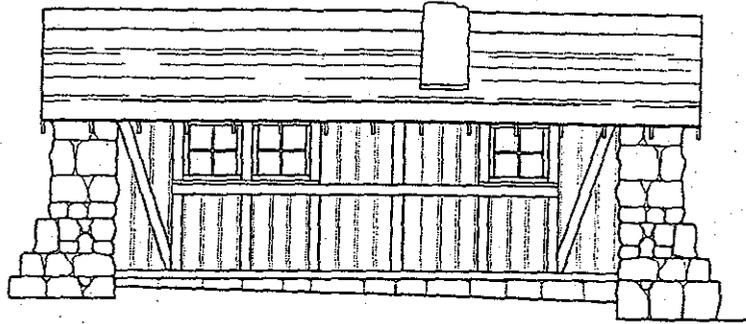
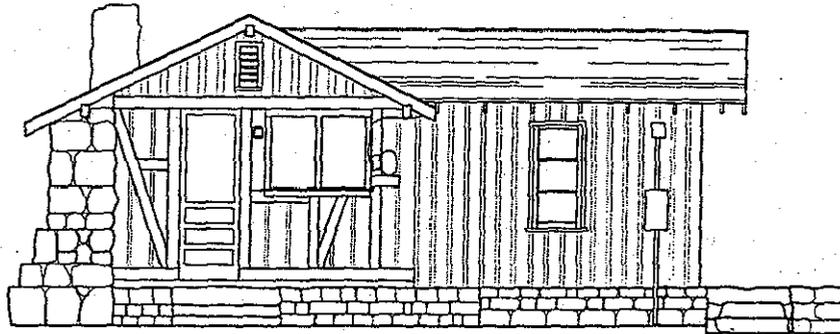


Indian Garden Trail Caretaker's Residence

Historic Structure Report



4 EAST ELEVATION - EXISTING CONDITIONS
A-A SCALE ①



3 NORTH ELEVATION - EXISTING CONDITIONS
A-A SCALE ①

GRAND CANYON

National Park • Arizona

RECOMMENDED
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April 23, 2001

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April 30, 2001

Cover: North & East Elevations from HSR Drawings

Indian Garden Trail Caretaker's Residence

Historic Structure Report

prepared for the
National Park Service

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San Francisco

GRAND CANYON
National Park • Arizona

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I. EXECUTIVE SUMMARY AND ADMINISTRATIVE DATA

Built in 1932, the former trail caretaker's residence at Indian Garden on the Bright Angel Trail of the Grand Canyon National Park is an excellent example of the classic rustic style architecture developed by the Landscape Division of the National Park Service, under the direction of Thomas Chalmers Vint, in concert with the Civilian Conservation Corps (CCC). Originally built as a one-story, two-room stone and wood-frame cabin for the trail caretaker, the building exhibits fine craftsmanship and incorporates familiar materials from the landscape. The cabin's simple design was enhanced visually and fortified by monumental stone corner piers, two of which are extant.

A small-scale rustic building, the former residence is in perfect alignment with the historical precedence of construction at Indian Garden and it compares favorably with Western tourist-oriented buildings that have come before: small-scale temporary structures, tents, cottages, mule-barns, cabins, and cabanas. The building's significance is derived as much from its location at Indian Garden, a site rich in history, as from its construction. The inner canyon site has been long associated with native American tradition and nineteenth century explorers and entrepreneurs who settled in the area. The Bright Angel Trail is one of the most well-known footpaths in the world, used by over 150,000 hikers and mule riders annually. In addition, the building is significant as a remnant of the Civilian Conservation Corps building campaigns of the 1930s.

Now known as the SAR Cache Building, and used principally for storage of equipment, the structure sits within a cluster of mature trees to the west of the Bright Angel Trail, and is paired with another residential small-scale building, the Pump Caretaker's residence of 1943. Indian Garden is distinguished as one of the few sites within the canyon that is naturally visitor-friendly providing shade and its own water source from underground springs. At four-and-a-half miles below the South Rim, the site is a natural stopping point for hikers and for mule trains, a long familiar symbol of the tourist industry at the Grand Canyon. Though the area surrounding Indian Garden benefits from amenities both natural and NPS-provided, such as unparalleled scenery and convenient rest stops, it is, in general, somewhat haphazardly organized and lacks focus.

The rehabilitation of this underutilized building provides an interesting opportunity to create a park presence below the rim and make much better use of the existing structure and site. Ideally, this pair of buildings with a landscaped central courtyard could easily be transformed into an oasis, a purposeful destination point for day trippers from the South Rim. The focus of the project will be geared towards maintenance, repair and site development, rehabilitating the landscape, and providing shelter and shade structures to cool the area.

The focus of the Historic Structure Report for the Indian Garden trail caretaker's residence has been to outline historical background and contexts; outline building developmental history, use, and alterations; preparation and update of existing conditions drawings; conduct a condition assessment; and to develop conceptual use plans and cost estimates. The document defines the elements that give Indian Garden its architectural character and attempts to convey its significance.

The contents of this Historic Structure Report (HSR) are:

- a concise historic context associated with the building and its builders;
- a detailed chronology of building development including alterations and maintenance through time;
- an evaluation of the period of significance, historic integrity, and historic significance of the structure;
- a list of character-defining features;
- an evaluation of building conditions;
- structural and mechanical assessments; and,
- updated existing conditions drawings.

The historical research portion of the report is based primarily on existing historical source material at the Grand Canyon National Park Archives and other materials made available by NPS. Several NPS staff members of the Engineering and Maintenance divisions of the Grand Canyon National Park were consulted regarding the maintenance history of the building. Additional secondary research was conducted using materials within the libraries of the University of California at Berkeley, the library at the Grand Canyon National Park, the library at the San Francisco office of the National Park Service, at significant Bay Area research collections, and in the ARG library. The level of research requested for this report was "thorough" — one of three levels of investigation (exhaustive, thorough, and limited) as described by NPS Director's Order - 28. "Thorough" research is defined by DO-28 as follows:

For historical studies this means research in selected published and documentary sources of known or presumed relevance that are readily accessible without extensive travel and that promise expeditious extraction of relevant data, interviewing all knowledgeable persons who are readily available, and presenting findings in no greater detail than required by the task directive.¹

Administrative Data

Historic Name: Trail Caretaker's Residence

Common Name: SAR Cache Building

Park Structure Number: Building 93

Location: At Indian Garden on the Bright Angel Trail, Inner Canyon, Grand Canyon National Park, Coconino County, Arizona
USGS Map - Williams Quadrangle
UTM easting 437600 northing 1847600

Cultural Resource Data

Work on the historic Bright Angel Trail was completed by the CCC in 1939, though the trail had been used by native peoples for millennia. In 1992 a National Register of Historic Places nomination was prepared for the Bright Angel Trail with the adjacent structures, including the trail caretaker's residence, considered as contributing structures. This nomination has not yet been submitted, but the Park Service considers the Bright Angel Trail eligible and it is treated as such.

The original drawings for this building were published in the 1986 master's thesis of Teri A. Cleeland, *The Cross Canyon Corridor Historic District in Grand Canyon National Park: A Model for Historic Preservation*. No copy of the drawings is currently held in the Grand Canyon National Park Archives at the South Rim, however, a copy should be placed with that collection. There are only a few historic photographs of this site within the collection of the Park Archives. The Park Archives collection is an appropriate location for these items. The image from the maintenance records should be included in the Park Archives collection.

The information presented herein provides the basis for evaluating future alterations that may be proposed for the building at Indian Garden and will aid in the rehabilitation of this significant park structure and site. The building at Indian Garden has not been well-documented in the past. No significant new information regarding the architectural significance of the building has been found. The project team has developed a more thorough analysis of the structure's place within the context of rustic architecture. This report addresses necessary improvements to the conditions at Indian Garden, focusing on the building, its site and its history.

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II. Historical Background

Developmental History and Context

This section of the HSR outlines the people, events, and historic contexts associated with the structure. Historic contexts are broad patterns of historical development in a community or a region that may be represented by historical resources. Historic contexts can be identified through consideration of the history of individual properties or groupings of properties within the surrounding area. The establishment of historic contexts provides the foundation for decision-making concerning the planning, identification, evaluation, restoration, registration, and treatment of historic properties, based upon comparative significance. Historic contexts can be developed for all types of resources including, but not limited to, buildings, structures, objects, sites and historic districts. The methodology for developing contexts does not vary greatly with the different types of resources, and contexts may relate to any of the four National Register criteria. At the core of historic contexts is the premise that resources, properties, or happenings in history do not occur in a vacuum, but rather are part of larger trends or patterns.

The Canyon's First Inhabitants

Humans have known the Grand Canyon, the major chasm of the Colorado River and its tributaries, for thousands of years. Indigenous people have lived in the Grand Canyon for over 4000 years, with recent evidence suggesting people may have been utilizing the canyon as long as 10,000 years ago. Grand Canyon National Park is rich in cultural resources; the park records include 4,000 prehistoric and historic sites, based upon intensive survey of approximately 2.5% of the entire park. Estimates of archaeological resources within the park top 50,000 archaeological sites, prehistoric and historic, based upon the limited sample survey that currently exists.

For thousands of years, people moved in and out of Grand Canyon, leaving behind evidence of their passing. Thousands of dwellings, shelters, and agricultural terraces have been located, providing evidence of ancestral hunters, gatherers and farmers living on both rims and in the inner canyon. Campsites, rock art, house foundations, pottery, chipped stone, ground stone, and other artifacts remain to help tell the story of these people and their lives within the canyon over the last 10,000 years.

A single portion of a Folsom point provides the only evidence to date of Paleo-Indian hunters within Grand Canyon nearly 10,000 years ago. Although evidence for human occupation is limited, it is well documented that Archaic peoples began utilizing the Grand Canyon over 4000 years ago. Split-twig figurines, projectile points, campsites and rock art attest to archaic populations in and around the Grand Canyon from *ca.* 3500 B.C. to 1 A.D. Though limited, archaeological materials suggest near continuous occupations through the Archaic and Basketmaker (early A.D. to *ca.* A.D. 700) periods, moving directly into the Puebloan period occupations (*ca.* A.D. 800 - 1300). Groups identified as representing both the ancestral Puebloan peoples and Cohonina culture have been identified throughout the Canyon during those time periods, gradually giving way to contemporary peoples. The Hopi, Zuni, Southern Paiute, Havasupai, Hualapai and Navajo all left remains that have become part of the archaeological record. These same people continue to use the canyon today for traditional and religious reasons.

Grand Canyon has been home to various groups of people for thousands of years. These people, both native Americans and more recent Euro-Americans, have utilized the canyon as both a home and a place linked to traditional practices, values and beliefs. To the **Hopi** and **Zuni**, the Grand Canyon represents their place of origin into this world. For Hopi, it also represents the place where their spirits come to rest after death. Although the Anasazi (Hisatsinom), or ancestral Puebloan people, migrated from the canyon area, their descendants, the Hopi and Zuni, continue periodic visits.

For the **Pueblo** people, archaeological remains in the canyon provide evidence for their migration from their place of origin to their present homes. For the **Pai** people (Hualapai and Havasupai), the canyon and the river are the lands they have been entrusted to care for. The river represents the backbone. For the **Southern Paiute**, the canyon represents a place given to them from the Creator to protect and manage, including its water and natural resources. To the **Navajo** people, the Colorado River in Grand Canyon forms a protective boundary on the western border of Navajo land.

Many of the tribes who claim ancestral ties to the Grand Canyon continue to use the park. Salt and hematite are collected from the locations along the river by all tribes, and certain plants are collected for traditional and medicinal purposes throughout the park. Pine nuts are still collected by Indians and non-Indians. One small group of Havasupai continues to live approximately one mile west of Grand Canyon Village in Supai Camp. Most Havasupai today earn their living from tourism, ranching, and wage labor.

Both spiritually and physically, the canyon remains of great importance to the local native peoples: it is a holy place, an object of pilgrimages, a symbol of legends, and a home place. Today, the reservations of the Hualapai, Havasupai, and Navajo tribes include parts of Grand Canyon National Park; the Paiute and Hopi reservations are nearby. Each of these tribes is linked to the history of the Canyon, from early times to present day involvement.²

European Exploration

During the early Spanish period, both the Hualapai and Havasupai were relatively unaffected. The first few Spanish soldiers and explorers to encounter the canyon were led by Garcia Lopez de Cardenas from Francisco Vasquez de Coronado's expedition of 1540-1542.³ Cardenas and his men arrived at the South Rim of the Grand Canyon in late September of 1540 with the assistance of Hopi guides. Finding the land arid and difficult to traverse, the Spaniards left the canyon and its surrounding plateau lands to native tribes and were not seen again in the immediate area until the 1770s. More concerned with charting the New World and understanding the geography of the region, the Spanish they were awed by the canyon as a barrier, not for its scenic beauty, and focused instead on more easily-habitable regions.

American Westward Expansion

American trappers, fur traders, and frontiersmen scouted the area in the early nineteenth century, but tended to avoid the treacherous, unforgiving and still uncharted depths of the canyon. Like the Spanish before them, they saw it as an impediment to their hunting and trapping activities. In 1848, much of the territory was still unexplored. The course of the Colorado River had never been surveyed and the canyon did not have an established name. In 1869, Major John Wesley Powell, a geologist and explorer from Illinois, organized several expeditions to charter the river that cut through the canyon. Powell's expedition appears to have been the first organized expedition of white men to successfully navigate the Colorado River through the canyon and opened the way for further settlement.

Despite Powell's success, the American frontier came late. Rugged topography and a hot, arid climate deterred settlers. Consequently, those who came were mostly men without families in search of wealth: ranchers, settlers, and mining prospectors. These men arrived in Arizona in the 1870s in such huge numbers that the population quadrupled. Hundreds of mining claims were staked, but mining meant overcoming prohibitive difficulties: such as, lack of water; insufficient trails; packing out the ore on burros; and, finally, paltry deposits. Some mining prospectors saw that their trails and land had greater

value in tourism than in mining.

