraphs through the linoleum. The underside of the wood flooring – which is visible in the Kitchen below – indicates that it is of original 1½"-thick boards with no subflooring.

The flooring in the Kitchen Area and adjacent Screen Porch is of exposed puncheon flooring, spanning north-south and east-west, respectively. The Kitchen flooring appears to have been replaced in 1993-1994.

Condition

The wood flooring in the Living Area is generally in good condition. One 4'-length of board near the entry is splintered and depressed. This might be caused by dragging of the heavy cots or equipment

The sheet linoleum in the Sleeping Area is in good condition. Like the other floors, it is dirty from neglect.

Figure 53: The Living Area flooring is splintered near the entry.

Figure 54: Living Area flooring from crawlspace below.

The Kitchen Area and adjacent Screen Porch flooring is in good condition. The Kitchen Area flooring is abraded under the entry door swing area and there are some gouges in other flooring logs; these don't appear to be a trip hazard and are not a structural deficiency.

Note that all the flooring is dirty with dust and general wear. The flooring of the Sleeping Area is covered with animal excrement.

Recommendations

Clean all of the flooring. Provide a 4'-length of matching tongue-and-groove fir floor board to replace the splintered board in the Living Area.

Figure 55: The wood flooring boards telegraph through the sheet linoleum in the Sleeping Area.

Figure 56: The puncheon flooring in the Kitchen Area and the adjacent Screen Porch was replaced in 1993-1994.

Hazardous Materials

Description

The Lodge was built when asbestos-continuing materials (ACM) and lead-based paint were in common use. In addition, the openness of the building has allowed for animal entry and disposition of excrement. Comprehensive testing should be performed prior to renovation to identify where such components are and to plan for their remediation during remodeling activities.

Until testing is performed, presence of the following should be assumed:

- ~ Excrement
- ~ Lead-based paint –interior varnish
- ~ Plaster (ACM)
- ~ Daubing Mortar (ACM)
- ~ Pointing Mortar (ACM)
- ~ Glazing Putty (ACM)

Much of the Sleeping Area linoleum flooring is covered with piles of bird and rodent excrement. The interior canvas lining of the wardrobe in this room has been chewed for nesting. The entire room reeks of this feces.

Recommendations

Remove all traces of excrement and passages into the Sleeping Area. Wash all surfaces thoroughly. Given that there is a smooth varnish finish on the logs and the flooring is linoleum, it might be possible to remove all traces of the smell; however, an experienced hazardous materials consultant should be consulted.

Mechanical System

Description

The northeast corner of the Sleeping Area contains a water tank, suspended from the ceiling, and a sink. The water tank is in an octagonal-shaped casing of fir. The tank was purportedly gravity-fed from a cistern at the top of the hill, or a nearby spring. Piping from the tank provided water to the wall-hung sink on the adjacent wall and to a sink in the Kitchen below. The Kitchen sink has been removed, yet the capped off piping from the floor above remains.

That this system also provided hot water is supported by the incorporation of piping from the tank to the hot water faucet at the sink. A 1986 letter of support for preservation of the Lodge, from U.S. Senators Al Simpson and Malcom Wallop and Congressional member Dick Cheney to the Shoshone National Forest supervisor, referred to "... an absolutely ingenious hot water heating system…"[20] According to a typewritten sheet provided with the HAAF application, entitled "Basic Information on Anderson Lodge," "Hot water also was available as the pipes went through the back of the fireplace where the water was heated and then flowed to a holding tank made of cedar. This cedar tank is still on the premises of the Lodge and looks brand new."[21]

The piping that runs through the fireplace is visible in the Living Area, as it wends its way along the top of the east wall and into the Sleeping Area at the location of the tank. The tank is of fir, not cedar.

The central stove and flue depicted on the 1991 floor plan are no longer extant.

Condition

There is no current water supply to the building (list source), thus the tank supply system and sink were not tested. The top exterior of the tank is stained with tar, presumably the result of a roofing leak. It is unknown if this leak is active.

The evidence of the heated water pipe remains as a clue to the original system.

A sink (at east wall) and stove on a concrete pad were shown on the 1991 floor plan of the Kitchen Area.

Figure 57: The fir-cased water tank provided water to the wall-hung sink in the northeast corner of the Sleeping Area, and to the Kitchen sink below.

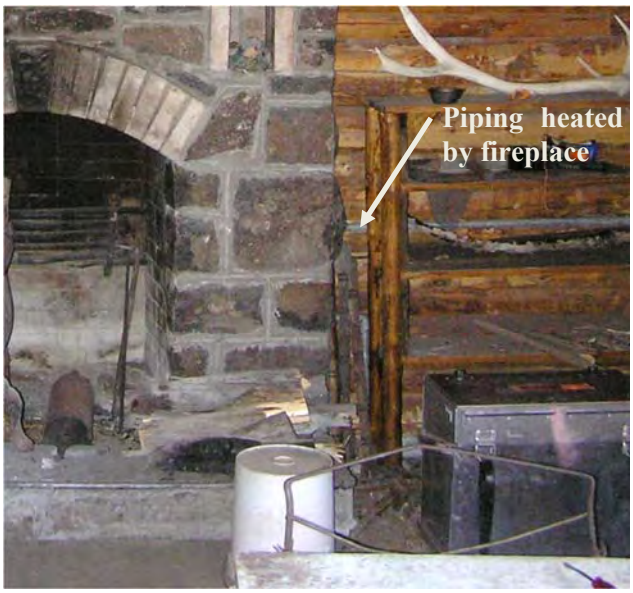

Figure 58: Warmth from the fireplace heated water in the piping shown at the arrow tip. This piping then wends its way to the top of the east wall and over to the tank in the adjacent Sleeping Area, shown above.

[20] Alan K. Simpson, Malcolm Wallop, & Dick Cheney, letter to Stephen Mealey Forest Supervisor, April 17, 1986, page 2.

The sink has been removed from the Kitchen Area, leaving no ghosting on the wall. A pipe is capped off near the ceiling above. The stove and concrete pad have been removed, presumably when the flooring was replaced in 1993-1994. The flue pipe remains, where it exits the south wall and turns to follow the plane of the wall, up through the porch floor and roof above.

Recommendations

Retain all the visible piping to clearly relay the original plumbing system which included distribution of hot water – a feature rarely furnished in remote cabins.

EXTERIOR ARCHITECTURAL ASSESSMENT – HIRED HAND'S CABIN

General

The following assessment is presented from the top down to the base of the Hired Hand's Cabin (also referred to as the "Cabin"). The assessment of the interior components follows this Exterior Assessment. The assessment of the main Lodge is provided above.

The wood appears to be Spruce and none of the exterior wood appears to have been finished with a protective coating.

The 1993-1994 preservation project was unable to include the Cabin.

Figure 59: View, towards the northeast, of the Cabin, upon approach from the Anderson Lodge.

Roofing

Description

The rectangular floor plate of the building is oriented with the short entry end facing east. The main portion of the building is protected with a front gable roof of 3.75:12 rise:run ratio. The roof extends over the east entry porch. The west rake and eaves extend approximately 8"-9" beyond the wall plane.

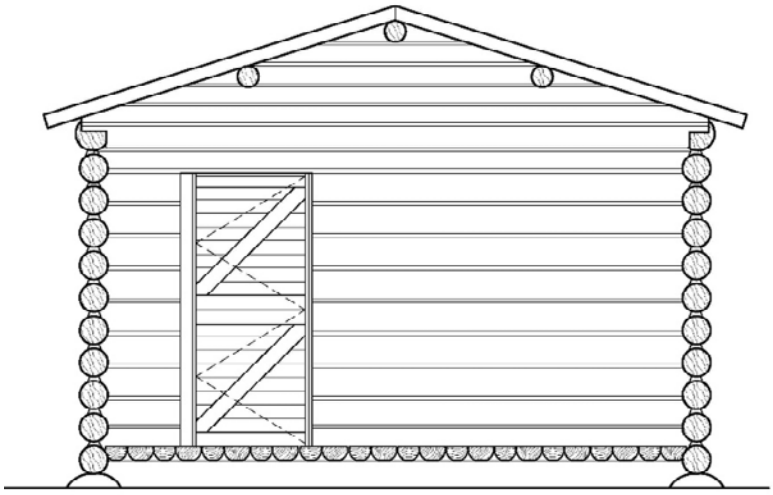

Figure 60: Section-elevation of the Cabin, looking east towards the entry door.

The roof structure is comprised of a log ridge beam, purlins, and roofing poles. See Figure 5 for an illustration of these components. See Structural Analysis for description and condition of the roof structure.

The roof is currently covered with remnant scraps of an aggregate-impregnated green asphalt roofing membrane. The north slope has considerably more cover than the south, yet it is still scarce. The membrane was originally formed over the end pole logs and fastened with barbed roofing nails and tin caps. These caps were probably purchased from a mail order catalog, such as Sears, Roebuck and Co.[22]

Figure 61: The north slope of the gable roof provides a more complete example of the green membrane roofing that once covered the log poles.

Condition

The roofing membrane has disintegrated nearly completely. The few portions remaining of the roof

[22] Sears, Roebuck and Co., *Sears, Roebuck Home Builder's Catalog* (Chicago: Sears, Roebuck, 1910; reprint, Mineola, NY: Dover Publications, Inc., 1990), page 141.

are abraded and torn, thus don't protect the interior of the cabin. The membrane overhang on the rake logs might have held moisture in the logs and concealed consequent rot. The roofing was not included in the 1993=1994 preservation project.

Figure 62: The roofing was pulled over the rake logs, as depicted on this south log of the entry porch.

Figure 63: The roofing membrane was fastened to the rake poles with roofing nails and tin caps.

Price, per 100 pounds....65c

BARBED ROOFING NAILS AND TIN CAPS.

The tin cap should be used with tarred roofing felt. Practically makes a large head for the nail and prevents it being pulled through the felt. The barbed nail holds better than a smooth nail, and if kept well protected with coating never rusts. Use plenty of tin caps and barbed roofing nails with Tarred Felt and Duck Brand Prepared Tarred Felt Roofing. They are necessary to do a lasting job. For Best-ov-al and Asphalt Felt Roofing we recommend the use of a large headed galvanized barbed roofing nail and not the use of a tin cap. We recommend the galvanized barbed roofing nail.

Catalog No.	Kind of Nails	Length	Price, per lb.	Price, per Keg
63B3028	Common Barbed	⅞ in.	4c	$3.75
63B3088	Common Barbed	1¾ in.	4c	3.75
63B3041	Large Headed Galvanized Barbed	1 in.	6c	5.60

No. 63B3029 Tin Roofing Caps. (1 lb. required for each roll or square of felt roofing or siding). Price, per pound.....5c

No. 63B3087 Dry Red Mineral Paint for Steel Roofing. Requires 1 pound for each square of steel roofing. Price, per pound..2c

ROOFING BRUSHES

Figure 64: Nails and tin caps available for fastening roofing membranes. Sears, Roebuck and Company's Homebuilder's Catalogue, 1910.

Recommendations

Remove the membrane remnants, retaining some fragments, nails, and caps for posterity (they can be stored in the Cabin) and using them as a guide for new roofing. Provide new membrane roofing on the rebuilt roofing poles and porch roof structure (see Structural Analysis).

In order to prevent hidden rot of the rake logs, provide a sheet metal drip edge under the membrane extension. This drip edge should be kicked out to direct run-off to grade, in lieu of the rake log. Thus the appearance of the membrane wrap can be achieved without harming the logs. Protect the ridge with sheet metal flashing as well. The sheet metal can be painted to blend with adjacent materials.

Walls – Logs

Description

The log construction is similar to that of the Anderson Lodge. The 8"-diameter logs meet at the saddle-jointed corners and extend 6"-8" beyond the wall plane. It appears that the daubing treatment was similar to that of the Lodge, except that in lieu of nailing strips, the daubing mortar was keyed to small sapling strips.

The daubing was not repaired during the 1993-1994 preservation project.

Condition

Very little daubing mortar remains on the exterior logwork. The saplings and logs are dry. See Structural Analysis for the condition of the logs at the west wall.

Recommendations

The 1991 report recommended replacement of all deteriorated logs. The prevailing tenet was to make every attempt to save or reuse wood in satisfactory condition. As then, the replacement logs should match the existing in size, texture, configuration, construction technique, tools marks, and workmanship. See Structural Analysis for recommended log replacement.

Remove and replaced all the daubing mortar, reusing as much of the original sapling chinking as is salvageable.

Figure 65: The rake logs and porch beams are rotted from moisture penetration.

Figure 66: Very little of the original daubing mortar remains in the log walls.

Figure 67: The horizontal log joints are filled with saplings, against which the daubing mortar was packed.

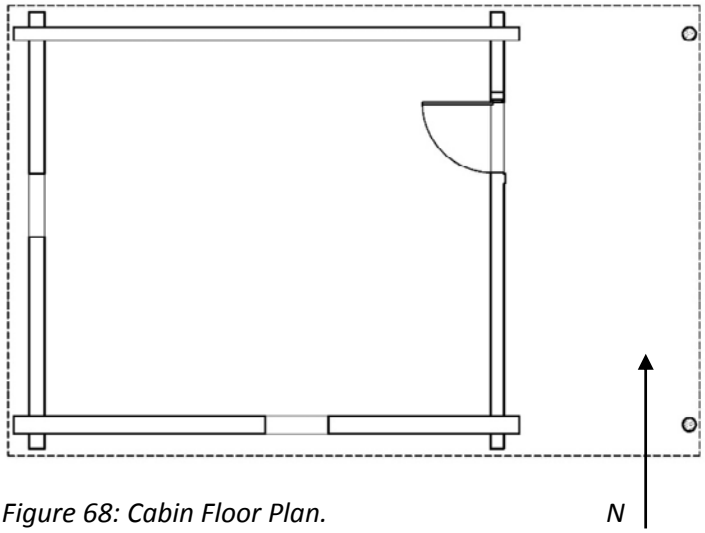

Figure 68: Cabin Floor Plan.

Figure 69: Bullet shells dated 1890 decorate one of the log ends.

Windows

Description

The Cabin has two window openings – one centered in the south elevation and one in the west. The south opening was originally 2'-9½" wide and 2'-3½" high. The west sash would have been 2'-4 ¾" wide and 2'-2½" high. No window sash, screens, or shutters remain in the openings. No trim remains at the west opening. There is no evidence of hardware.

The south opening is trimmed with 5½"-wide square stock boards. The bottom trim board is missing.

Condition

The south window opening was modified after the original construction, with the build-out of framing at the west jamb. This effectively reduced the width of the window to 2'-4½".

Recommendations

Modify the south opening to fit the original window size and provide two new wood casement sash fashioned after those in the Lodge. This is the best indication of what these window sash might have been like originally. Provide trim where missing. Provide exterior wooden shutters to protect the window glass and further deter entry into the Cabin.

Figure 70: The south window opening was reduced in width sometime after the original construction.

Figure 71: The west window opening is visible at the left side of this photograph.

Doors

Description

The Cabin has one Dutch door in the east façade, protected somewhat under the covered porch. The door construction is similar to the Dutch doors in the Lodge, with 7/8" tongue-and-groove boards sandwiched perpendicularly to each other and reinforced with interior ledger boards. The exterior boards are vertically oriented; the interior boards horizontally. Each leaf has two hinges for in-swinging operation. There is currently no latching. The door is 2'-8" wide and 6'-8" high.

The doorsill is approximately 4" below the level of the floor. The door is trimmed with 4½"-wide square stock boards that terminate at the log lintel above the door. The exterior of the top leaf is covered with hand-written penciled notes of visitors, ranch hands, etc., dating from 1928 through 1982.

Condition

The door rubs on the Cabin floor, yet it is difficult to tell if this is a hardware or structural sag. It is partially caused by a raised floor board. The door cannot be closed on locked. There is no visible damage to the door.

Recommendations

Secure the raised floor board to the structure and adjust the door as required. Consider installing a 4" sill/threshold below the door, to provide a more weathertight construction. Plane the door and adjust the hardware. Retain the hand-written notes as they are.

Figure 72: The Dutch door at the north entry into the Cabin.

Figure 73: The upper outside leaf of the entry door contains names and dates of visitors.

Figure 74: This interior view of the Cabin's entry door shows its construction.

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INTERIOR ARCHITECTURAL ASSESSMENT – HIRED HAND'S CABIN

General

The following assessment is presented from the top down to the base of the Hired Hand's Cabin (also referred to as the "Cabin").

The wood appears to be Spruce and none of the interior wood appears to have been finished with a protective coating.

The 1993-1994 preservation project was unable to include the Cabin.

Walls - Logs

Description

The interior log construction is similar to that in the Lodge, with log planks covering the horizontal joints between the logs. The logs tend to have more – but not much – bark remaining. There are remnants of wallpaper or shelf liners at a portion of the east and south walls in the southeast corner of the Cabin.

Condition

Very little daubing mortar remains in the joints, allowing considerable daylight and weather through the spaces between the logs.

Recommendations

Replace the logs where noted in the Structural Analysis. Logs removed from the building should have cross-sections saved and turned over to the Shoshone National Forest; dendrology can establish felling dates, resulting in a more accurate

Figure 75: The Cabin interior was fitted with a wardrobe, for protective storage, in the southwest corner.

construction date. Replace the daubing mortar, and any damaged planking members, in kind. The wallpaper or shelf paper should be examined closely for historic content.

Figure 76: Wallpaper or shelf paper remnants remain in the southeast corner of the Cabin.

Figure 77: A rough wood log cot is built into the northwest corner of the Cabin.

Flooring

Description

The wood puncheon floor boards span east-west across the log beam structure. Most of the boards were barely visible during the site visit.

Condition

The floor boards that are visible are generally in good condition. Several have loosed from the structure. This is probably due to the popping of rusting nails or moisture-generated expansion of the bottomside of the boards. The area directly beneath is filled high with dirt which can get moist. It should be expected that some of the boards are rotted.

Recommendations

Examine the flooring more thoroughly and be prepared to replace some board sections. Nail down the boards that have popped up. Remove built-up dirt from the crawlspace and lay site-gathered gravel to allow for drainage. See Structural Analysis for work on structural floor beams below.

Figure 78: Looking east towards the floor boards that have popped up near the entry.

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STRUCTURAL CONDITIONS ASSESSMENT

The following assessment is provided by Beaudette Consulting Engineers. The recommendations herein are included in the Summary of Prioritized Recommendations in the Executive Summary.

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August, 2015

Lesley Gilmore
CTA Architects
411 E Main St. #101
Bozeman, MT 59715

RE: Anderson Lodge Site Investigation

Dear Lesley,

As requested, we have completed a structural conditions assessment for the historic Anderson Lodge and nearby Hired Hand's cabin in the Washakie Wilderness in the Shoshone National Forest. Samantha Fox, EI, completed the assessment and this report. The site was visited during an overnight trip on July 12 and July 13, 2015. The findings and recommendations in this report are based on visual inspections made at the site. The 1991 US Forest Service "Anderson Lodge Preservation Stabilization Plan" was also heavily referenced. The following report is a summary of our general structural observations and initial recommendations.

We understand that this report is general in nature. We are at your disposal to discuss the options for structural retrofits of the lodge to provide a general stabilization or life-safety solution for the structure. A more in-depth structural analysis and design effort will be pursued upon your approval to create the necessary construction documents for this stabilization effort. Please contact us with any questions you may have at this time.

Sincerely,

Beaudette Consulting Engineers, Inc.

Jami Lorenz, PE

Samantha L. Fox, EI

Introduction

The intent of this investigation was to determine the general structural status of Anderson Lodge and the Hired Hand's Cabin and to develop recommendations for structural preservation stabilization. The 1991 US Forest Service Preservation plan consisted of a condition assessment of the structure as well as details and instructions for stabilization. Shortly after this report was published, some of the details for repairs were performed. However, many of them were not completed.