Indian Garden, Home to Havasupai

The difficulties of settlement in the arid climate of the southwest were well understood by pioneers and natives alike. Like Havasu Springs, Thunder River, and Roaring Springs, all several thousand feet below the canyon's rim, Indian Garden benefited from underground springs, one of the few water sources in the region. For centuries, the Havasupai and other tribes seasonally occupied Indian Garden for its springs, level lands suitable for agriculture, and nearby sheltering caves. In 1830, families who had been driven away from other areas began to cultivate the land at Indian Garden. A principal motivation for settlement at Indian Garden was to farm, but the site also yielded salt and red clay used to make paint for trade with the Hopi. The Havasupai traded the paint and salt along with tanned hides, dried figs and mescal for jewelry, rugs and moccasins from the Hopi. The Hopi were known to come to Indian Garden to trade and to perform ceremonial dances.⁴

The domiciles at Indian Garden were principally cave shelters formed in cliff dwellings, though the Havasupai are known to have lived in conical earthen homes and simple frame cabins in other parts of the Grand Canyon. In 1917 the cliffs at Indian Garden were described as having cave houses and dug-outs as living quarters for the Supai Indians, the tribe which formerly inhabited this spot.⁵

The 1938 park master plan notes cliff dwellings at lower Indian Garden beneath the Tapeats Sandstone west of Garden Creek.⁶ Typically, the Indians would cache their harvest in the walls of the Grand Canyon. These dwellings at Indian Garden contained six or more rooms and several food caches. Many of the cliff dwellings and food caches ascribed to the Anasazi and Cohonino are the same ones later used by the Havasupai, a further indication that Indian Garden was in use in ancient times.

The first European-Americans to live and work along the Bright Angel Trail at the end of the nineteenth century used the resources of the area in much the same way as the Havasupai did for access into the canyon and to obtain water. A group of miners, Pete Berry, Niles Cameron, Robert A. Ferguson, Curtis H. McClure, and Millard G. Love, constructed a trail from the south rim to the Tonto Platform at Indian Garden to access mining claims. Early in 1891, Berry and Cameron measured the new trail and recorded the "Bright Angel Toll Road" with Yavapai County. This segment of the trail ran from the South Rim to Indian Garden.⁷

Ralph Cameron and the Indian Garden Camp

By 1903, Ralph Cameron, an early canyon entrepreneur and brother of Niles Cameron, came to an agreement with the Havasupai living at Indian Garden that allowed him to establish a camp for tourists, "Cameron's Indian Garden Camp" (see Appendix E, Figures 1, 2). He purchased existing water rights and filed several mining claims to assure his rights to the site. Cameron's camp consisted of seven tent

cabins, offered meals, and boasted a phone line to the South Rim. Within the next few years he planted cottonwood trees, dammed the creek to irrigate a garden and orchard, constructed several buildings, and offered a pleasant overnight stay for tourists within the canyon. A letter from the National Park Service dated July 26, 1922, explains the way visitors used Cameron's site:

In the past it has been the practice for the tourists from the Bright Angel Trail to stop at Indian Garden, rest in the shade of the trees and perhaps eat their lunches and secure fresh water at this point, and to make use of the toilet facilities which have for some time been provided back from the Trail among the buildings on the Cameron claim.⁸

A 1917 map illustrates the extent of Cameron's development which included a kitchen, root cellar, rain gauge, incinerator, toolshed, fields and gardens, laundry, toilets, and water supplies. Apparently, the success of Cameron's camp peaked in 1917. Shortly thereafter, reports characterized the area as "filthy and disgraceful". By the 1920s, Cameron had abandoned the site and it was polluted, littered, and marred by the tattered remains of the tent cabins. The NPS letter of July 26, 1922 continued:

This spring the toilet facilities were found to be very unsatisfactory and in a very unsanitary condition, and an effort was made through the County Supervisors to have these privies put in satisfactory shape.⁹

The site remained neglected until the National Park Service assumed control in 1927. Their first order of business was to remove the tents and litter and install chemical toilets, but few other improvements were implemented until the 1930s.¹⁰

This chapter of Indian Garden history is linked to the power struggle between Cameron and the NPS, significant in the history of the southwest and the Grand Canyon. The arrival of the NPS at the beginning of the twentieth century was not welcomed by all, especially those who had staked claims on the land and worked it for decades, like Cameron. There was the biggest struggle for control of the Canyon and it had direct implications on the development of Indian Garden and the Bright Angel Trail. Ralph Cameron wrestled with the Santa Fe Railroad, the U.S. Forest Service and the NPS for control of his mining claims, Indian Garden and the Bright Angel Toll Trail. Cameron had long governed access through the Canyon by controlling the Bright Angel Trail, charging tourists exorbitant fees. The dispute with the NPS finally reached a climax in 1925, when Cameron fought the ruling that gave federal protection of the Canyon to the U.S. Forest Service and the NPS. The matter went before the Supreme Court which had previously ruled against Cameron. Just as NPS Director Stephen Mather was preparing to confiscate Cameron's properties, Cameron was elected U.S. Senator from Arizona. Cameron succeeded in complicating the situation, and holding up appropriations for the Grand Canyon National Park and delaying improvements. The acrimony between Cameron and Mather was such that Mather considered resigning from the NPS in 1926 to run against Cameron for the Arizona Senate seat to "rid the

country of the obnoxious senator."¹¹ Eventually Cameron lost all political power and was defeated in the Arizona senatorial election of 1926.¹²

Plans for Tourism at Indian Garden

Cameron abandoned the camp at Indian Garden and, with the exception of the trees he planted, few tangible remnants remain of his influence. He was a notable individual in the history of the Grand Canyon, the first to introduce visitor amenities and accommodations below the canyon rim, and instrumental in steering the subsequent development of the area.

Years before Cameron's dispute with the government was resolved, the Forest Service and the Santa Fe Railway envisioned development of Indian Garden. Anticipating Cameron's eviction, approvals for a hotel built by the railway and designed by architect *Mary Elizabeth Jane Colter* were obtained in 1916. Fred Harvey had hired Colter to design many of the Grand Canyon village buildings, beginning with Hopi House in 1905. Colter, a native of Minnesota, received her architectural training in San Francisco in the 1880s and worked for Fred Harvey into the 1940s. Colter's buildings reflected both the natural resources of the vicinity, including stone, and the building traditions of Native Americans linked to the canyon. Her work was innovative in that it resulted in buildings that were in harmony with the surrounding landscape, a philosophy that came to dominate the early designs of the National Park Service as well. Colter's design for the hotel at Indian Garden called for a central dining hall and individual cottages of varying luxury (see Appendix E, Figures 3, 4). Though somewhat distinct style in style from Phantom Ranch at Bright Angel Creek, the 1916 Indian Garden project later served as its prototype in 1922. Because the government could not obtain clear title to the land at Indian Garden, the hotel never progressed beyond the planning stage.

Some years later, the Santa Fe Company returned to the notion of visitor accommodation below the rim, planning yet another hotel at Indian Garden. A local newspaper, the *Daily Silver Belt*, ran an article titled "Reported Santa Fe Will Build New Hotel at Indian Garden" in October, 1924 that read:

It is reported here that the Grand Canyon National Park officials have entered into negotiations with Santa Fe Railroad Company looking toward the establishment of a new hotel in the Indian Garden upon the Bright Angel Trail in the Grand Canyon. The Indian Garden constitutes the only shady spot in the section of the Grand Canyon reached by the Bright Angel Trail... The plans of the railway company it is reported include a hotel of sufficient size to accommodate tourists wishing to remain in the Canyon for a night or longer. Arrangements will also be made for a rest and recreational center in the shade of the Indian Garden for tourists during noon on the way down to the river. The new hotel and resting grounds will provide a convenient place for the tourists who do not care to take the trip to the river to remain until the evening when the guides return to the rim... Indian Garden was planted by Senator Ralph H. Cameron many years ago and the trees are now mature giving ample shade for an ideal resting place.... It is understood that the new hotel to be built will be similar to the El Tovar.¹³

The Civilian Conservation Corps and the National Park Service at the Grand Canyon

When the Grand Canyon became a National Park in 1919, the National Park Service Landscape Engineering Department teamed up with the Santa Fe Railroad and the Fred Harvey Company to plan development in the park. The National Park Service plan for the Grand Canyon Village Area was adopted and implemented in 1924. However, most development within the park occurred between the years 1933-1942 when the Civilian Conservation Corps arrived at the Grand Canyon. During the New Deal CCC Program, a steady supply of labor enabled a building boom in most parks. CCC crews built much of the developed areas in the Grand Canyon area. Their fine craftsmanship and use of natural materials characterize the labor-intensive CCC buildings; the style is often referred to as NPS Rustic.

The buildings at Indian Garden exemplify the type of structures designed and constructed in this period. The CCC recruits did extensive trail work during these years, re-grading and re-routing the Bright Angel Trail and reconfiguring one-and-a-half miles of switchbacks of the old trail. In addition, the CCC crews built the extant Bright Angel Trail shelters: the Three-Mile Resthouse (1935) Mile-and-a-Half Resthouse (1936) the River Resthouse (1936) and, Indian Garden Resthouse (1937) (see Appendix E, Figure 5).

Design of the Trail Caretaker's Residence at Indian Garden and the Cabin Building Type

When the CCC arrived in the Canyon in the early 1930s, they assisted the Park Service in accomplishing further clean-up work from the Cameron era and constructing several new structures at Indian Garden, including the trail caretaker's cabin. They removed three of Cameron's wood-framed structures and his 1906 stone building, reusing the stones in the construction of the caretaker's trail cabin (see Appendix E, Figure 6).¹⁴

Copies of original signed drawings attribute the design of the residence to the NPS Landscape Division. The signatures are not legible but the date of the design indicates that Thomas C. Vint, as Chief of the Landscape Division, would have approved the plans. Vint (1894-1967) is considered one of the two most influential landscape architects in the history of the National Park Service and was instrumental in developing the design philosophy for park architecture—a unifying use of materials and siting to highlight the building's relationship to its natural surroundings. Vint was credited with refining the definition of non-intrusive design, fostering younger architects of the park service, and supervising the building of residences, lodges, and resort buildings, particularly the “log, stone and rustic construction”¹³ associated with park rustic architecture of the Landscape Division. Vint described the work of the Landscape Division:

The work of the Landscape Division...is a different character than the general practice of the landscape profession. Although landscape work predominates in the work, it merges into the

field of architecture. We have little use for landscape men whose experience is limited to the planting of shrubbery and allied to landscape work. There is little planting done within the National Parks and what is done is limited to the transplanting of native shrubs and trees, so the general commercial stock is not used. The work has to do with the preservation of the native landscape and involves the location and construction of communities, buildings, etc. within an existing landscape.¹⁶

The residence at Indian Garden epitomizes the type of construction, design, and siting issues that most concerned Vint and the Landscape Division. A small-scale cabin articulated with massive native stone piers and tucked into the trees was the perfect choice for Indian Garden. The design for the original trail caretaker's residence began with a simple vernacular cabin. Based on a variation of the cabin building type, the design was distinguished by the use of coursed rubble masonry of native Kaibab limestone in the form of battered corner stone piers. The exterior wood framing and plank siding, shingled gabled roof and exaggerated eaves, are typical features of NPS cabin architecture. The interior consisted of two principal rooms, a kitchen and a communicating bedroom with a small closet in the southeast corner and a toilet and shower room in the southwest corner (see Appendix E, Figure 7).

The trail caretaker's residence is notable for its remote, rustic feeling, a refuge at the base of the Bright Angel Trail. In his 1938, three-volume edition of *Park & Recreation Structures*, Albert H. Good, an architectural consultant to the National Park Service, noted:

Among buildings which have come to be regarded as on occasion justified within our present conception of a natural park, the cabin alone has the favorable advantage of long familiarity to us in woodland and meadow. So accustomed are we to survivals of frontier cabins dotting the countryside that we have grown to look upon them as almost indigenous to a natural setting. Of all park structures, those cabins which echo the pioneer theme in their outward appearance, whether constructed of logs, shakes or native stone, tend to jar us the least with any feeling that they are unwelcome.¹⁷

Copies of the original 1932 NPS drawings and specifications provide information about the building as it was originally constructed (see Appendix A). The original drawings show that the building rests on concrete piers. The specification states that the foundation girders are anchored to piers with bolts with nuts and washers.

With regard to stonework, the specification calls for "stone corners, base, steps and chimney rough finish weathered surface native stone laid in cement mortar composed of 1 part Portland cement and 3 parts sand. Joints painted with mortar colored slightly darker than the stone."¹⁸

The flue was carried out in brick plastered in cement. Flashing was specified to be 28 gauge galvanized iron. The specification for the carpentry and millwork stated "all forming lumber and rough carpentry

shall be best quality Oregon pine of sizes as shown. All finish woodwork shall be No. 1 Common Fir. Roof sheathing shall be 1" x 6" apart and covered with roofing paper well lapped. Shingles shall be Star A Star laid [illegible word] doubled every 5th course with [illegible word] ridge. Floors to be single and T&G Oregon Pine."¹⁹

The specification continues, "all case shall be [measurement illegible] thick Sugar pine. Window and door screens shall be [measurement illegible] mesh bronze wire set in [measurement illegible] frames respectively. Window screens to be detachable. Ash drain board 1 1/4" thick grooved. Kitchen case to have [measurement illegible] counter shelf and [measurement illegible] thick wood panel doors. Back of case to be T&G lined."²⁰

With regard to paint, "all exterior woodwork including roof, except sash shall be stained with Cabot's or equal creosote stain, color as selected by the Superintendent. Sash shall be primed and given two coats of lead and oil paint, color as selected. All interior woodwork shall be primed and given two coats of lead and oil paint, color as selected, all T&G floors shall receive a coat of hot linseed oil. After full penetration, thoroughly wipe dry, wax and polish."²¹

The drawing specified plumbing fixtures manufactured by Crane Co. for the lavatory, shower, kitchen sink and range boiler."²²

III. SIGNIFICANCE AND INTEGRITY EVALUATION

Statement of Significance

The Indian Garden trail caretaker's residence is an excellent example of rustic park architecture as developed by the National Park Service in the 1920s and 30s. It is a representative example of the park service's desire for a singular and aesthetically appropriate architecture for the national park system. The building reflects the park service philosophy of incorporating elements of the natural landscape into building design, using oversized stones which reflected the large scale boulders found throughout the surrounding landscape.

This small-scale rustic building follows the historical precedence of construction at Indian Garden, comparing favorably with the structures that had come before: small-scale structures, tents, cottages, cabins, and cabanas. The building's significance is derived from its construction as well as its location at Indian Garden, a site rich in history. The inner canyon site is associated with a long native American tradition, and nineteenth century explorers and entrepreneurs who settled the area. In addition, the building is a remnant of the Civilian Conservation Corps building campaigns of the 1930s.

Period of Significance

The years 1932 through 1960 mark the period of significance for the trail caretaker's residence, when it provided a housing function for rangers at Indian Garden. Alterations made after the period of significance have altered its character-defining features.