It is understood that the intent of this current project is to stabilize and preserve the cabin, not necessarily for occupancy, and that the methods of construction must follow applicable wilderness restrictions, i.e. no power tools, motorized vehicles or helicopter transport of materials. All materials used in the stabilization effort of the cabin must be packed in from the Jack Creek trailhead.

Anderson Lodge

Figure 1: Anderson Lodge east elevation.

Structural Description

Anderson Lodge was constructed around 1890 by A. A. Anderson and is a two-story log structure. The logs that make up the cabin were sourced from the forest nearby, and are thought to be mostly Spruce. The exterior wall logs are an average of 8 inches in diameter. The lodge is built on a slope such that the lower story at the North (uphill) end is crawlspace, while the lower story on the South (downhill) end is the original kitchen. The kitchen is separated from the unfinished crawlspace area by a full-height log wall that continues to the roof level. The upper story consists of a general living space to the north and a bedroom to the south. At the south elevation of the cabin is a two-story covered porch. The structural framing of the lodge is described below. Please also see Appendix A for existing framing plans.

Figure 2: Roof framing seen from the living room looking south.

Roof Framing

The roof structure consists of a 10-to-12-inch diameter log ridge and intermediate log purlins spanning north and south to log walls at the exterior at either end. They are intermediately supported by the middle log bearing wall that separates rooms at each level. Small diameter log poles span from the exterior walls at the east and west elevations to the interior ridge and purlins. These logs range anywhere from 4 to 5 inches in diameter, and are fit tight against one another. They overhang the log wall on either side approximately 2 feet.

Figure 3: Upper floor framing as seen from the kitchen looking northeast.

Floor Framing

The second floor framing at the south end of the building (the bedroom) consists of 8-inch-diameter log beams that span from the middle log partition wall at the north end of the room to the south exterior wall at approximately 8 feet on-center. Four-and-one-half-inch diameter joists span between the beams at 2 feet on-center. These log joists are notched down to approximately 3-inches at bearing locations. The floor planking consists of rough-sawn 2x members that span over the log joists.

Figure 4: Kitchen floor framing, looking west from the transition to the south porch.

The floor framing at the north end of the building (the living room) is much the same as that at the bedroom. Eight-inch-diameter log beams span from the interior partition wall at the south end of the room (crawlspace) to the exterior log wall at the north. These beams are also supported by a log column at their mid span in the crawlspace. Four-and-one-half-inch-diameter bark-on log joists span between beams at 2 feet on-center. The 2x planking that spans atop the log joists to make up the living room floor are not original. It is likely that it was installed during the 1991 renovations. There is a porch structure at the north end of the east side of the building. The floor structure of this porch can also be seen from the crawlspace and consists of smaller diameter floor joists that span from the easternmost exterior beam to the east beam of the crawlspace.

Figure 5: The South elevation of the lodge consists of the two-story porch. Photograph taken looking northeast.

The lower level floor (kitchen) floor framing appears to have

been re-done during the 1991 restoration work and can be seen in Figure 4. It too consists of a middle (assumed 8-inch-diameter) log beam spanning in the north-south direction with smaller diameter log joists spanning between beams. The middle beam is supported at mid-span with a small stone pier. The flooring in this case consists of approximately 6-inch-diameter logs hand-scraped to produce a flat surface at the floor, known as a puncheon floor.

The two-story porch at the south end of the lodge is shown in Figure 5.

A new stair had been constructed in 1991 to approximate a similar stair thought to be original to the structure. It consists of log stringers that span from a landing at the lower south porch to the upper north porch near the door into the living room. Half-logs make up the treads, and are set into notches in the log stringers.

Foundation

At the foundation level, the log walls and columns are supported on rubble stone piers as shown in Figure 6. These rubble stone piers are in various states of disrepair. During the 1991 restoration work, small concrete pads were placed below some of, but not all of, these stone piers. It does not appear as though any of the stone work contains a reinforced concrete core as detailed in the 1991 report. The existing dry-stacked stone piers are mostly 12 to 16 inches square, much smaller than those detailed in the same report. There do not appear to be any positive connections between log columns or walls and any foundation elements.

Figure 6: This rubble stone pier is located at the southwest corner of the kitchen and is supported by a concrete pad constructed during the 1991 repairs.

Where the base of the log walls does not reach the existing grade, vertical log skirting has been attached to the base of the log wall with long spikes. The base of the skirting bears directly on the soil.

Stone Fireplace and Chimney

The stone fireplace and chimney is located on the north (uphill) wall of the lodge. The rubble stone footing supports the base of the chimney and the wall logs that intersect it, as well as the main floor beam that supports the living room floor.

Condition Assessment

For its age, the lodge is in good condition. With the exception of the tails of the log poles at the roof overhangs as seen in Figure 7, there is little to no deterioration visible in any of the logs. During the 1991 repairs, several trees were felled nearby to produce logs to replace deteriorated members noted in the report. These logs are in good condition, and have experienced little to no deterioration since they were installed in 1991. Likewise, the chinking and daubing at the log walls was significantly repaired during the 1991 work and it has held up very well. Please see the architectural assessment for more information on the condition of the chinking and daubing throughout the structure.

Figure 7: Deteriorated log rafter tail (pole) ends at the east porch.

The biggest issue threatening the stability of the lodge is the condition of the site soils and the stability of the slope. The deformations seen in the lodge framing indicate that the slope is slowly sliding and the soil at the grade level is eroding around the structure as well as pulling it down-slope. There are many places were this displacement can easily be seen, and it was well-detailed in the 1991 report. There are clues that indicate that this erosion and displacement has continued to worsen since the assessments made in 1991.

Roof Framing

Many of the log pole tails at the roof overhangs are severely deteriorated. These log ends have been unprotected and exposed to the elements, so this level of deterioration is not surprising or unexpected. All of the pole ends at the east porch (Figure 7) were examined closely and penetrated with a screwdriver to ascertain the condition of the material and the extent of deterioration. This information was used to complete a visual assessment of the les accessible log ends.

Figure 8: Displaced log column in crawl space below the living room floor framing. Erosion in the crawl space has dislodged the column base from the footing element.

Floor Framing

Like the roof beams and purlins, the log beams and joists at the floor framing level are all in very good condition and show little to no sign of deterioration. Some of the connections should be repaired, however. The log-to-log connections are either bearing conditions or are connected with spike nails. While the bearing connections are adequate, some of the spike nails have pulled out in withdrawal. Spike nails have a very low withdrawal capacity, and are especially susceptible to failure in conditions exposed to moisture and temperature changes.

The log columns in the crawlspace that support the living room floor framing have been displaced and are no longer functional. This is the result of the slope eroding and displacing the column base. Because these log beams are no longer supported at mid-span, the floor above is perceptibly bouncy.

Figure 9: The 1991 stair is exposed to the elements. Logs are deteriorated and spiked connections have failed.

The 1991 log stair is exposed to the elements and has therefore seen some deterioration in the logs as well as the connections. As seen in Figure 9 and Figure 10, the top two treads have completely failed at the connection to the stringer due to rot at the bearing condition (Figure 10). Where the stingers connect into the porch logs at the top of the stair, the stringers have pulled away due to withdrawal of the spike nails.

Figure 10: Failed connection of the tread logs to the stringer due to rot.

Foundation

The lodge has minimal foundation elements. This was a major deficiency item identified in the 1991 report. While some repairs were completed at this time, the majority of the repairs identified in the report were not conducted. Due to the poor site soil conditions and erosion of the slope, the foundation elements that are in place are in poor condition and are not adequate to support the lodge. Many of the piers have been displaced or buried by the eroding soil, and some of the rubble stone piers are deteriorating.

Many of the spikes that have attached the vertical log skirting to the bottom of the log walls have pulled out in withdrawal. Much of the base of the log skirting has been pulled down-slope with the eroding soil. These deformations are visible, but are only a threat to the stability of the cabin where the vertical logs carry gravity loads.

Figure 11: Gap at stone chimney and north log wall.

Stone Fireplace and Chimney

The stone fireplace and chimney is in very good condition. It appears as though some of the mortar was repaired in the 1991 work. Interestingly, the mortar between the chimney and the wall logs was also repaired during this time, but a new significant gap has opened up since the last repair due to the movement of the lodge as previously described. At its widest, the opening is 2 and one-half inches, indicated the magnitude of displacement since 1991. At this same location, the cabin wall was measured to be 9 inches out of plumb.

Figure 12: Stone chimney as seen looking east.

Recommendations

The recommendations below are pursuant to stabilizing the structure to preserve it for years to come. It is not intended for the structure to be returned to its original condition or for it to necessarily be habitable.

It is understood that part of the project scope will be an effort to divert water away from the structure by manipulating the slope above the cabin site. Reducing the amount of runoff that reaches the cabin will aid in preventing further erosion and degradation of the existing and new foundations.

Roof Framing

The log repair for this stabilization effort will include only a specific number of the rafter tails at the roof overhangs. These tails should be repaired by removing the deteriorated sections and splicing the ends with a new log of similar diameter. Approximately 50% of the tails on the building will need to be replaced using a "Dutchman splice" detail.

Improving the roof coverings and edge details to divert water from entering the ends of the logs will help to prolong the life of these repairs and will prevent the further deterioration of existing rafter tails to remain.

Floor Framing

The living room floor will need to be stabilized. We recommend bypassing an intermediate pier altogether by replacing the current floor beams with larger diameter log beams that will span from the exterior bearing locations without the need of an intermediate support. Replacing the current beams will allow the reuse of the current bearing locations and will eliminate the need for additional new foundation elements. The log posts at the south log wall that supports these beams should be positively attached back to the log wall. This could be accomplished by using the connectors as described below at the top and bottom of the log column.

Log-to-log connections should be supplemented with threaded structural fasteners such as the OlyLog screw connector. These fasteners can be installed using a battery-operated power drill (if permitted) or a hand drill. These new connectors are particularly important for connections that currently do not have a bearing condition and rely on spikes in shear or withdrawal. However, bearing connections should also be supplemented with these connectors to prevent failure in the event of further movement of the structure.