Evaluation Of Integrity / Condition

Eligibility for the National Register hinges on both significance and historic and architectural integrity. Integrity is the authenticity of an historical resource's physical identity evidenced by the survival of characteristics that existed during the resources period of significance. Integrity involves several aspects including location, design, setting, materials, workmanship, feeling and association. These aspects closely relate to the resource's significance and must be primarily intact for eligibility. Integrity must also be judged with reference to the particular criteria under which a resource is eligible for inclusion in the National Register.

Overall, the exterior of the trail caretaker's residence retains a fair degree of integrity. It no longer serves its intended residential use. Rather, it serves primarily as equipment storage space for search and rescue ranger operations. Alterations made after the period of significance have doubled its size, tampered with its character-defining features, and significantly changed the feeling of the interior. The removal of the two stone corner piers have dramatically changed the design concept and symmetry of the building. The building's setting amidst the presence of mature trees conveys a sense of the character of the place.

Character-Defining Features

Elements from the surrounding landscape have influenced the building design. The low-pitched roofs mask the size of the structure so that it sits harmoniously among the trees. Following is a list of features that contribute to the rustic character of the trail caretaker residence at Indian Garden, capitalizing upon natural forms and indigenous materials to fashion a distinct character that links the building to its site. These are typical elements that came to define the rustic park architecture of the Park Service. These features are not listed in any order of importance—each in its own way is an equally important component of the building's design.

- One-story stone and wood-frame cabin building type, well-proportioned to its site
- Rustic design in the classic early NPS style incorporating local materials and deferring to the landscape
- Exterior wood frame plank siding, running vertically
- Coursed rubble masonry of native Kaibab limestone
- Battered monumental corner stone piers (2 of original 4 extant)
- Gabled roof, finished with wood shingles
- Exaggerated eaves and sheltering roofs
- Coursed rubble masonry chimney
- Use of rough-hewn boulders of Kaibab limestone on front stair
- Principal staircase of flagstone
- Mature, shady trees
- Inner-canyon location
- Gabion walls
- Views of canyon walls in distance
- Low rock walls, stone fountains, and paths
- Picnic tables and benches

IV. PHYSICAL DESCRIPTION

Site

The caretaker residence is located at Indian Garden in the Inner Canyon 4.5 miles below the South Rim on the Bright Angel Trail (see Appendix E, Figure 8). It sits within a cluster of mature trees to the west of the Bright Angel Trail, paired with another residential-scale building, the pump caretaker's residence of 1943, also known as the Rock House. Between the pair of buildings is a landscaped central courtyard. Indian Garden is distinguished as one of the few sites within the canyon that is naturally visitor-friendly, providing shade and its own water source from underground springs. The presence of trees, grasses, shrubbery, gabion walls, and a creek bed give a distinct and unique character to the area (see Appendix E, Figure 9, Appendix F, Figures 1-5).

Construction

The building is a one-story stone and wood cabin type of wood-framed construction and classic rustic design. The original floors were constructed with Douglas fir. The structure is distinguished by single-wall construction with jamb post furring, a wood-shingled gabled roof with a rubble masonry chimney, and masonry piers and porch of native Kaibab limestone (see Appendix F, Figure 6). The building rests on a stone foundation and has an asphalt shingle roof.

Exterior

The exterior finish is of vertical wood siding. The building's distinguished features are the corner stone buttresses, two of which remain. All four elevations have deep eaves with rafters visible on the east and west elevations.

North Elevation

The elevation exhibits the typical building characteristics and serves as the principal entrance. The original staircase of flagstone is extant and the porch has been extended to the west to accommodate the 1960 addition. The stair and porch are constructed with rough-hewn boulders of Kaibab limestone. The elevation has one single-hinged door with a screen and two window openings. The pier at the northeast corner is original and extant (see Appendix F, Figure 7).

South Elevation

The building's south or rear elevation exhibits the typical building characteristics. The defining characteristics are the original masonry pier at the southeast corner and the original roof gable to the east. Two window openings puncture the rear elevation, one in the original side and one in the addition. There is an attic-level louvered vent below the peak of the gable (see Appendix F, Figure 8).

West Elevation

This is the principal facade of the 1960 addition. This elevation is defined by a gabled roof, the angle of

which is less acute than that of the original part of the building. The gable is punctured by a louvered vent to the attic. The elevation is not symmetrical; the door sits to the north and two windows flanking it are of *different* sizes. The door opens onto a stone porch, comprised of stones from the disassembled piers. An opening to the building's crawlspace is located on this elevation (see Appendix F, Figure 9).

East Elevation

The building's long east elevation looks to the Bright Angel Trail. This elevation exhibits the typical building characteristics and, of all elevations, most retains its original aspect due to the two extant corner piers. The masonry chimney, a character-defining feature, punctures the roof on the east side. There are three window openings, one to the kitchen and two to the rear bedroom. The grade slopes down to the north on this side (see Appendix F, Figure 10).

Roof

The roof configuration is of that of a cross-gable reflecting the intersecting gables of the original construction and the addition. Originally wood-shingled, the roof is now sheathed with asphalt shingles (see Appendix F, Figures 11 and 12).

Interior

The interior, originally consisting of two rooms on the eastern side, a kitchen and a bedroom, is finished with sealed wainscoting. The residence was originally equipped with a gas cooking range, electric refrigerator, oil space heater and window shades. Water was heated with coils in a wood-burning range. Originally, the building had a cold water connection but that was capped in recent decades.

At present all interior finishes, gypsum board sheathing and vinyl flooring, are replacements. The original varnished fir floor may remain below the vinyl flooring. Interior gypsum board sheathing has been installed over original single-wall construction. Original finishes at the addition are assumed to be the extant gypsum-sheathed stud walls and vinyl floors (see Appendix F, Figures 13-16).

Alterations

In 1960 a two-room addition at the west side of the original building altered the structure so that its envelope doubled in size. As a consequence of this work, the two original stone piers at the west elevation were dismantled and the stones reused to construct a stone porch at the west side.

An interior refurbishment in 1981 included the addition of interior partitions. Gypsum board finishes were installed at this time. Another campaign of rehabilitation occurred in 1988 which included exterior rehabilitation work, the restoration of casement window, re-painting, roof replacement, re-pointing of loose stone, and the removal of interior wood stoves and other features.

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Additional undated alterations include the modification of the front elevation, enlarging the window, removal of the original door, replacement of the original wood shingle roof with asphalt shingles, and new aluminum storm sash.

Electrical/Mechanical/Plumbing

See Building Assessment Report in **Appendix H**.

V. CONSERVATION ISSUES

Exterior

Some damage to exterior surfaces, such as splitting and peeling of exterior wood siding, is evident. Exterior stonework exhibits biological growth, efflorescence and staining, and minimal loss of mortar at joints. Painted surfaces of exterior wood elements are flaking, including all window sash and frames. It is likely that remnants of lead-based paint are present.

Aluminum sash windows are replacements, operable, and in fair working condition.

Interior

Almost all interior finishes, gypsum board sheathing and vinyl flooring, are replacements. The original varnished fir floor may remain below vinyl flooring. Interior gypsum board sheathing has been installed over original single-wall construction. Original finishes at the addition are assumed to be the extant gypsum-sheathed stud walls and vinyl floors.

Flood Issues

The area is prone to flash flooding. The building cannot be used as a residence because the site rests in a flood plain. A creek bed running along the east side needs to be bridged for safety and access to amenities on the east side of Bright Angel Trail (see Appendix E, Figure 9).

Environmental Issues

Extraneous work at the site includes the removal of non-native blackberry plants and a plan to manage the trees in the area, many of which are between sixty and ninety years old. At the moment, dead trees and falling limbs are hazardous. In addition, there will be a need to provide shade structures in the near future. Another consideration for future works is that the area abuts the habitat of the endangered Kanab amber snail.

VI. CHRONOLOGY OF DEVELOPMENT AND USE

This section summarizes the physical construction, modification, and use of the historic caretaker's residence at Indian Garden. It also includes information on any major maintenance and rehabilitation campaigns. The information presented is based on historical documentation with corroboration from first-hand observation and limited materials analysis. Changes to the building for which chronological documentation is not available are noted and explained at the end of the chronology.

Chronology of Use

The building was constructed in 1932 for use as a residence by the caretaker of the Bright Angel Trail. It is not known at what date the structure discontinued its use as a residence, but it can be assumed that it was some time after 1960. Today, the building serves primarily as equipment storage space for search and rescue ranger operations. It is possible that the building has been used to fulfill other functions over time, but no records have been found with more specific information.

Chronology of Development / Alterations

- 1932 Building constructed during the months of September, October.
- 1950 Repairs in the amount of \$8,262.00 were undertaken due to damage caused by a flood in August 1948. Work included:
removal and replacement of a portion of the interior walls; repainting of the interior;
and replacement of floor covering and cook stove.
- 1960 Two-room addition constructed at the west side of the original building. The two original stone piers at the west elevation were removed and the stones reused to construct a stone porch at the west side.
- 1981 Interior remodeled during the winter months by the Young Adult Conservation Core (Y.A.C.C.). Extent of work is undocumented, but it is assumed that all extant interior partitions and gypsum board finishes were installed at this time.

1988 Exterior rehabilitation work, including:

Removal of swamp cooler from north facade and restoration of casement window.

Painting of exterior utility boxes and conduit to match walls.

Painting of exterior wood.

Replacement of asphalt roof.

Resetting and pointing of loose stone.

Removal of interior wood stoves (2), flue at 1960 addition, wall heaters (3) and plumbing fixtures.

Undated Alterations:

- Front elevation altered - casement window removed/enlarged. Original door removed.
- Original wood shingle roof replaced with asphalt shingles.
- Aluminum storm sash added at interior.
- Swamp cooler added at north elevation (this was removed in 1988 but the date of installation is unknown).
- Antenna installed/removed from northeast pier (removed after 1988).

VII. TREATMENT AND USE

Introduction

This narrative discusses and analyzes the ultimate treatment and use of the structure as defined by the Grand Canyon National Park. Recommended treatment in general is to preserve the extant historic materials and features, but not to arbitrarily restore missing features unless they are highly characteristic and in need of treatment for other reasons, such as severe deterioration. Any proposed rehabilitation associated with new use will be carefully considered so that existing character-defining features of the site and buildings are maintained.

The program for this building remains to be fully defined. Preliminary descriptions of the proposed project describe its use not as a visitor contact station, but rather a controlled access point. The exact programmatic requirements of such a station are unknown, but the goal is to provide a cool, shady place at the Indian Garden area where people can picnic or rest or enjoy views of the Canyon walls (see Appendix F, Figure 17). It is also desired to give day hikers a destination that is closer to the rim than Plateau Point; a place that they can visit, view interpretive exhibits, and return back to the rim. Because there is at present no real destination before Plateau Point, many hikers overestimate the duration/stress of their exercise and are unable to hike out of the canyon on their own. By creating an Indian Garden destination, it is hoped that visitors to the canyon can have an enjoyable mid-length hike and will not overexert themselves.

Preliminary design discussions have explored the idea of removing the 1960 addition and restoring the building to its 1932 form. Such work would limit the enclosed size of the building, but would allow for expanded outdoor rest areas (at the courtyard between this building and the adjacent Rock House).

While the building's exact interior program is not defined, it is assumed that no mechanical services will be needed. Plumbing service will need to be re-established for a new fire sprinkler system. Limited electrical and telephone services will remain. See Building Assessment Report in Appendix H for further discussion. The park is not concerned with security measures at this structure which, most likely, will be unlocked and unstaffed. This project will include extensive site and landscape work; in order to meet the preliminary program requirements it will be necessary to create a cool, relaxing outdoor space for visitors. This would extend from the present courtyard to the west of the building, bounded farther west by the adjacent rock house. Another goal is to provide clear directional signage and access over the creek to the structure. A comprehensive landscape development plan should be undertaken in future design phases to further define these issues. Site drainage is also an issue that will need extensive investigation. The building is located in a flood plain and the adjacent stream has been known to overflow during the winter. Further, the terrain slopes directly into the south side of the structure, leading to detri-

mental soil build up along the south exterior wall.

Exterior Rehabilitation

Exterior rehabilitation should be undertaken to restore all of the damaged exterior surfaces that contribute to and define the historic character of the building. Exterior elements that detract from the historic character, such as aluminum sash windows, should be removed and replaced with elements more in keeping with the original design, as evidenced by historic drawings and photographs.

Other exterior work should be limited to maintenance and replacement, in kind, of deteriorated historic fabric. This work includes:

- Cleaning of exterior stonework with a restoration cleaner to remove biological growth and efflorescence.
- Minor stone repointing, taking care not to overpack the joints. As the mortar joints were historically relatively deeply raked (1/2" - 1" deep), care should be taken to ensure that any new pointing accurately replicates the original appearance. Sand and cement proportions should be verified with a sample of the existing mortar prior to any repointing work.
- Renailing and caulking of exterior wood siding.
- Repainting of all exterior wood elements. If remnants of lead-based paints are found to be present, rehabilitation work will be conducted accordingly).
- Reroofing with fire-resistant wood shingles.
- Windows sash should be fully stripped, primed, and backprimed. All sash and frames should be repainted to match the original color. All should be repaired to operable condition. All glazing should be removed and reinstalled with new putty and back putty. All hardware should be rehabilitated and replaced, in kind, where broken or missing.

Interior Rehabilitation

Few original historic interior finishes are visible, but some may remain beneath the added layers of gypsum board sheathing and vinyl flooring. If possible, the original varnished fir floor should be rehabilitated. Interior gypsum board sheathing should be removed and the original single-wall construction exposed on the interior. This work should be easy to accomplish if the 1960 addition is removed. If this addition remains, it may be more difficult to restore these finishes. Or it may be necessary to refurbish

the building with distinctly different interior finishes in the original portion from the addition. The original finishes at the addition are assumed to be the extant gypsum-sheathed stud walls and vinyl floors. Some configuration of interior spaces could be achieved by removing non-historic wall partitions. Though the kitchen cabinets at the building's east side are in the location of original cabinets, those remaining are not original and can be removed.

Additional measures needed to make the structure comply with current building codes are described in the section that follows.

Requirements for Treatment

In concise terms, this text outlines applicable laws, regulations, and functional requirements. Specific attention is given to issues of handicapped accessibility, human safety, fire protection, energy conservation, and abatement of hazardous materials.

The rehabilitation design shall conform to NPS cultural resources policies and guidelines and will be reviewed for compliance with the GMP, NEPA, Section 106 of the NHPA, and all applicable codes and standards required by law and NPS policy. The building codes used for analysis include the 1997 Uniform Building Code (UBC), 1997 Uniform Code for Building Conservation (UCBC), and Uniform Federal Accessibility Standards.

The treatments recommended in this report will have effects on the cultural resource; however, it is intended that the treatments will result in benefits giving a higher level of preservation of the resource than is now provided. Some proposed work will include actions that could be considered to have negative effects. One of the most important design criteria, however, is that the modifications be designed to minimize these effects, both physically and visually. Those negative effects will be mitigated by providing an improved environment for the preservation of the building and the safety of its users. Further evaluation will be necessary when the recommendations are developed to a level of design detail specific enough to definitively identify specific building fabric impacts.

Accessibility

To meet code requirements, an accessible path of travel needs to be provided to an accessible exterior entry. NPS policy mandates that this building be made accessible. However, due to the remote location of this site within the Grand Canyon, the site is, at present, a great barrier to those with physical disabilities. For the sake of this study, we are limiting the discussion of access to the building only.

An accessible at-grade entry or ramp will need to be provided in any rehabilitation scheme. Due to the altered nature of the west side of the building, it seems most appropriate to provide such access here. In that way, the historic steps at the north elevation can remain unaltered.

Human Safety (Egress)

The building currently conforms to most requirements of the UBC and UCBC (refer to the code analysis section of this document). Non-compliant historic stone steps and landings will have to be exempted from code by the local building official.

Fire Protection

The building is not currently equipped with a fire detection system, and is unsprinklered. The installation of a sprinkler system is not required by code, but it is NPS policy to sprinkle historic buildings when they are rehabilitated. According to NPS Director's Order 50B, section 12, article 12.2.4.6, "...buildings undergoing renovation... will have automatic sprinkler system protection and automatic fire detection." Due to the practical problems of a remote location and limited access to water, the use of a pressurized water tank or another type of automatic suppression system may be considered. Depending on the degree of restoration of interior finishes, sprinkler pipes may be concealed in the attic. While the Indian Garden area is not often subject to freezing temperatures, a dry-pipe system is recommended. Flush type sprinkler heads should be acceptable. The best option for fire protection requires further study.

Energy Conservation

This building, originally heated by a single wood stove, does not currently have any mechanical heating or cooling systems. None are desired at this time. As this will not be a regularly-inhabited building, it is believed that natural ventilation, through operable windows, is adequate for the summer months. Though a wood burning stove could be reinstalled and attached to the extant historic flue in the kitchen for winter heating, the Park has banned the use of all wood burning stoves due to air pollution. The use of a pellet stove could be investigated if winter heating becomes an issue. It is not known if the existing stud walls are insulated. R-19 insulation is visible in the attic above the addition. If the interior sheathing at the walls is removed (to expose the original single-wall construction), it will not be possible to insulate the walls. The walls will, however, be extremely thin, allowing air to easily flow through them; the building will basically be an enclosed shade structure. Insulation can be maintained in the attic space to prevent solar heat gain through the roof.

The existing, historic sash are single-glazed and are not weather stripped. They do have interior aluminum storm sash, believed to be added at a time in the past when the building was continually occupied. Due to the proposed treatment of the building as a shade structure, it is believed that weather-stripping and interior storm sash are not necessary. Insect screens should, however, be added to allow for an insect-free environment with natural ventilation during warmer months.

In general, all of the utilities are aged and need to be upgraded. The existing electrical service (overhead from a nearby pole) is adequate, but should be neatly rerouted so that it doesn't run along the exterior of the building beneath the eaves (its current route). A single main disconnect should be installed to

replace the existing two-fused disconnect.

Existing large trees around the building provide a significant amount of shade. Many of these trees are old and it is assumed that the majority of them may die in coming years. Once the trees are gone, both the building and its adjacent courtyard will receive increased heat from solar radiation.

Abatement of Hazardous Materials

Asbestos materials and lead-based paint may be found throughout the interior and exterior of the building. A Level I HAZMAT testing program is recommended for the entire building.

Alternatives for Treatment

This section presents and evaluates alternative approaches to realization of the ultimate treatment. Alternatives are presented in both text and graphic form. Analysis addresses the adequacy of each solution in terms of impact on historic materials, effect on historic character, compliance with NPS policy, and other management objectives.

Two alternatives have been discussed for the future of this building:

- 1) Retain the current configuration. Use the 1932 portion of the structure for public access; use the 1960 addition as storage.
- 2) Remove the 1960 addition and relocate stored items to the adjacent Rock House. For better utilization of the existing structure and site, incorporate a landscaped central courtyard between the pair of buildings, shelter and shade structures to cool the area, and site improvements including landscaping, specifically with regard to greenery, circulation paths, benches, and fountains.

In both options, the historic portion of the building would be used as a controlled access point for hikers, something like a visitor contact station, but without the services of stationed ranger. The benefit of removing the addition is that it allows direct access from the building to the outdoor courtyard to the west of the building. If the addition remains, and is used as storage, the west end of the building would be off-limits to visitors, who would have to exit through the front (north) door and walk around to the west side of the building to access the central landscaped part of the site.

Preferred Treatment

Alternative 2 is the preferred treatment because removing the addition allows the building to be restored to its original 1932 configuration. It also allows (refer to the section on interior rehabilitation) a simpler treatment/restoration of the interior wood floors and single wall construction. Further, if the addition is removed the exterior courtyard area is enlarged, providing more outdoor space for people to gather and increasing the area available for exterior shade structures. This would make the area more attractive and desirable as a hiking destination point. This treatment is, however, the more expensive of the two

options and requires a greater commitment on the part of the Park in establishing a visitor contact station and associated amenities.

Regardless of the alternative chosen, a comprehensive landscape development plan for the entire site, discussing access from the Bright Angel Trail, bridging the creek bed, the lifecycle and planting of shade trees, drainage and site amenities, should be undertaken to give further direction to the design phase of any proposed project.

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X. ENDNOTES

- 1 Director's Order
- 2 Information on the native inhabitants of the Canyon summarized from Michael F. Anderson's *Living at the Edge*.
- 3 Information on Spanish exploration of the canyon is summarized from Michael F. Anderson's *Living at the Edge*.
- 4 Information on Native American use and occupation of Indian Garden is summarized from Jacilee Wray's thesis, *Havasupai Ethnohistory on the South Rim of Grand Canyon National Park: A Case Study for Cultural Resource Management in the National Park Service*.
- 5 ibid
- 6 ibid
- 7 Information summarized from Bright Angel Trail Nomination Form for the National Register of Historic Places, 1992.
- 8 Document held in Grand Canyon National Park archives.
- 9 ibid
- 10 Bright Angel Trail Nomination Form for the National Register of Historic Places, 1992, Section 7, p. 7
- 11 Albright, Horace. *The Birth of the National Park Service*, p. 176.
- 12 Information summarized from *The Birth of the National Park Service* by Horace Albright and Robert Cahn, 1985. pps. 172-186.
- 13 *Daily Silver Belt*, 13 October 1924.
- 14 Bright Angel Trail Nomination Form for the National Register of Historic Places, 1992, Section 7, p. 7
- 15 McClelland, p. 199.
- 16 ibid
- 17 Good, Albert H. *Park and Recreation Structures*. 1938
- 18 As noted in Specification on NPS drawings for Trail Caretakers Cabin at Indian Garden, 1932.
- 19 ibid
- 20 ibid
- 21 ibid
- 22 ibid

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Appendix A. Copies of original drawings of the Trail Caretaker's Cabin at Indian Garden, prepared by the Landscape Division of the NPS, dated 1932.
(Original copy quality is poor.)

SPECIFICATIONS

Foundation

Piers of sizes as shown.
 Mix: 1:2:4
 Girders anchored to piers with 3/8"x16" bolts with nuts and washers.

Stonework

Stone corners, base, steps and chimney top as shown.
 Rough finish, weathered surface native stone laid in cement mortar composed of 1 part Portland cement and 3 parts sand.
 Joints painted with mortar colored slightly darker than the stone.

Brickwork

25x25 common brick flue with minimum cement plastered opening 5/16" from foundation to attic.
 Tumble for stove pipe connection.

Shower Floor

Monolithic concrete, 3/4" base, 1/4" finish surface, reinforced with heavy chicken wire, and sloped to drain. Base same mix as foundation, finish 1/2 mix.

Flashing

Flash where shown with 28 gauge galvanized iron.

Carpentry and Millwork

All framing lumber and rough carpentry shall be best quality Oregon Pine of sizes as shown.
 All finish work shall be No. 1 Common Fir.
 Roof sheathing shall be 1"x6"-2" apart and covered with roofing paper well lapped.
 Shingles shall be Star A Star laid 4 1/2" to weather doubled every 5th course, with reshingle ridge.
 Floors to be single and No. 1 1/4" Oregon Pine.
 Boards for exterior walls shall be 1"x10"-5/16".
 Boards for partitions shall be 1"x10"-5/16".
 Battens shall be 1"x3"-5/16".
 All sash shall be 2 1/2"x26", 1 3/8" thick Sugar Pine casements opening in 6 glazed with 2oz. clear glass.
 Window and door screens shall be 16 mesh bronze wire set in 1 3/8" and 1 1/2" frames respectively.
 Window screens to be detachable.
 Ash drain board, 1 1/2" thick, grooved.
 Kitchen case to have 1 1/2" counter shelf and 1 3/8" thick wood panel doors.
 Back of case to be T&G lined.

Hardware

Furnish and install all hardware both inside and outside required in the completion of the building.

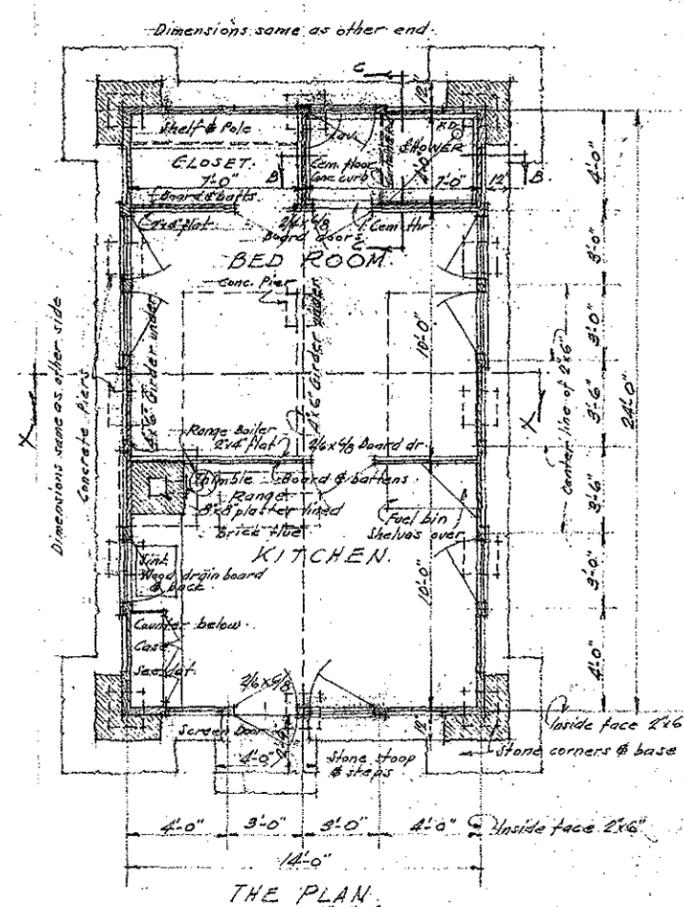
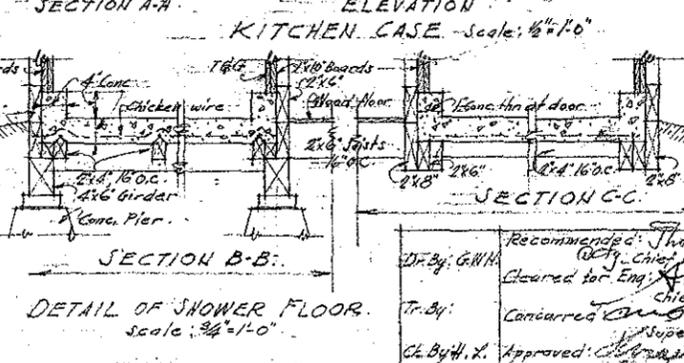
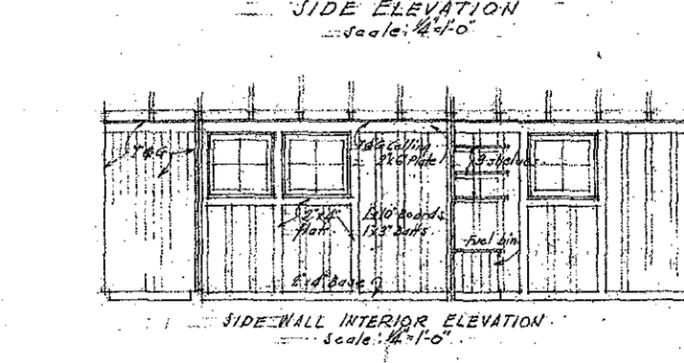
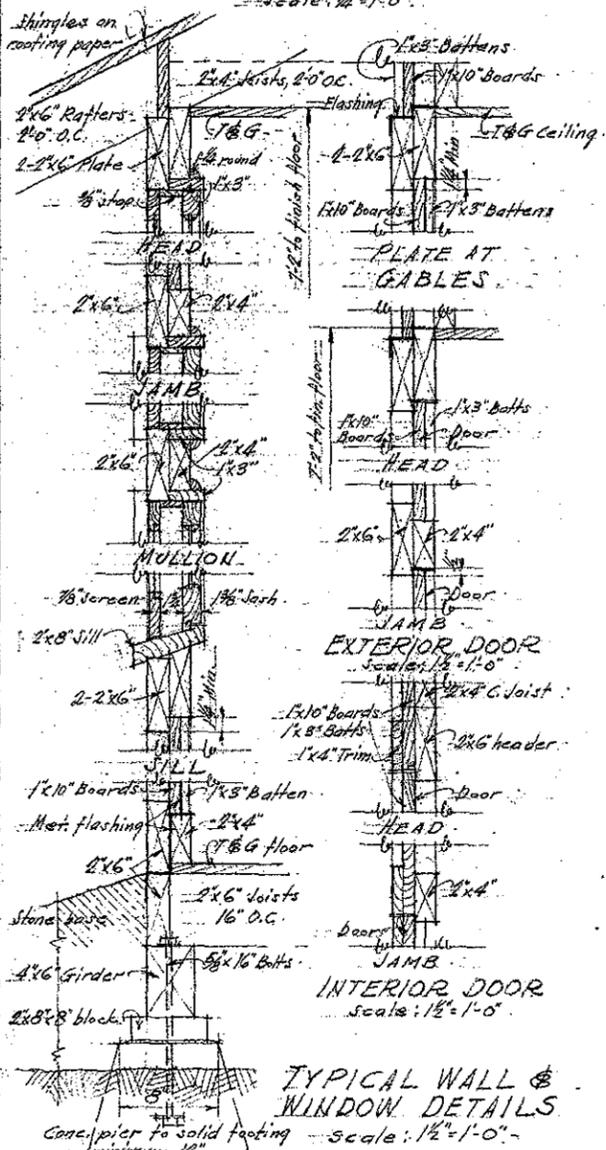
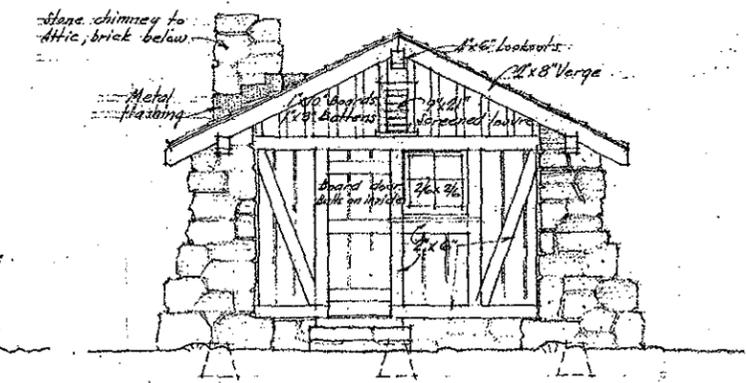
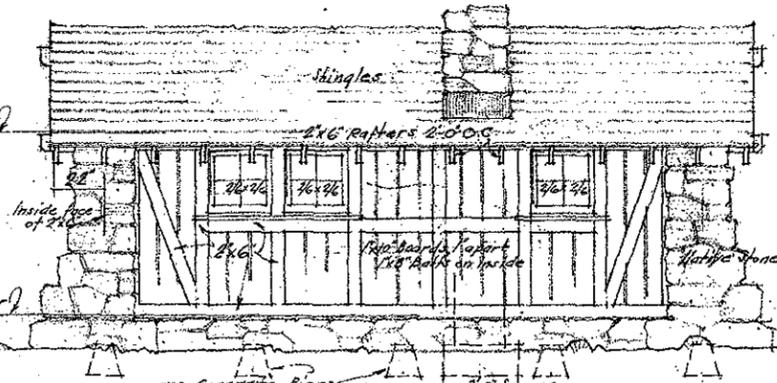
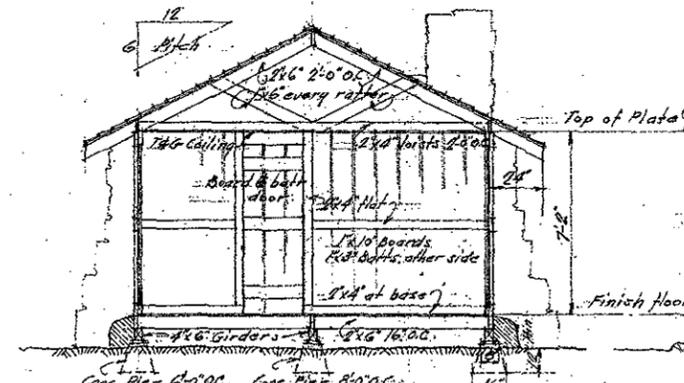
Painting