The log stair is not stable and should be replaced. However, due to its exposure to the elements, historically correct log elements are likely to deteriorate quickly as they have in the past. Using pressure-treated members and better connections would certainly extend the life of a new stair, if it is deemed historically appropriate. The new connections should avoid using spikes in withdrawal, and instead use threaded structural fasteners and bearing connections. If historically appropriate log members are used, the lifespan of the stair will be significantly shorter.

Foundations

The repair of the foundations is the most critical to the longevity of the structure. There are two main options for foundation upgrades that should be considered for feasibility due to restrictions and transport of materials to the site. The first option is intended to serve as a solution for improving the foundations within the guidelines for wilderness-area restrictions. However the useful life of this option is less than would typically be desired or acceptable—say approximately 25 years. The second option is meant to provide a typical useful life of 50-plus years, but would require obtaining a variance from the wilderness to use methods not typically allowed in this area.

1. New rubble stone piers:
   This first option would be to retrofit and supplement the existing stone piers and to provide additional (new) stone piers as needed. We would recommend significantly increasing the number of piers in select locations under the log walls. New piers would be added at any location where log columns bear on the soil. This would also include the construction of concrete pad footings underneath the new stone piers, similar to those constructed in 1991. These pads would need to be reinforced with rebar brought into the site. The concrete and stone mortar would likely need to be packed in, but the intention of this solution is to produce a quarry near the site for the production of the stone. This solution would also include positively attaching the stone piers to the concrete pad footing below and to the wood structure above. At new pier locations, this would include casting a connector into the new concrete pad footing that would be mortared into the stone pier. At the top of the pier, a similar anchor would be mortared into the stone and screwed into the log element.

   While this solution would provide adequate bearing for the log elements and would minimize further deterioration, it does little in the way of resisting the movement of the slope. These piers are all relatively shallow, and would move with the soil as it continues to erode downhill. However, the added piers would provide additional redundancy, so that the failure or movement of an individual pier would have less of an effect on the entire structure. Additionally, adding positive connections from the piers to the log structure would prevent the log members from becoming dislodged and collapsing due to the movement of the piers. Finally, it is the intention of the site remediation to minimize the future movement of the slope by diverting water away from the cabin site.

   It is worth noting that the 1991 report recommended the construction of a new retaining wall using pressure-treated lumber in the crawlspace. This retaining wall was never constructed. However, the measures taken at the time of the repairs to remove soil away from the full-height kitchen wall have so far been effective in keeping the eroding soil away from these logs. They show no signs of deterioration.

2. New reinforced concrete or CMU foundations:
   The second option for foundation repairs would be to provide the foundation elements described above out of reinforced concrete and/or CMU. This option would provide the best solution for longevity and stability of the structure, and would typically be pursued for structural stabilization outside of a wilderness area. However, it would require more material than would be feasible to pack into the site, and would therefore necessitate the use of a helicopter to transport materials. Creating new reinforced concrete or CMU foundation walls, piers and footings would help resist the movement of the slope and protect the lodge from further displacement due to the eroding soil. These elements would also be able to better resist lateral movements of the structure due to wind and seismic loading.

   It should be noted that both options will require some amount of hand-excavation below existing elements in order to construct new foundations. This will require temporary shoring of existing structural elements as necessary during construction.

Stone Fireplace and Chimney

The stone fire place and chimney should be maintained as-is. The gap between the chimney and the log wall should be sealed as detailed in the architectural assessment.

Hired Hand's Cabin

Figure 13: The cabin as seen from the east.

Structural Description

The hired hand's cabin is a small rectangular log cabin northeast of Anderson Lodge. There is a small porch roof at the west end of the cabin near the cabin entrance. The wall logs are similar to those at the lodge, and are 8 inches in diameter on average. The cabin is in serious disrepair, but is also slated for rehabilitation for structural stabilization purposes.

The roof framing consists of an 8-inch-diameter log ridge beam and intermediate purlins that span from the exterior log walls at the east and west elevations. Log poles spans from the exterior bearing walls continuously over the intermediate purlins to bear on the ridge beam. The majority of these logs are between 3 and one-half and 4 inches in diameter, but are as small as 2 and one-half inches in diameter at the porch roof.

The floor framing consists of log beams bearing directly on grade. Three-and- one-half to four-inch floor boards span across these logs. There are no foundation elements at this building.

Condition Assessment and Recommendations

The wall logs that make up the bottom half of the west (back) wall of the cabin are deteriorated. These deteriorated wall logs should all be replaced in-kind, beginning at the base of the gable (first full-length log) to the base of the wall. This replacement of the wall logs will require the reconstruction of the existing window opening in-kind. All of the sill logs are deteriorated on the other three walls where they bear directly on grade and should be replaced in-kind and in conjunction with foundation upgrades.

Figure 14: The wall logs at the west elevation are deteriorated and should be replaced.

Most of the chinking and daubing between the logs has deteriorated as well. This should be repaired per the architectural recommendations to help protect the logs in the future.

Figure 15: Roof poles at the overhangs are severely deteriorated.

Figure 16: Small diameter logs were brought to the site during the 1991 repair work.

Figure 17: Cabin interior as seen from the west entrance.

The roof ridge and purlins at the cabin are in fair condition, but the log roofing poles are severely deteriorated and should be replaced in total. All existing roofing materials and poles will be removed and new roofing pole members installed. These members should be positively connected to the existing beams, purlins, and wall logs with threaded structural fasteners such as the OlyLog screw connector or long spike nails. New roofing (finish) materials will prevent the future deterioration of these new members. The entire porch roof framing system is deteriorated and should be replaced in-kind. New ridge and purlin logs should be spliced with the main cabin ridge and purlin logs, and the truss at the front of the porch should be totally replaced in-kind.

During the 1991 repairs, small-diameter (around 4 inches in diameter) logs were brought to the site. These logs were presumably slated for use in the repair of the roof poles. Many of these logs remain in good condition, and could be used in future repair work. Any logs used must be inspected and free of deterioration. Smaller diameter logs would be more historically appropriate at the porch roof.

The cabin floor framing is deteriorated. There are no foundation elements supporting the floor framing. While there are no problems with slope stability or erosion at this site like at the lodge site, we would recommend adding foundation elements to stabilize and protect the new floor framing. These elements could be similar to those introduced at the lodge and are needed to support the wall logs at each corner at a minimum as well as the floor beams and front porch columns.

Appendix A

APPENDIX

Appendix A – BCE Structural Drawings of Recommended Work

Product Literature for Titanium UDL 30 Underlayment

Construction Cost Estimate

National Register Nomination

Anderson Lodge (48PA250) NRHP District: 2014 Supplemental Documentation

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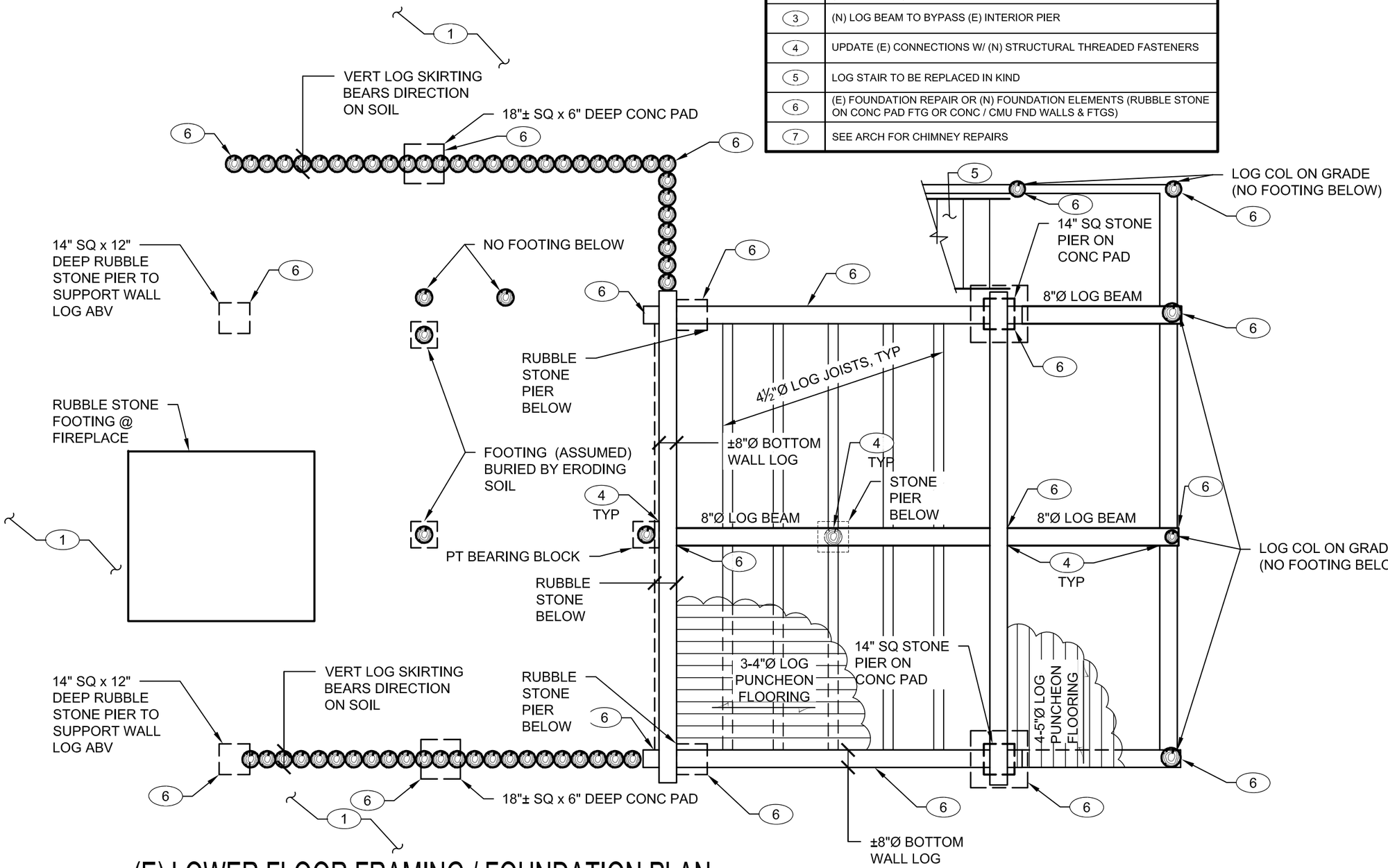
REPAIR NOTES

MARK	DESCRIPTION
1	SITE UPGRADES BY OTHERS
2	(N) DUTCHMAN SPLICE @ DETERIORATED TAILS PER DETAIL ATTACHED (ASSUME 50%)
3	(N) LOG BEAM TO BYPASS (E) INTERIOR PIER
4	UPDATE (E) CONNECTIONS W/ (N) STRUCTURAL THREADED FASTENERS
5	LOG STAIR TO BE REPLACED IN KIND
6	(E) FOUNDATION REPAIR OR (N) FOUNDATION ELEMENTS (RUBBLE STONE ON CONC PAD FTG OR CONC / CMU FND WALLS & FTGS)
7	SEE ARCH FOR CHIMNEY REPAIRS



(E) LOWER FLOOR FRAMING / FOUNDATION PLAN

SCALE: ¼"=1'-0"

0' 2' 4' 8'

bce STRUCTURAL
(406) 721-7315

Anderson Lodge, Shoshone National Forest, WY

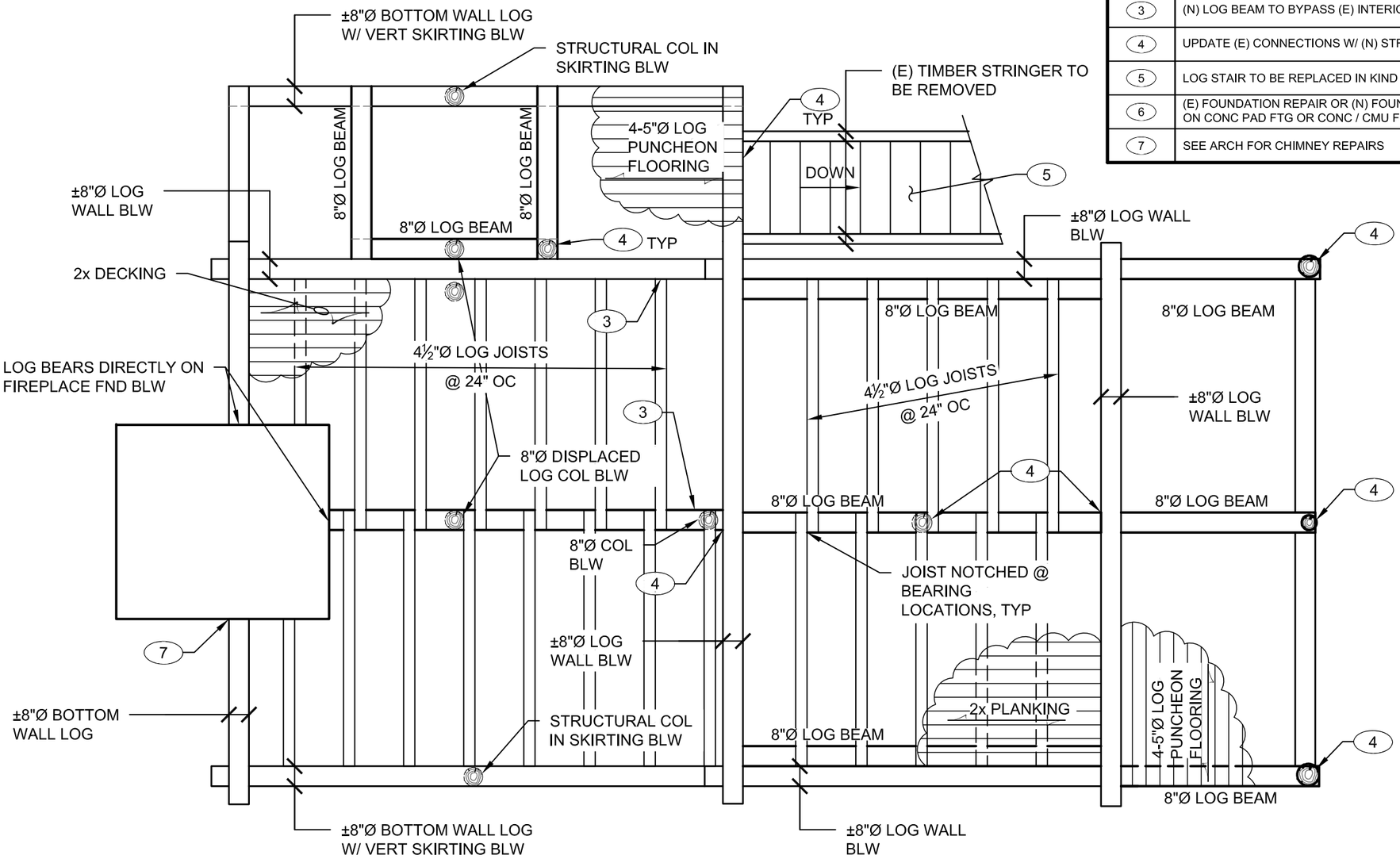
XX	09/17/2015 ISSUE

PROJECT NO.:	15-605
DRAWN BY:	JRM
CHECKED BY:	JML

(E) LOWER FLOOR FRAMING / FND PLAN

S1

SCHEMATIC - NOT FOR CONSTRUCTION



(E) UPPER FLOOR FRAMING PLAN

SCALE: ¼"=1'-0"

0' 2' 4' 8'

REPAIR NOTES

MARK	DESCRIPTION
1	SITE UPGRADES BY OTHERS
2	(N) DUTCHMAN SPLICE @ DETERIORATED TAILS PER DETAIL ATTACHED (ASSUME 50%)
3	(N) LOG BEAM TO BYPASS (E) INTERIOR PIER
4	UPDATE (E) CONNECTIONS W/ (N) STRUCTURAL THREADED FASTENERS
5	LOG STAIR TO BE REPLACED IN KIND
6	(E) FOUNDATION REPAIR OR (N) FOUNDATION ELEMENTS (RUBBLE STONE ON CONC PAD FTG OR CONC / CMU FND WALLS & FTGS)
7	SEE ARCH FOR CHIMNEY REPAIRS

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Anderson Lodge, Shoshone National Forest, WY

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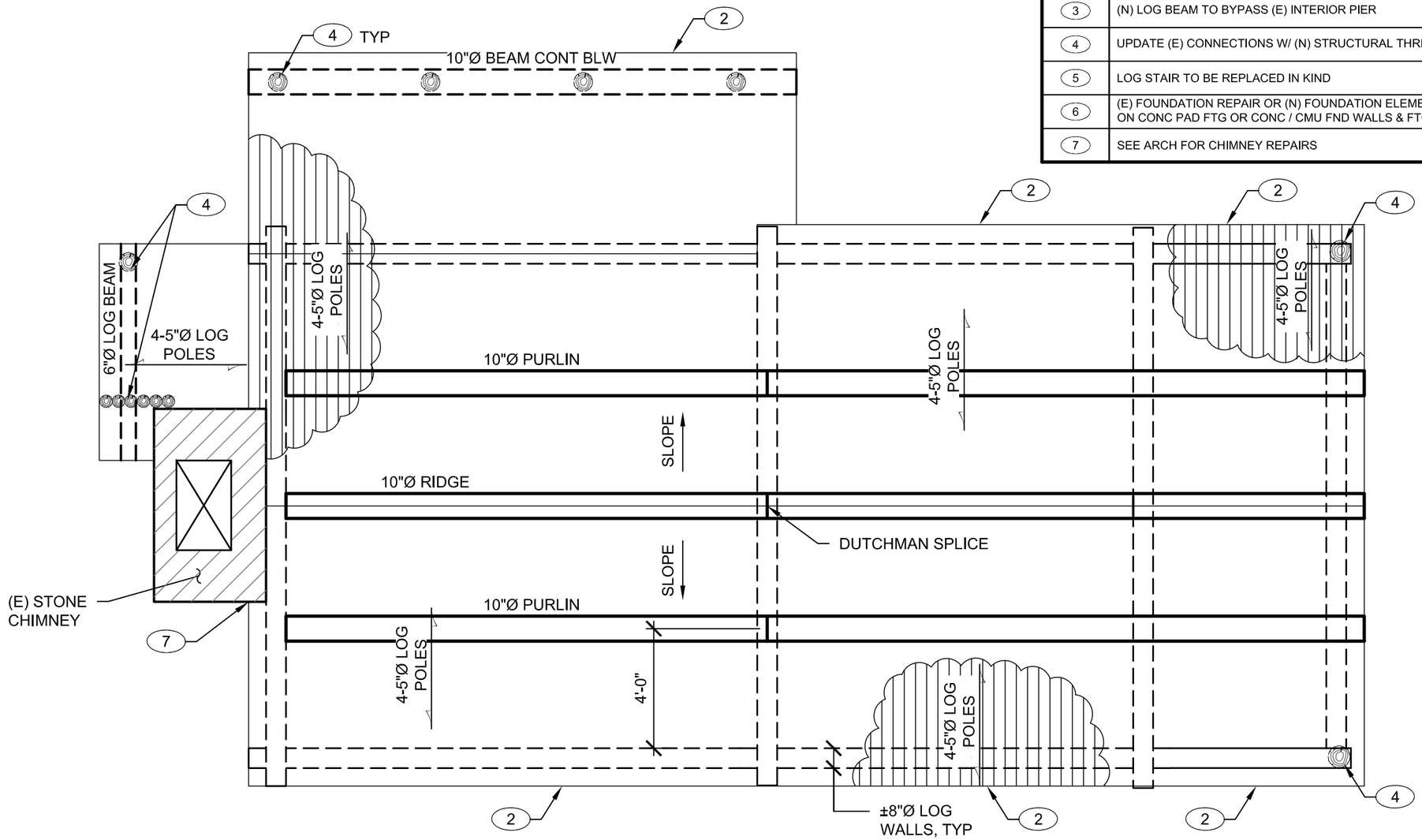
(E) UPPER FLOOR FRAMING PLAN