All exterior woodwork, including roof, except sash shall be stained with Cabots, or equal, creosote stain, color as selected by the Superintendent.
 Sash shall be primed and given 2 coats of lead and oil paint, color as selected.
 All interior woodwork shall be primed and given two coats of lead and oil paint, color as selected.
 All T&G floors shall receive a coat of hot linseed oil. After full penetration, thoroughly wipe dry, wax and polish.

Plumbing

The following fixtures as manufactured by Crane Co., or equal, (Nos. are from Crane catalogue):

- Lavatory: C-2348-P17 size 16 1/2"x16 1/2"
- Shower Head: C-4400-B
- Shower Rod: C-4962-A size 4'-0"x1"
- Shower Drain: Josam #300-C
- Kitchen Sink: C-14350, 24"x20" with C-32752 Aquila H.P. quick compression double faucet with renewable seats, china lever handles, swinging spout, 1 1/2" C-33900 H.P. cast brass P trap to wall with escutcheon.
- Range boiler: C-38436, 24 gal. capacity, extra heavy.



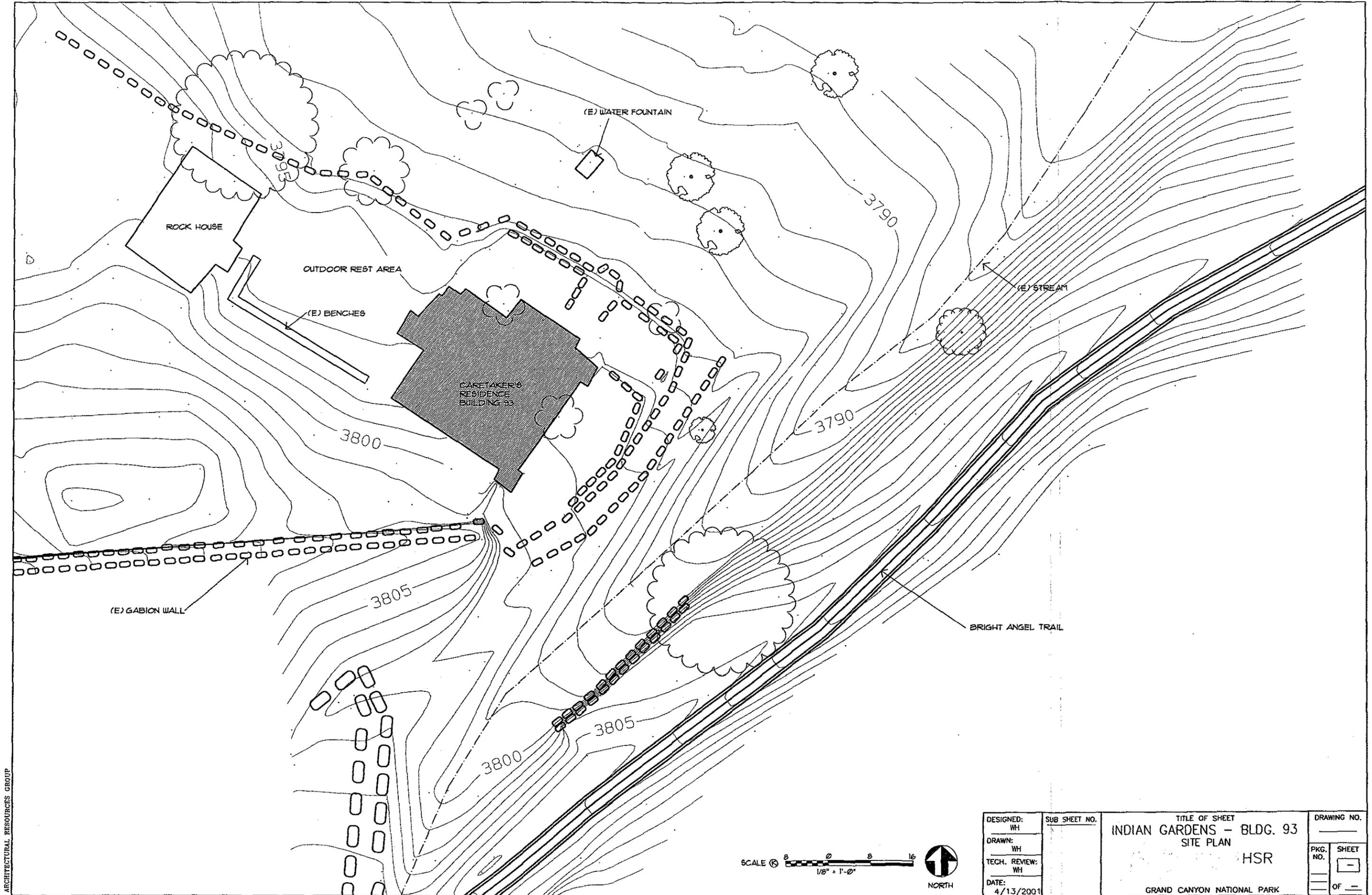
Recommended by: J. W. Carpenter, Chief Landscape Architect
 Cleared for: Eng. W. W. Bruner, Chief Engineer
 Concurred: C. W. Johnson, Superintendent
 Approved: [Signature], Director National Park Service
 Date: 9/1/32
 Date: 1-1-32
 Date: 7/15/32
 Date: 1-1-32

U.S. DEPARTMENT OF INTERIOR-NATIONAL PARK SERVICE
 GRAND CANYON NATIONAL PARK
 CARETAKER'S CABIN-INDIAN GARDEN
 DESIGNED BY LANDSCAPE DIVISION
 Date: 3/19/32
 One Sheet
 Job No. G.C. 3011

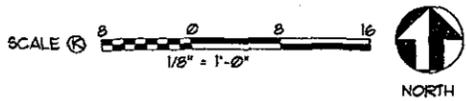
April 13, 2001

Architectural Resources Group

Appendix B. Existing Conditions Drawings of Plans and Elevations by Architectural Resources Group, dated November 2, 2000.



ARCHITECTURAL RESOURCES GROUP

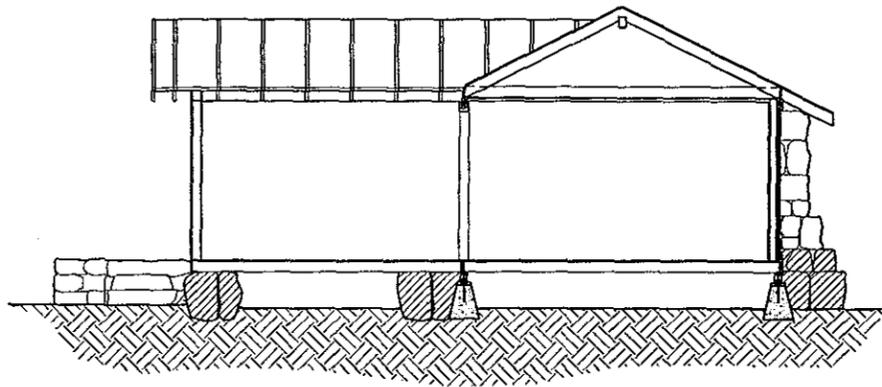


DESIGNED: WH
 DRAWN: WH
 TECH. REVIEW: WH
 DATE: 4/13/2001

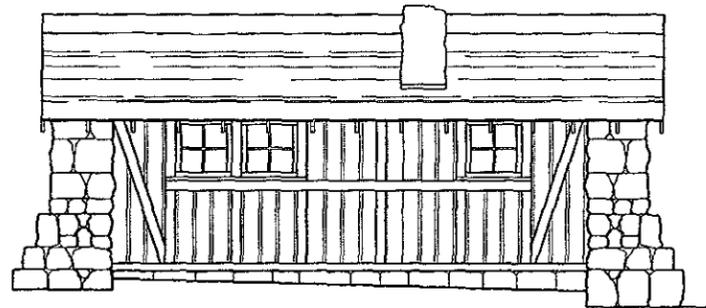
SUB SHEET NO.

TITLE OF SHEET
INDIAN GARDENS - BLDG. 93
 SITE PLAN
 HSR
 GRAND CANYON NATIONAL PARK

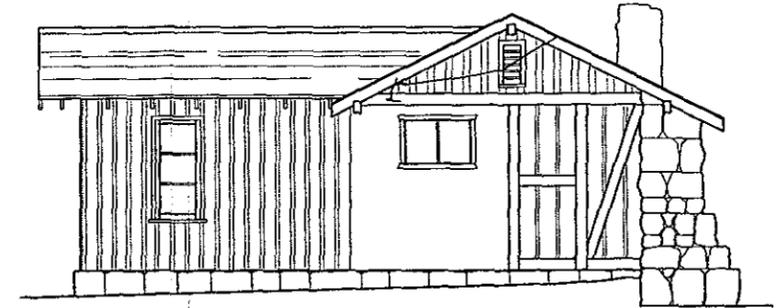
DRAWING NO.
 PKG. NO.
 SHEET NO.
 OF



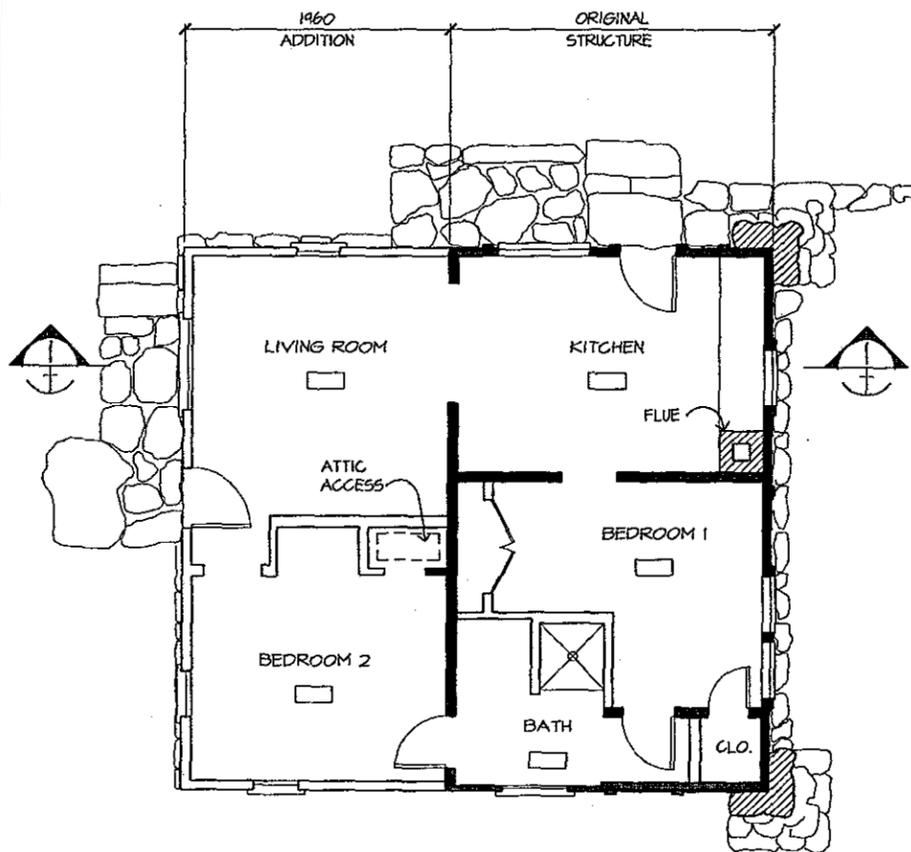
6 SECTION - EXISTING CONDITIONS
A-A SCALE ①