S2

SCHEMATIC - NOT FOR CONSTRUCTION

REPAIR NOTES

MARK	DESCRIPTION
1	SITE UPGRADES BY OTHERS
2	(N) DUTCHMAN SPLICE @ DETERIORATED TAILS PER DETAIL ATTACHED (ASSUME 50%)
3	(N) LOG BEAM TO BYPASS (E) INTERIOR PIER
4	UPDATE (E) CONNECTIONS W/ (N) STRUCTURAL THREADED FASTENERS
5	LOG STAIR TO BE REPLACED IN KIND
6	(E) FOUNDATION REPAIR OR (N) FOUNDATION ELEMENTS (RUBBLE STONE ON CONC PAD FTG OR CONC / CMU FND WALLS & FTGS)
7	SEE ARCH FOR CHIMNEY REPAIRS



(E) ROOF PLAN

SCALE: ¼"=1'-0"

0' 2' 4' 8'

bce STRUCTURAL
(406) 721-7315

Anderson Lodge,
Shoshone
National Forest,
WY

XX	09/17/2015 ISSUE

PROJECT NO.:	15-605
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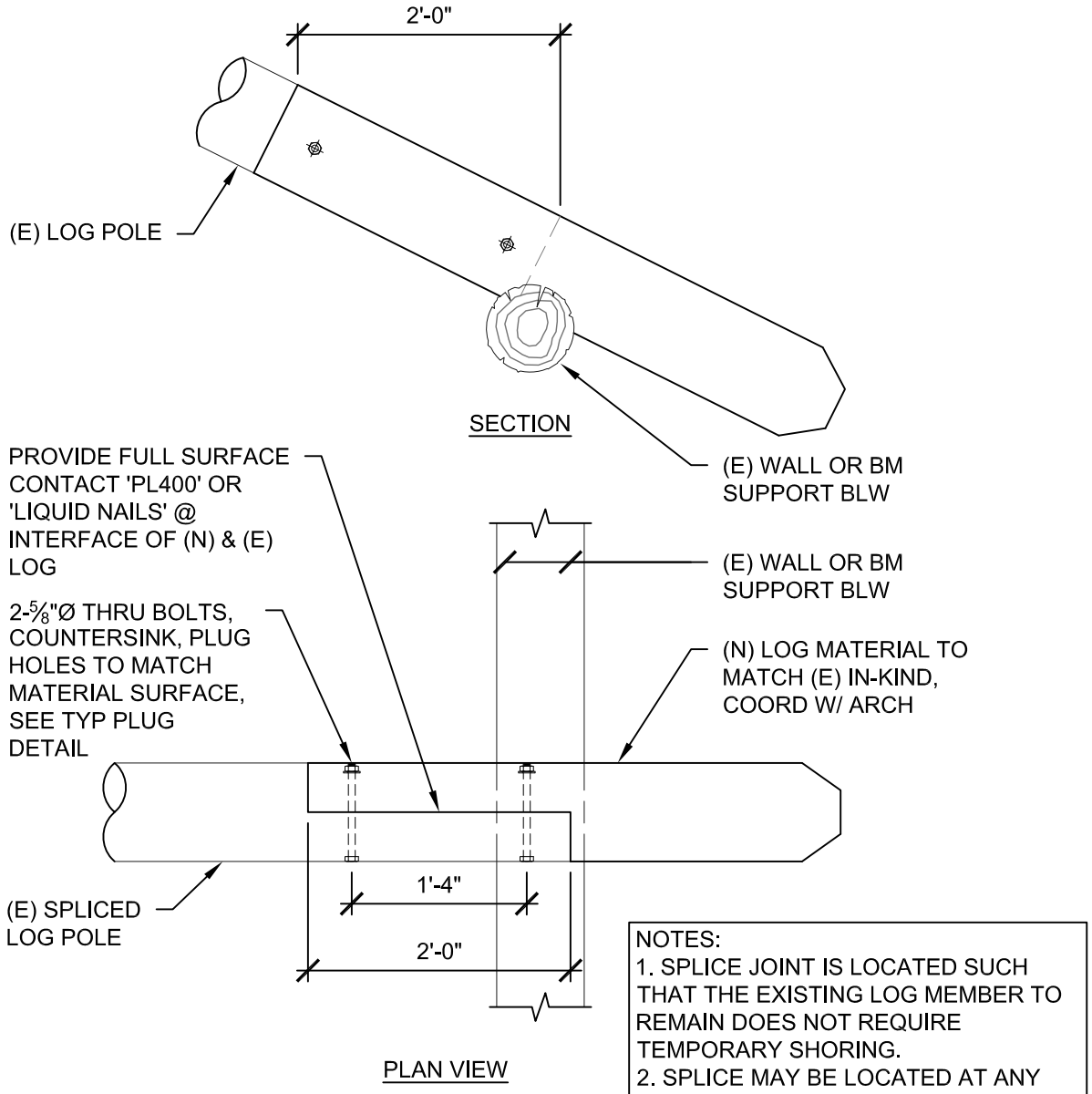
CHECKED BY:	JML

(E) ROOF PLAN

S3

SCHEMATIC - NOT FOR CONSTRUCTION



NOTES:
1. SPLICE JOINT IS LOCATED SUCH THAT THE EXISTING LOG MEMBER TO REMAIN DOES NOT REQUIRE TEMPORARY SHORING.
2. SPLICE MAY BE LOCATED AT ANY EXTERIOR LOCATION ALONG MEMBER AT GABLE OVERHANG.

1

TYP DUTCHMAN SPLICE

SCALE: NTS

bce
STRUCTURAL
BEAUDETTE CONSULTING ENGINEERS, INC.
(406) 721-7315

Anderson Lodge, Shoshone National Forest, WY

XX	09/17/2015 ISSUE

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CHECK BY:	JML
PROJECT NO.:	15-605

S4

(Re 8-86)

No Rpt

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name: Anderson Lodge
other names/site number: 48PA250

2. Location

street & number: Greybull Ranger District, Shoshone National Forest ☐ not for publication
city, town: Meeteetse ☒ vicinity
state: Wyoming code: 056 county: Park code: 029 zip code: 82433

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
		Contributing	Noncontributing
☐ private	☐ building(s)	1	1 buildings
☐ public-local	☒ district	1	sites
☐ public-State	☐ site		structures
☒ public-Federal	☐ structure		objects
	☐ object	2	1 Total

Name of related multiple property listing:

Number of contributing resources previously listed in the National Register

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ☒ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☒ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of certifying official — Date

State or Federal agency and bureau

In my opinion, the property ☒ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of commenting or other official — Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

☐ entered in the National Register. ☐ See continuation sheet.
☐ determined eligible for the National Register. ☐ See continuation sheet.
☐ determined not eligible for the National Register.
☐ removed from the National Register.
☐ other, (explain:)

Signature of the Keeper — Date of Action

6. Function or Use

Historic Functions (enter categories from instructions)	Current Functions (enter categories from instructions)
DOMESTIC/single dwelling	WORK IN PROGRESS
RECREATION & CULTURE/artist's studio	
AGRICULTURE/ranch outbuilding	
GOVERNMENT/administrative site	

7. Description

Architectural Classification (enter categories from instructions)	Materials (enter categories from instructions)
OTHER: log multiroom dwelling	foundation log
	walls log
	concrete chinking
	roof log/tin
	other stone/brick fireplace

Describe present and historic physical appearance.

The Anderson Lodge site (48PA250) is located in the Washakie Wilderness, of the Absaroka Mountains, east of Meeteetse, Wyoming (Figures 1 and 1A). It has been designated a district in order to distinguish contributing from noncontributing structures and features. The site consists of a two story, multiroom, log cabin called the Anderson Lodge or Studio (the only contributing structure), plus a single room log cabin about 200 meters to the east, and several features directly associated with the lodge: an outhouse, two small log footbridges on the path to the outhouse, a developed spring, and a pole corral attached to the lodge (Figure 2). In addition, the site includes the historic scene in the immediate vicinity around the lodge and cabin (a contributing feature).

The wilderness setting of Anderson Lodge is a contributing feature to its significance; it is consistent with the historic scene related to the lodge's construction and to its ties to the beginnings of a national conservation program. The environment around Anderson Lodge is a "V" shaped canyon or mountain valley along Vick Creek, a tributary of Anderson Creek, which flows into the Greybull River (Figure 1). At the lodge location, Vick Creek flows eastward; its canyon walls are moderately steep slopes. South facing dry slopes are vegetated with grasses, mixed with forbs and sagebrush. North facing slopes are dominated by spruce-fir forest. The narrow creek bottom is vegetated with willow and other riparian species.

Anderson Lodge lies at an elevation of 9,080 feet, on the lower south facing slope, just north of the creek. The lodge structure is on sloping grassland, but its south (or porch) end abuts spruce-fir forest and riparian habitat adjacent to the creek. The single room log cabin, which lies approximately 200 meters east of the lodge, sits on dry grassland, well above the creek.

Anderson Lodge is a two story, saddle notched, log cabin. Its upper or main level contains two rooms, a living and a sleeping room, plus a fully screened porch, used as a painting studio. Its lower level contains a kitchen (below the sleeping room), and a partially screened porch (below the studio porch). Access between the two levels if from the outside only. The lodge is built on a slope, so the area below the living room is sloping earth, not another room. (See Figures 3-7.)

The lodge superstructure is constructed with locally procured logs. It has axe hewn, saddle-notched cornering, on sawn end logs. The fireplace is of roughly dressed stone. Imported cement mixed with local materials is used for fireplace mortar and exterior log chinking. Many internal features and fixtures are of materials hauled in from outside the area.

[X] See continuation sheet

Generally, the lodge is in fair to good condition, with structural features intact. Some settling has occurred, due to its location on a hillside. Some minor detailing has been altered since its construction.

Other features are part of the the lodge complex. A pole corral is attached to the north end of the lodge; it is a more recent addition. A wood frame and tar paper outhouse is located about 20 meters west of the lodge; this structure is also relatively recent. Two small, flat-to-the-ground, log footbridges span marshy spots around the developed spring, on the trail between the lodge and the outhouse. None of these features contribute to the significance of site architecture or history.

A single room, "V" notch, log cabin lies about 200 meters east of the lodge (Figures 2 and 8). This structure is of typical, vernacular, Rocky Mountain Cabin styling; its gabled roof extends over the entrance (east) end of the cabin to form a covered porch work area (no finished floor). This ancillary structure may have been a dwelling for ranch hands or other workers; it is now used as a storage shed. It does not contribute to the significance of site architecture.

The long term management plan for Anderson Lodge is to put it to adaptive use as a wilderness guard station and to maintain its historic character. A stabilization plan is presently being developed for the lodge. A field trip is planned for the summer of 1987 to evaluate stabilization needs (primarily related to structure settling on the hillside), and to prepare measured illustrations (using terrestrial photogrammetry) as a baseline for stabilization measures.

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:

[X] nationally [ ] statewide [ ] locally

Applicable National Register Criteria [X] A [X] B [X] C [ ] D

Criteria Considerations (Exceptions) [ ] A [ ] B [ ] C [ ] D [ ] E [ ] F [ ] G

Areas of Significance (enter categories from instructions)	Period of Significance	Significant Dates
Conservation	1891 - 1907	1891 - 1907
Government	1891 - 1907	1891 - 1907
Architecture	1890 - 1906	1890

Cultural Affiliation

N/A

Significant Person

Anderson, Abraham Archibald

Architect/Builder

Anderson, Abraham Archibald

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

The Anderson Lodge site (48PA250) is a cultural resource with quality of significance in American history that meets three criteria of National Register eligibility. Criterion A) the site is associated with events important to broad patterns of history: the national conservation movement and development of the USDA Forest Service governmental agency, from 1891 to 1907. Criterion B) it is associated with a person of national and local significance: A. A. Anderson, instrumental in development and management of the first national Forest Reserves, from 1901 to 1906, and an artist and rancher of local importance. Criterion C) it embodies distinctive characteristics of construction and use: the unique, two story, multiroom, log lodge built in 1890 and used as artist's studio, ranch outbuilding, and Forest (Reserve) administrative site. Anderson Lodge is one of the few extant administrative structures directly tied to development of the first National Forest (Timberland/Forest Reserve), built by the first and only Special Superintendent of Forest Reserves, and within and administered by the USDA Forest Service, Shoshone National Forest.

An Act of Congress on March 3, 1891, allowed the president to set aside reserves of timberland by proclamation. What is now the Shoshone National Forest was first set aside as part of the Yellowstone Timberland Reserve--the first forest reserve--proclaimed by Benjamin Harrison on March 30, 1891. An Act of Congress June 4, 1897, authorized direct administration of the forest reserves, which were placed under authority of the General Land Office, Department of Interior (Rose 1986).

At the Turn of the Century, A. A. Anderson, an influential easterner who owned a ranch and retreat along the Greybull River, adjacent to the Yellowstone Timberland Reserve, actively involved himself--after observing uncontrolled burning and grazing abuses--in the conservation movement related to the reserves. He discussed his concerns with President Theodore Roosevelt, who, a short time later, expanded (and renamed) the Yellowstone Forest Reserve on May 22, 1902, and appointed A. A. Anderson Special Superintendent of Forest Reserves, July 1, 1902. Anderson actively managed the expanded Yellowstone Forest Reserve, which then included what is today portions of the Shoshone, Bridger-Teton, Targhee, and Gallatin National Forests. Anderson continued as Special Superintendent until after transfer of the reserves to the Department of Agriculture, into the newly established Forest Service, February 1, 1905. Anderson resigned in 1906. The reserves were redesignated National Forests in 1907 (Ibid.).

[X] See continuation sheet

Abraham Archibald Anderson was born to a wealthy family in New Jersey in 1847; he died in 1940. His family wealth allowed him the freedom to develop his interests and talents. Having chosen a career as an artist, he studied and worked in Paris. In about 1883, during a summer sojourn in the States, Anderson traveled to the Greybull River and mountain area to hunt and explore. Fascinated by the country he saw, and embroiled in a test of wills with a rancher in the valley, he decided to establish a residence at the head of the valley, adjacent to the mountains; this became Palette Ranch, No. 1. Anderson maintained residences in Wyoming, New York, and Paris. On the Palette Ranch, Anderson ran a herd of about 1,000 head of cattle; but he used the ranch personally as a retreat and a place to paint, making frequent and lengthy trips there (Ibid.).

In 1890, Anderson constructed a special artist's studio--the Anderson Lodge (48PA250)--up one of the side canyons of the Greybull River, about six miles west of his main ranch headquarters. During one summer's vacation from study and work in Paris, Anderson brought along two female models, for nude figure portaiture, to this mountain retreat. Local cowhands named an adjoining creek "whorehouse," after the reputed activities at the studio; today Warhouse Creek and Warhouse Trail (which accesses Anderson Lodge) serve as remainders of these colorful sidelights (Ibid.).

From his ranch and trips into the adjacent mountains, Anderson could see devastation wrought by unsupervised grazing, particularly from sheep. Forage was destroyed, and timber stands were deliberately burned to create new forage and easier herding, thereby destroying watersheds. During the winter of 1901-1902, Anderson joined the campaign in Washington for conservation of the resources already supposedly reserved. He discussed his concerns with President Theodore Roosevelt, and presented a map for a new boundary for the Yellowstone Timberland Reserve. Soon thereafter, Roosevelt enlarged and renamed the Yellowstone Forest Reserve, and appointed Anderson Special Superintendent. Anderson immediately set about surveying the 13,000 mile reserve boundary; this he accomplished with a small crew in three month's time. He then set about redistricting the reserve, appointing new supervisors, tackling the grazing problems, and, in general, managing his new domain. Operating out of the Palette Ranch, and its outbuildings (such as Anderson Lodge), as headquarters, he closely supervised this developing forestry program, until shortly after its transfer to the Department of Agriculture (Ibid.).

9. Major Bibliographical References

Anderson, A. A. 1933. Experiences and Impressions: The Autobiography of Colonel A. A. Anderson. Books for Libraries Press: Freeport (NY).

Frost, Ned. 1969. Palette Ranch, No. 1: A. A. Anderson Ranches, Headquarters. National Register of Historic Places Inventory, Nomination Form. Manuscript on file with the Wyoming State Historic Preservation Office, Cheyenne. (Never nominated.)

Murray, Robert A. 1980. A History of Shoshone National Forest. Manuscript on file with the Shoshone National Forest, Cody.

Rose, Judy A. 1986. Cultural Resource Evaluation of Anderson Lodge (48PA250), Park County, Wyoming. Manuscript on file with the Wyoming State Historic Preservation Office, Cheyenne.

☐ See continuation sheet

Previous documentation on file (NPS):

- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____

Primary location of additional data:

- ☒ State historic preservation office
- ☐ Other State agency
- ☒ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other

Specify repository: Wyoming SHPO & Shoshone Nat'l Forest

10. Geographical Data

Acreage of property five (5) acres

UTM References

	Zone	Easting	Northing
A	12	6 2 5 4 9 0	4 8 8 4 1 4 0
B			
C			
D			

☐ See continuation sheet

Verbal Boundary Description

The Anderson Lodge site (48PA250) consists of the Anderson Lodge building and its immediate site, including several noncontributing structures and features, and the local historic scene, as mapped with delineated boundaries on Figures 1 and 2, totaling five acres. Legal description: SE¼, NE¼, NW¼, and the SW¼, NW¼, NE¼, Section 26, T. 48 N., R. 105 W., 6th Principal Meridian.

☐ See continuation sheet

Boundary Justification

The boundaries of Anderson Lodge site are arbitrary but include all man made or altered features in the immediate site location, plus the local historic scene, which is representative of the surrounding wilderness.

☐ See continuation sheet

11. Form Prepared By

name/title Judy A. Rose, Wyoming Zone Archeologist

organization Medicine Bow National Forest date April 15, 1987

street & number 605 Skyline Drive telephone 307-745-8971 (8-328-0471)