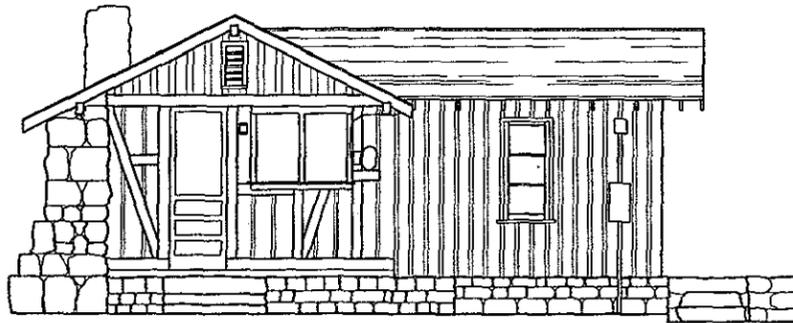
4 EAST ELEVATION - EXISTING CONDITIONS
A-A SCALE ①



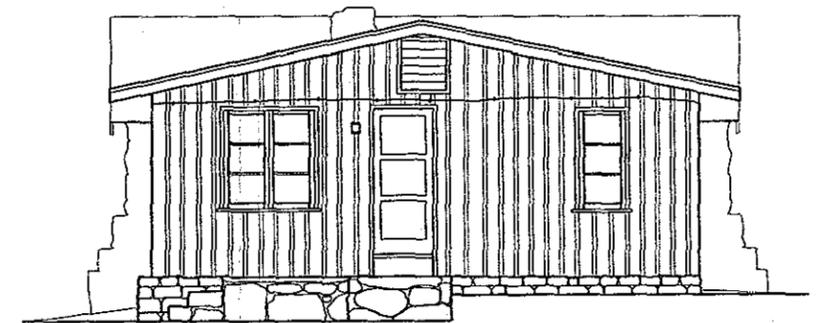
2 SOUTH ELEVATION - EXISTING CONDITIONS
A-A SCALE ①



5 PLAN - EXISTING CONDITIONS
A-A SCALE ①

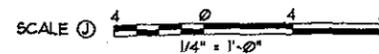


3 NORTH ELEVATION - EXISTING CONDITIONS
A-A SCALE ①



1 WEST ELEVATION - EXISTING CONDITIONS
A-A SCALE ①

ARCHITECTURAL RESOURCES GROUP



PROJECT NORTH

DESIGNED: WH
DRAWN: WH
TECH. REVIEW: WH
DATE: 4/13/2001

SUB SHEET NO.

TITLE OF SHEET
INDIAN GARDENS - BLDG. 93
EXISTING CONDITIONS

HSR

GRAND CANYON NATIONAL PARK

DRAWING NO.

PKG. NO.

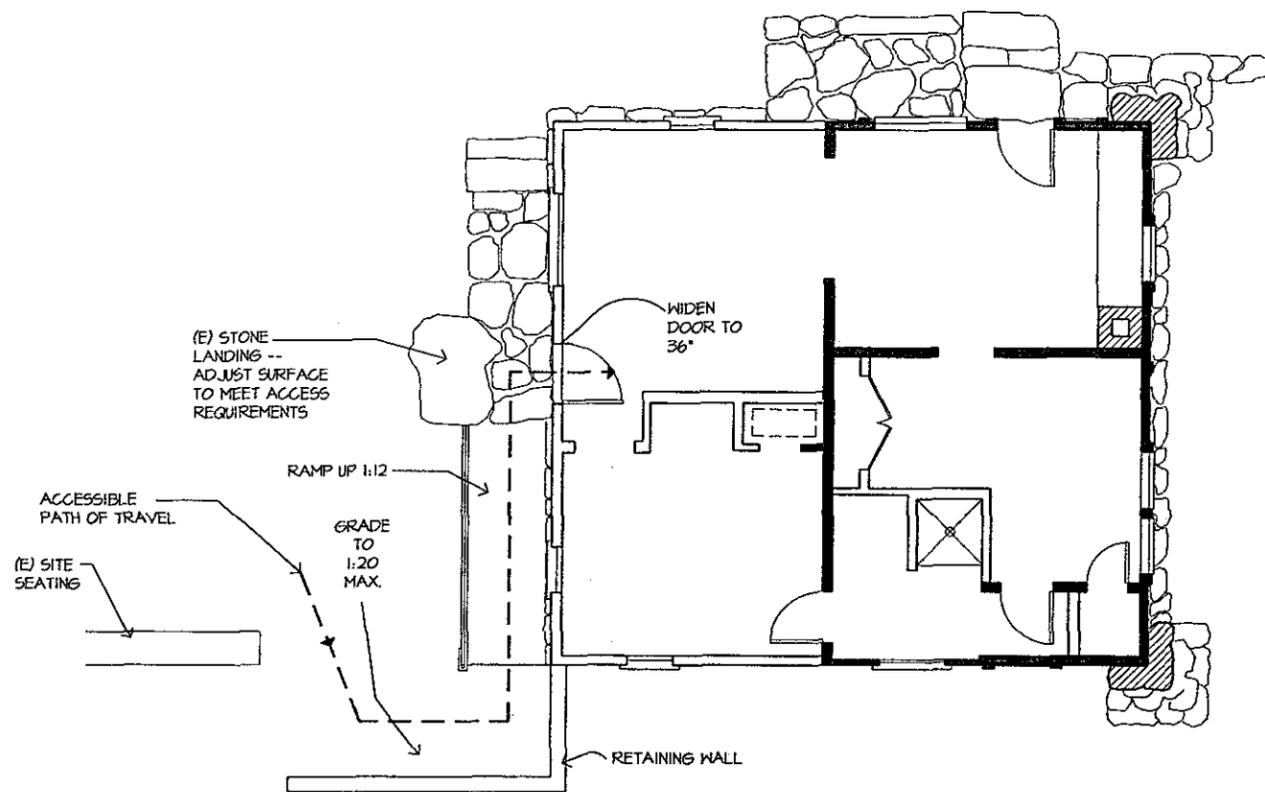
SHEET

OF

April 13, 2001

Architectural Resources Group

Appendix C. Drawings Illustrating Alternative Treatments by Architectural Resources Group, dated November 2, 2000.

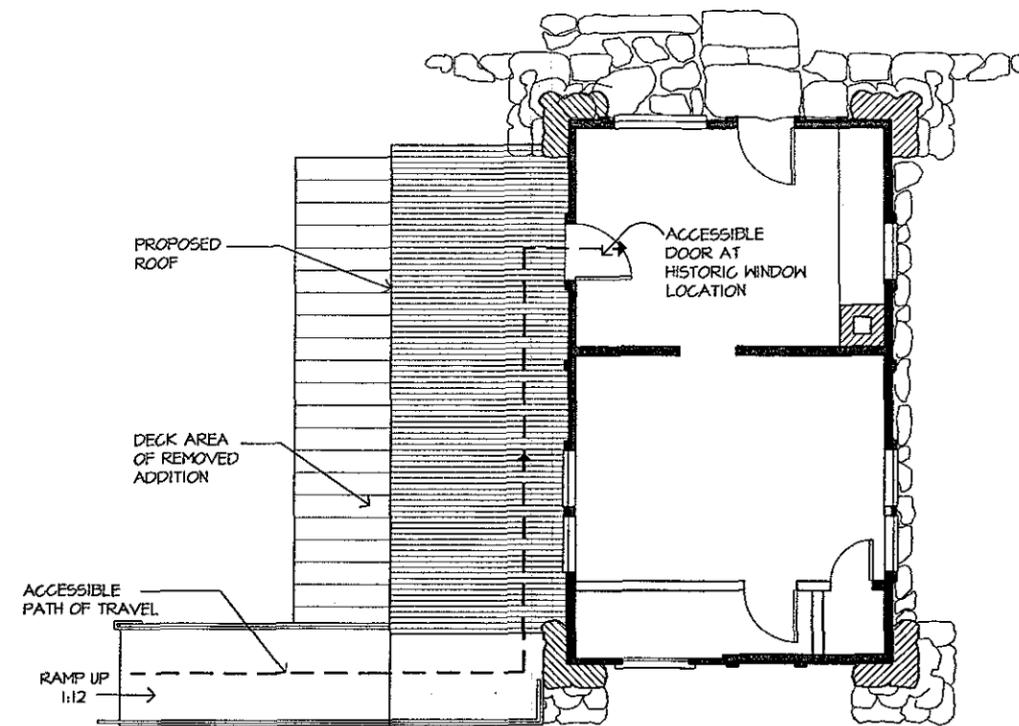


① DEVELOPMENT ALTERNATIVE #1 - REHABILITATION
SCALE ①

- ① REHABILITATION:
EXISTING INTERIOR CONFIGURATION TO REMAIN
REHABILITATE MATERIALS AS NECESSARY
- PROVIDE ACCESSIBLE ENTRY AND RAMP AT WEST FACADE

KEY:

■ ORIGINAL WALL



② DEVELOPMENT ALTERNATIVE #2 - RESTORATION
SCALE ①

- ② RESTORATION:
REMOVE BUILDING ADDITION @ WEST AND RESTORE TO ORIGINAL CONFIGURATION
REMOVE INTERIOR FURRING/GYP. BD. SURFACES AND RESTORE SINGLE WALL CONSTRUCTION.
REHABILITATE MATERIALS AS NECESSARY

PROVIDE ACCESSIBLE ENTRY AND RAMP AT WEST FACADE



PROJECT NORTH

DESIGNED: WH	SUB SHEET NO.	TITLE OF SHEET INDIAN GARDENS - BLDG. 93 DEVELOPMENT ALTERNATIVES	DRAWING NO.
DRAWN: WH		HSR	
TECH. REVIEW: WH			
DATE: 4/13/2001		GRAND CANYON NATIONAL PARK	
			PKG. NO. SHEET NO. OF

April 13, 2001

Architectural Resources Group

Appendix D. Code Analysis.

Preliminary Code Analysis and Accessibility Evaluation

The following codes have been referenced for this analysis: the 1997 edition of the Uniform Building Code; the 1997 Uniform Mechanical Code; the 1996 Uniform Electrical Code; the 1994 Uniform Plumbing Code; and the 1997 Uniform Fire Code. The 1997 Uniform Code for Building Conservation (UCBC) has also been referenced to determine alternative code compliant solutions for historic buildings.

Although not a building code, the Americans with Disabilities Act (ADA) is a federal civil rights law that governs accessibility to buildings for the disabled. National Park Service (NPS) Director's Order 28 requires all historic structures to be made accessible to the highest degree for visitors and employees. Because the intent of the ADA is not necessarily addressed in the building code, a review of a project pursuant to ADA requirements is included in the following preliminary code analyses. The following standards have been referenced for this analysis: ADA Accessibility Guidelines for Buildings and Facilities (ADAAG), amended January 1998, and the Uniform Federal Accessibility Standards (UFAS). Where there is a discrepancy between ADAAG and UFAS, the NPS is required to follow the guidelines that provide equal or greater accessibility.

The classification of historic buildings as qualified historic buildings is typically an important step in the long-term preservation of historic character. Building codes, such as the UBC, prescribe solutions to conditions based on new construction models. When conformance with prevailing codes - such as the UBC - would adversely affect the historic character of a qualified historic building, the UCBC may be invoked as a means to preserve historic fabric and explore solutions that meet the intent, but not necessarily the letter, of the UBC.

As indicated above, the following code analysis is preliminary. To facilitate future design work, this code analysis attempts to cite all major ways in which the building does not comply with prevailing codes. If the UBC and UCBC suggest that a condition may remain subject to verification with the building official, the non-compliant condition is typically noted and qualified.

The classification of program elements (uses) are as follows:

1932 portion: Visitor Contact Station (office)
(B occupancy under the UBC)

1960 addition: SAR Storage (S-2 occupancy under the UBC)

1) Occupancy Classification: Chapter 10 of the UBC establishes the available number of occupants in the building, (a ratio referred to as occupant load) and Chapter 3 outlines occupancy requirements. The following matrix excludes square footages for service areas

occupied or used by the occupants of the major rooms; these spaces include circulation (corridors and staircases), toilet rooms, and closets. The rooms discussed below are shown on the building plans. Based on the table below, the total occupancy load for the 1932 portion is 3 occupants. The total occupancy load for the 1960 addition is 1 occupant.

April 13, 2001

Area and Occupancy Matrix

ROOM(S)	AREA (SQ. FT)	USE	OCC. LOAD (SQ. FT / OCC.)	NO. OF OCCS.	OCCU-PANCY
1932 structure	349	office	349/100	3	B
1960 addition	289	storage	289/300	1	S-2

Allowable Area / Height Matrix

BUILDING	OCCUPANCY	ACTUAL AREA	ALLOWED AREA (Type V-N Const.)	ALLOWED HEIGHT / (Type V-N Const.)	PERMITTED OR NOT IN BUILDING
Caretaker Residence	B/S-2	638	8000	2	Permitted

2) Type of Construction: The existing construction is type V, non-rated, as defined in Chapter 6 of the UBC.

The following is a preliminary code analysis of Building #93, addressing only major code issues that have a bearing on facility planning issues and including suggested resolutions to broad code issues:

UBC INCLUDING LIFE SAFETY/DISABLED ACCESS REQUIREMENTS	RESOLUTION OF CODE ISSUES
Exit should swing in direction of travel	UCBC 605.2 states that this can be excepted for historic buildings.
Handrails required at exterior stairs	UCBC 405.1.2 states that handrails are not required for (e) stairs having less than 4 risers. Stairs at both doors have 3 risers.
Landing at doors should be 44" min. in direction of travel (UBC 1993.3.17)	(E) stone landing at front door is 30". A waiver will have to be granted by the local code official due to the rustic and irregular nature of the stone landing (and entire site).
UCBC 405.1.1 allows for (e) treads and risers of and dimension. However, there can only be a 3/8" max. difference from tread to tread or riser to riser.	(E) stone risers and treads vary by more than 3/8". A waiver will have to be granted by the local code official due to the rustic and irregular nature of the stone steps.

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Architects, Planners & Conservators, Inc.

April 13, 2001

Architectural Resources Group

Appendix E. Historic Photographs of the Residence at Indian Garden in
Chronological Order.