city or town Laramie state Wyoming zip code 82070

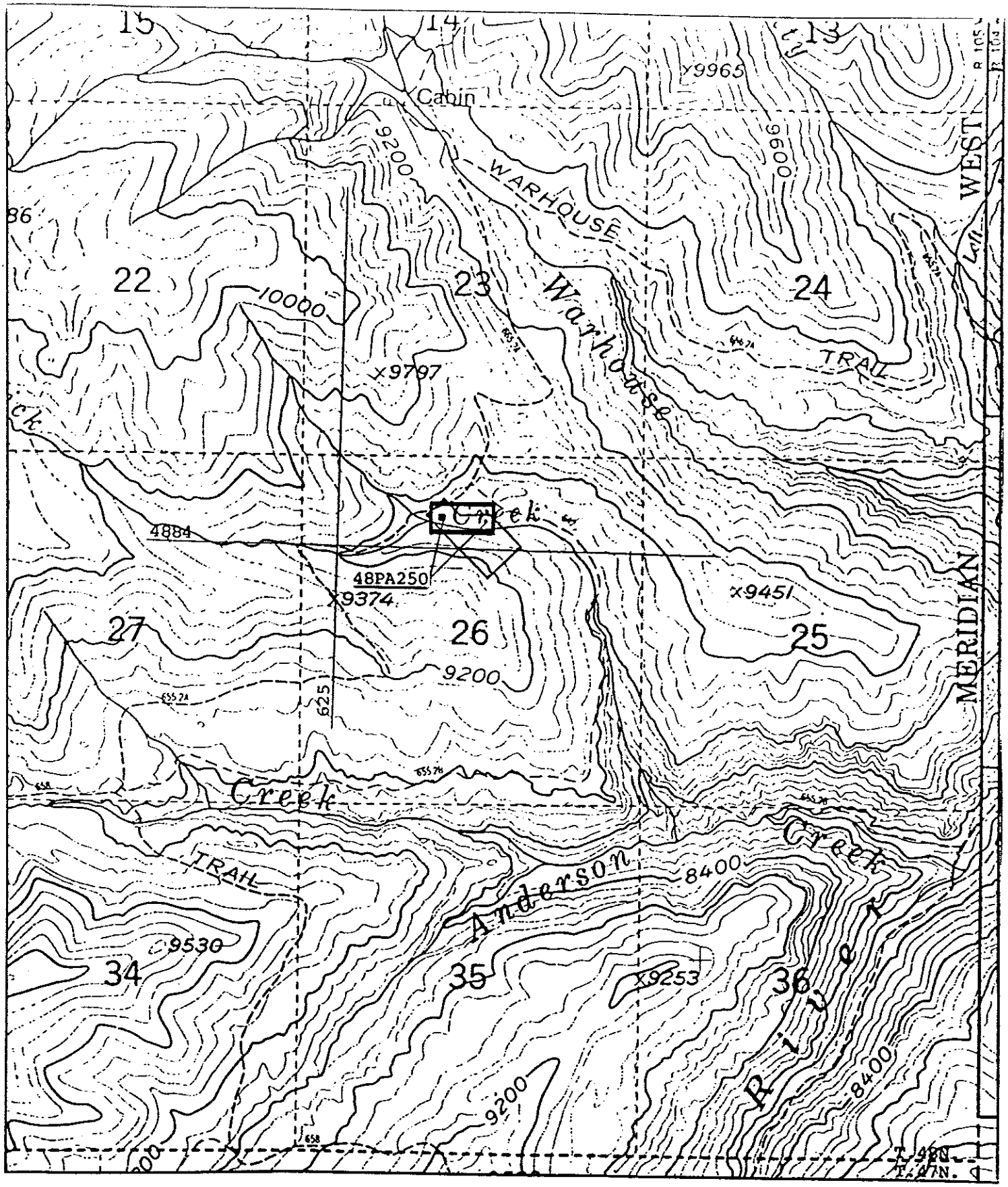
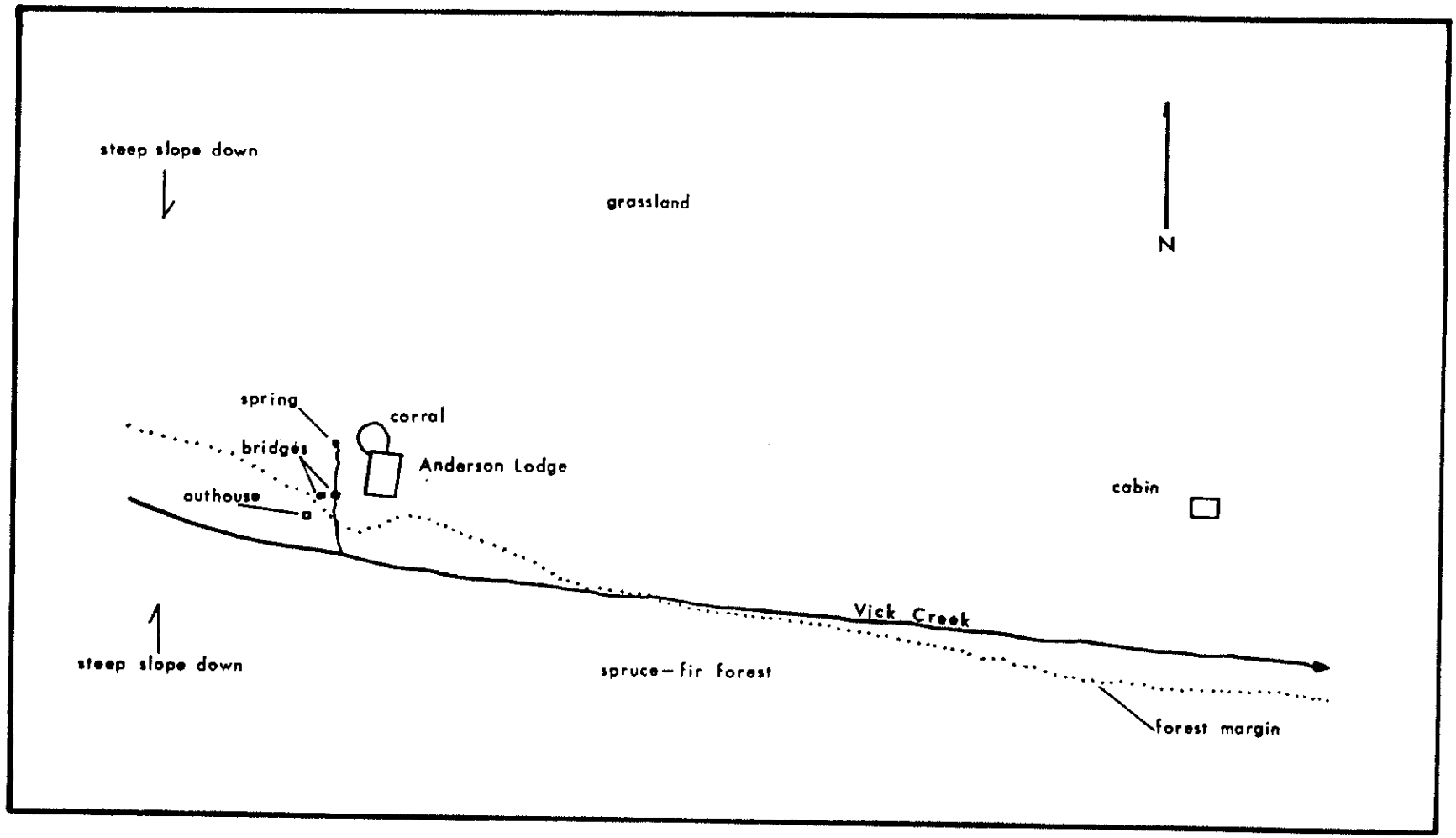


FIGURE 1A: Location of Anderson Lodge Site (48PA250)
From: Irish Rock SW, WY; USGS 7.5' Quadrangle, intermediate edition
Map not yet available from USGS; sections photogrammetrically overlaid
48PA250: Anderson Lodge = small square; cabin = dot
Site boundary = heavy rectangular border around cabins



0 25 50 m

0 82.5 165 ft

FIGURE 2: Sketch Map of Anderson Lodge Site (48PA250)

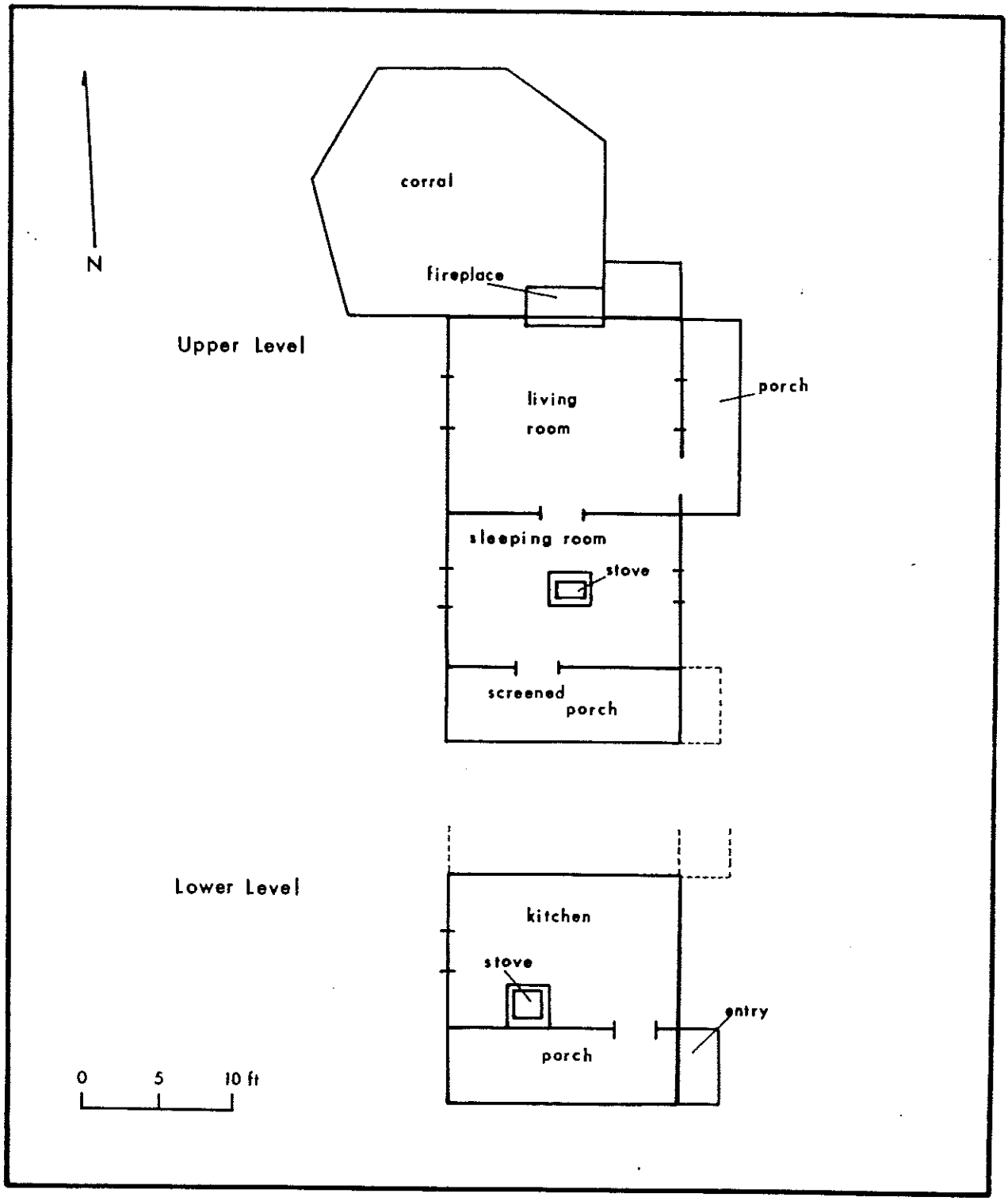


FIGURE 3: Plan Drawing of Anderson Lodge

CTA Architects Engineers
411 East Main Street, Suite 101
Bozeman, MT 59715
406.556.7100

Beaudette Consulting Engineers
1289 Stoneridge Avenue
Bozeman, MT 59718
406.556.8600