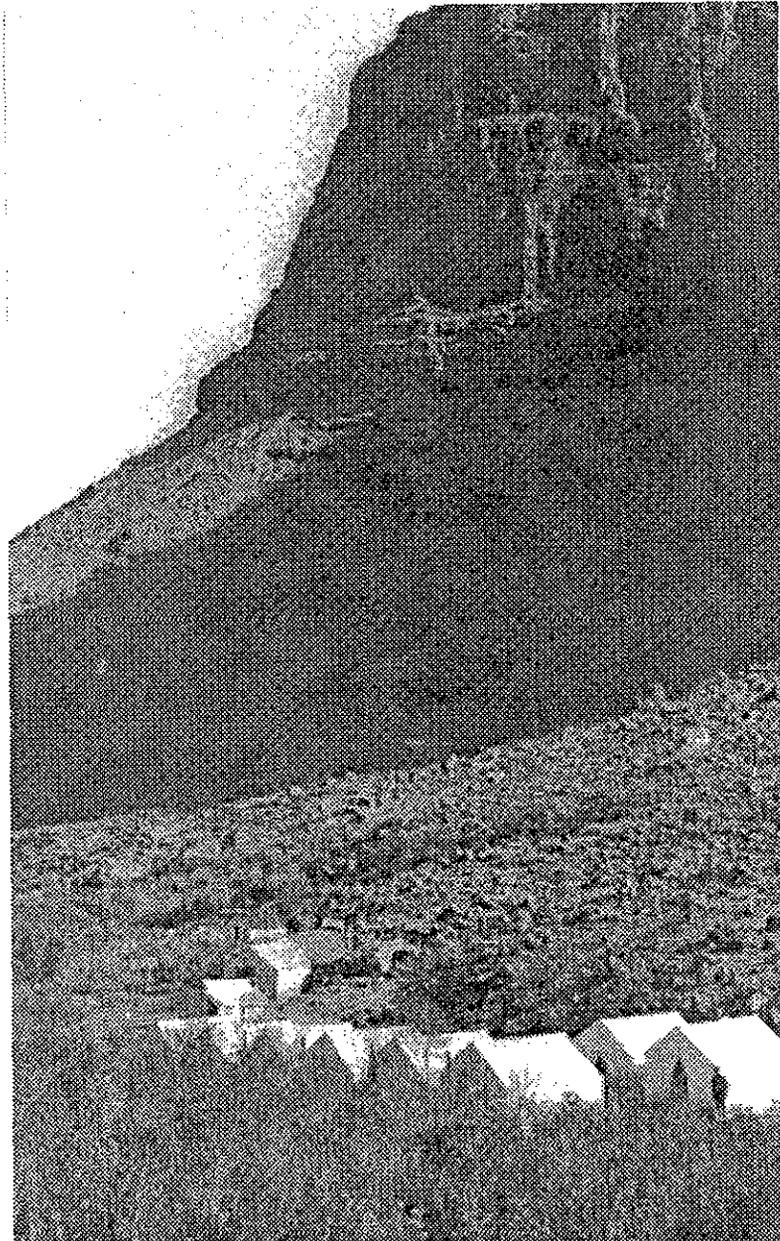


Figure 1. The photo illustrates tent cabins at Cameron's Indian Garden Camp, circa 1905. Note the absence of mature trees. GCNPA Number 15836 B.

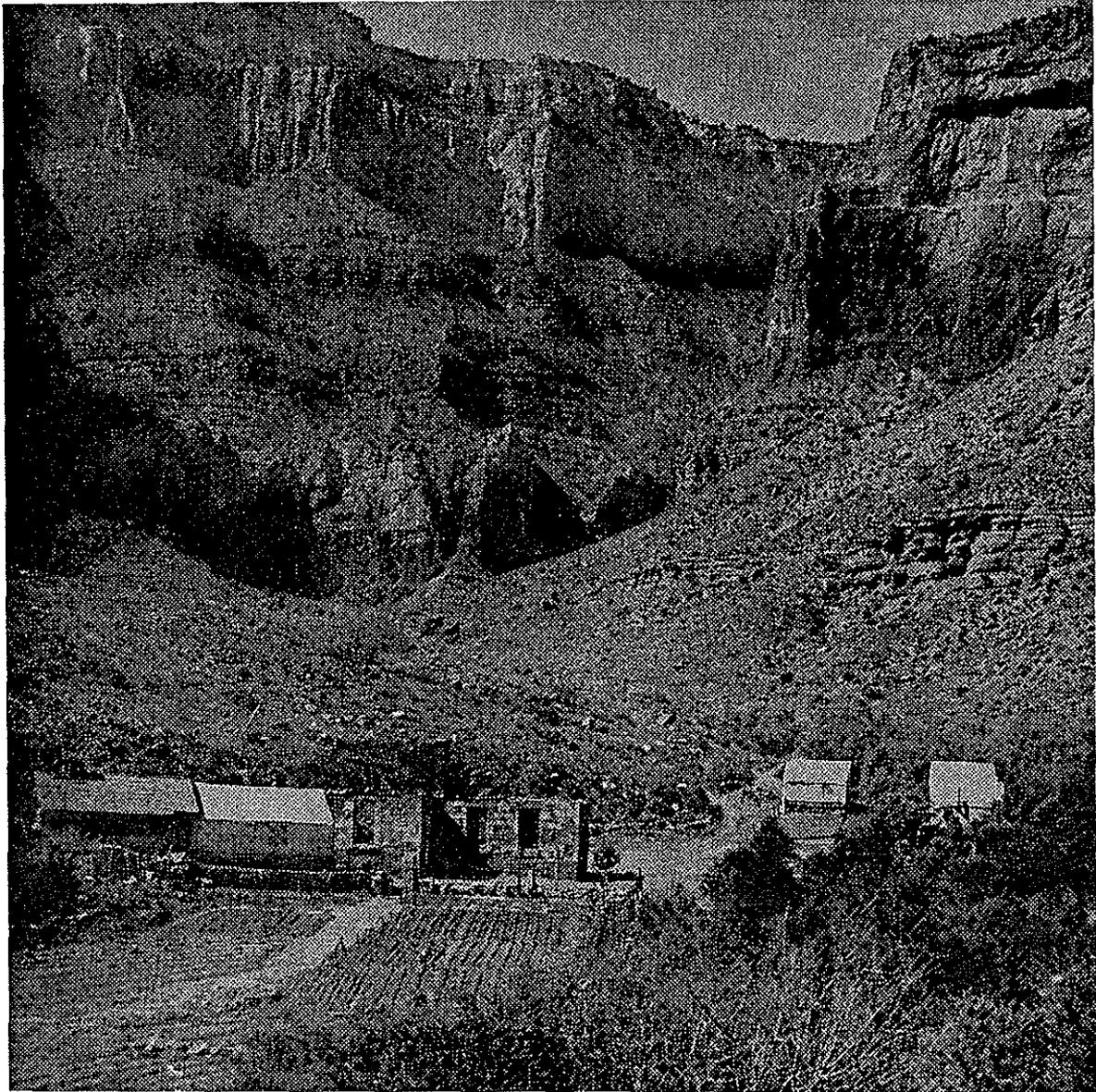


Figure 2. The Bright Angel Trail leads to Cameron's Indian Garden Camp in 1906. The image shows makeshift buildings, tents and the beginnings of cultivated fields. View is looking toward the south. GCNPA Number 3611 C.

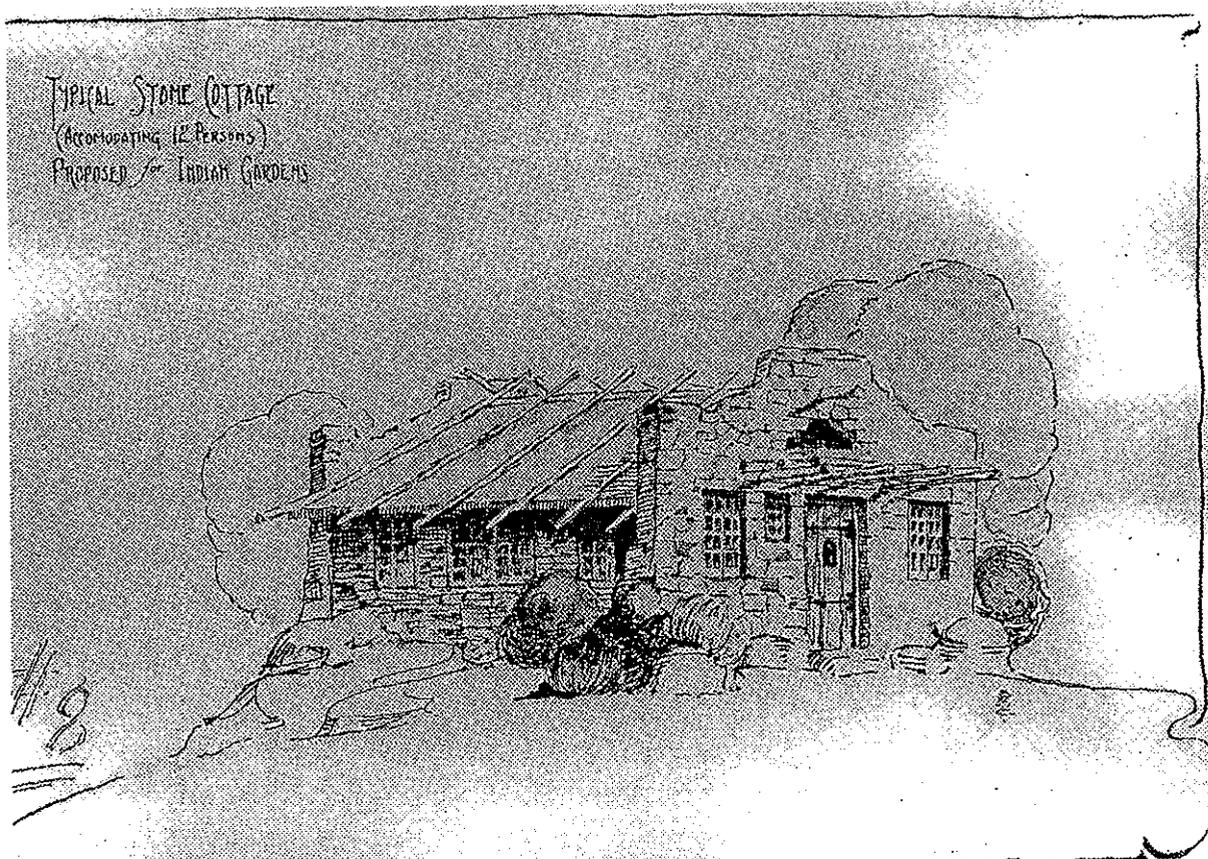


Figure 3. Sketch for guest cottages at Indian Garden by architect Mary Jane Elizabeth Colter, dated 1916. Although this project was never realized, Colter's plans inspired the development of Phantom Ranch a few years later. GCNPA Number 16682.

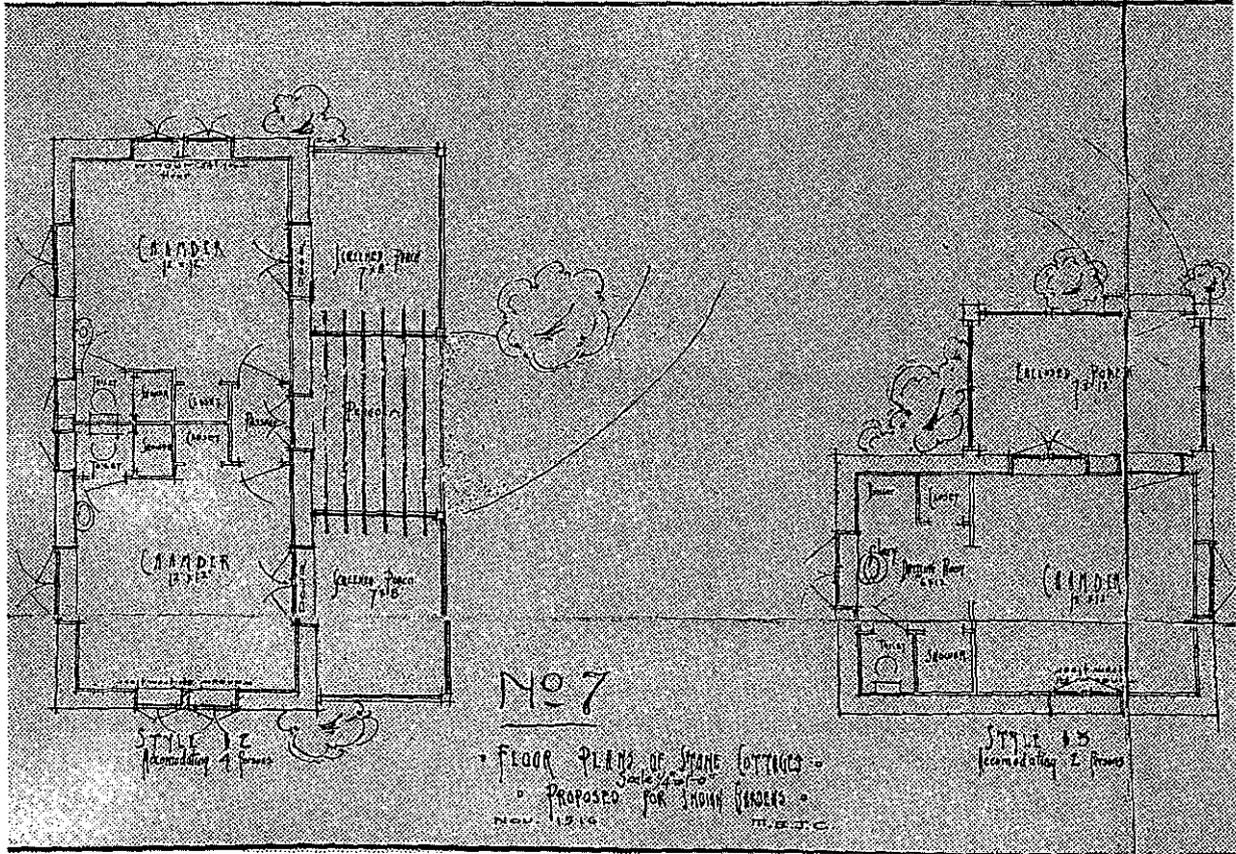


Figure 4. Drawing titled "Floor Plans of Stone Cottages" proposed for Indian Garden by architect Mary Jane Elizabeth Colter, dated November, 1916. The cottages were to be part of a larger hotel development at Indian Garden in 1916, but were never built. GCNPA Number 16713.

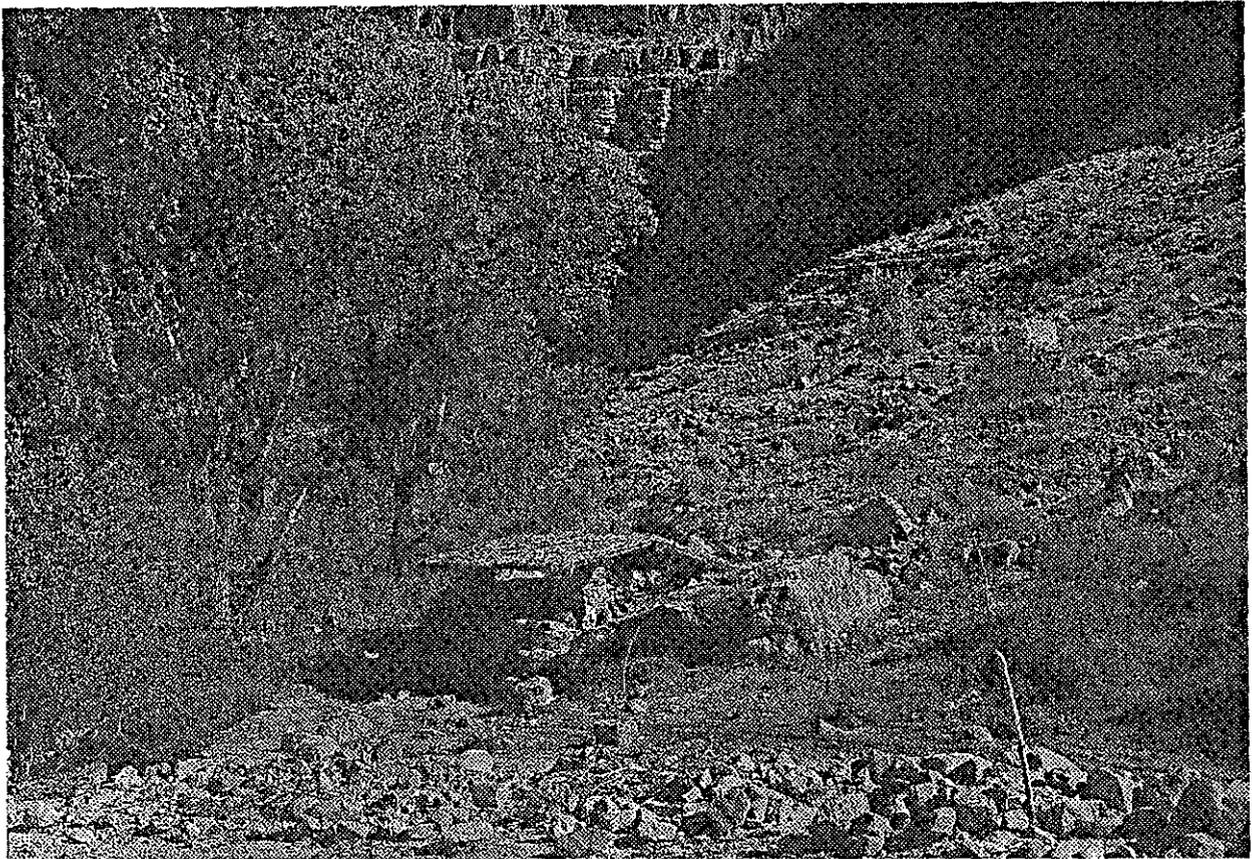


Figure 5. The structure illustrated is the Stone Shelter at Indian Garden, Building 143 on the Bright Angel Trail, located further into the canyon past the Trail Caretaker's Residence. Date unknown, however it appears to be an early photograph. The photo is dated sometime after 1936, the year that the structure was built by the CCC. Note the presence of maturing trees, most likely planted during the Cameron era. GCNPA Number 7584.

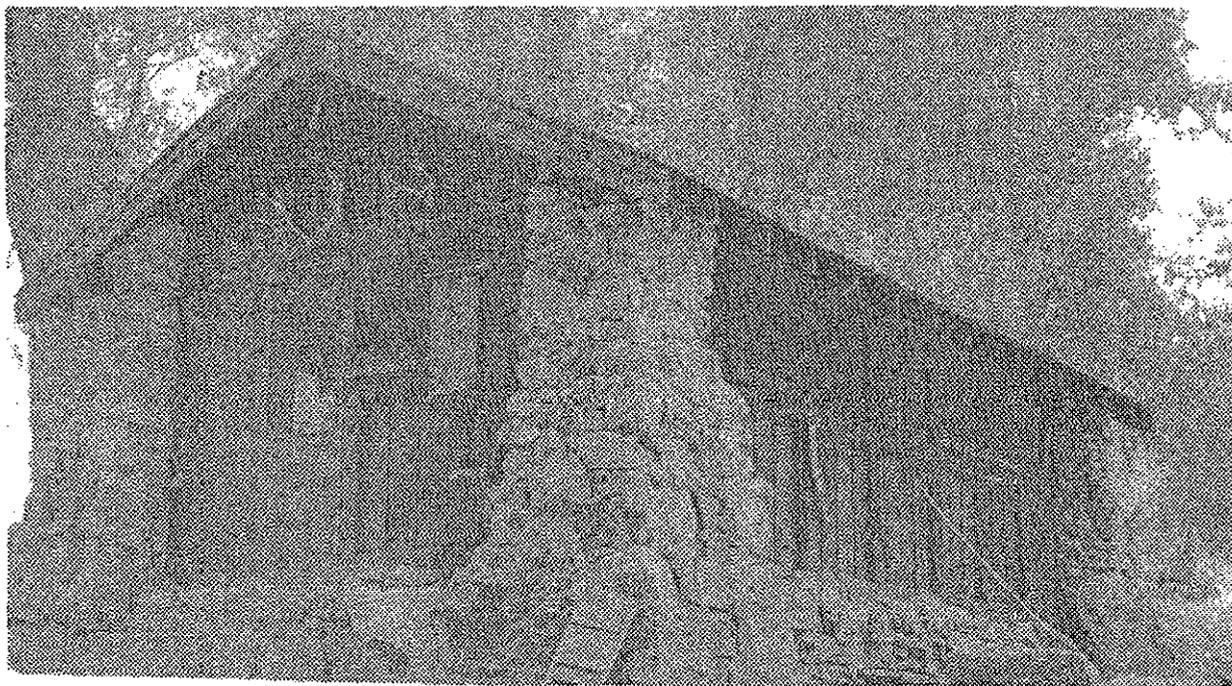


Figure 6. The photo illustrates the Trail Caretaker's Residence as photographed for a Maintenance Report, dated September, 1946. The image shows the cabin before the addition of 1960 that required removal of two of the building's original four stone corner piers. Note the distinctive framing on the exterior of the structure. GCNP Engineering Office - Maintenance Records.

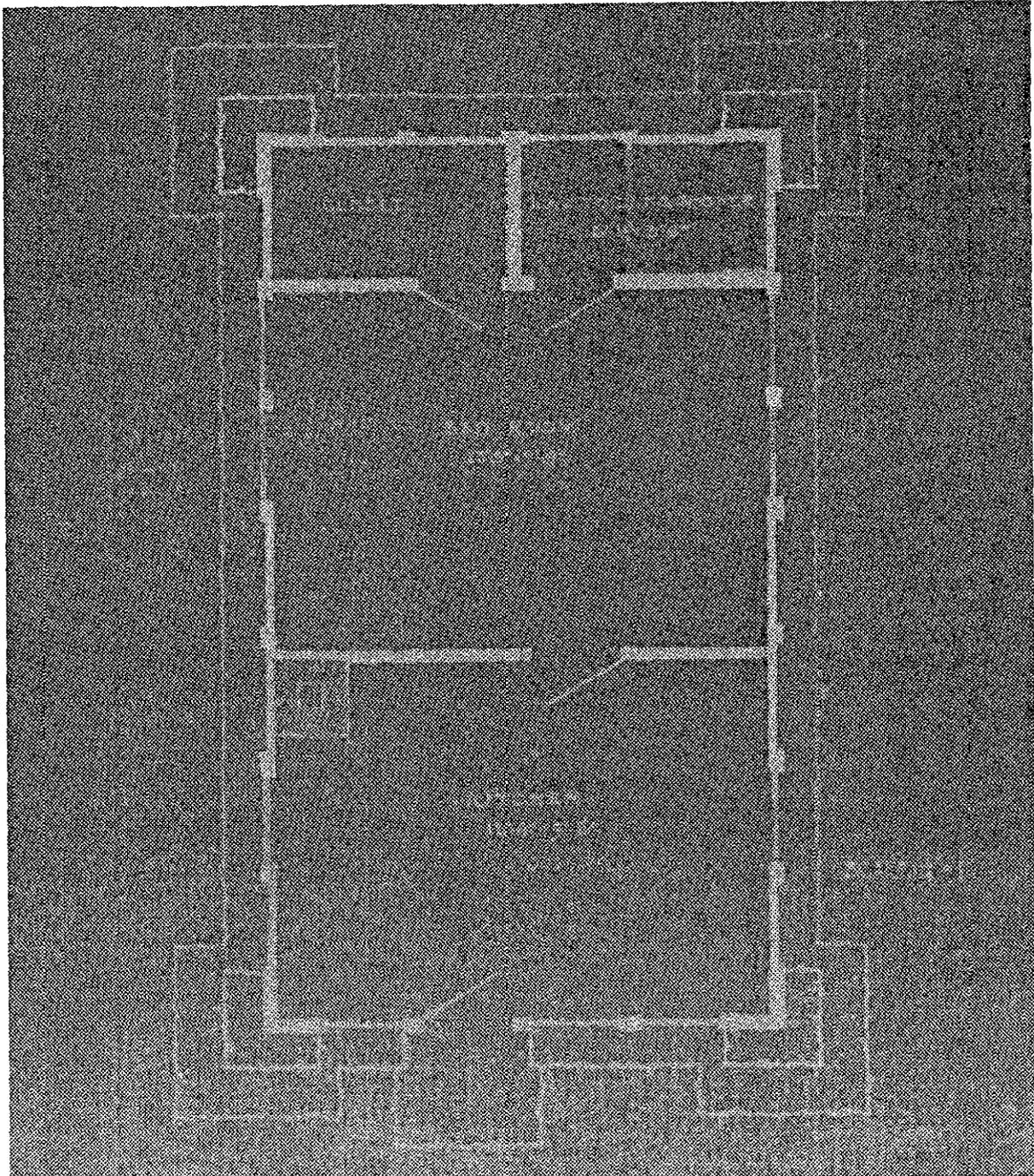


Figure 7. The image illustrates the plan of the Trail Caretaker's Residence as prepared for a Maintenance Report, dated September, 1946. The plan reveals the simple proportions and symmetry of the structure in its original condition. Note the squared corners in plan, the exaggerated stone piers that gave the cabin a sense of monumentality. GCNP Engineering Office - Maintenance Records.

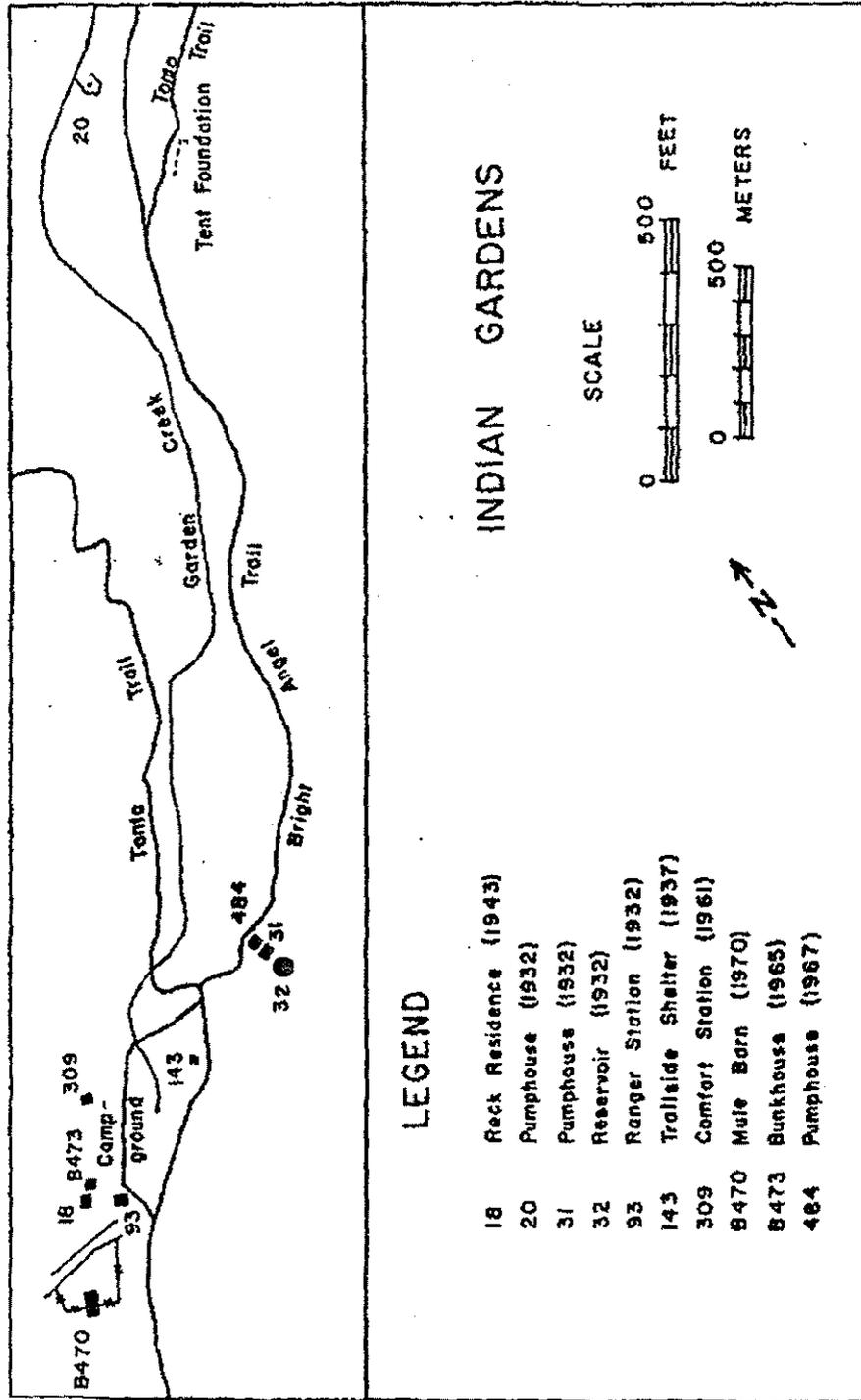


Figure 8. Plan of Indian Garden and the Bright Angel Trail from Terry Cleeland's 1986 thesis entitled "The Cross Canyon Corridor Historic District in Grand Canyon National Park: A Model for Historic Preservation." In the plan the Trail Caretaker's Residence (Building 93) is referred to as the "Ranger Station." GCNP Engineering Office - Maintenance Records.

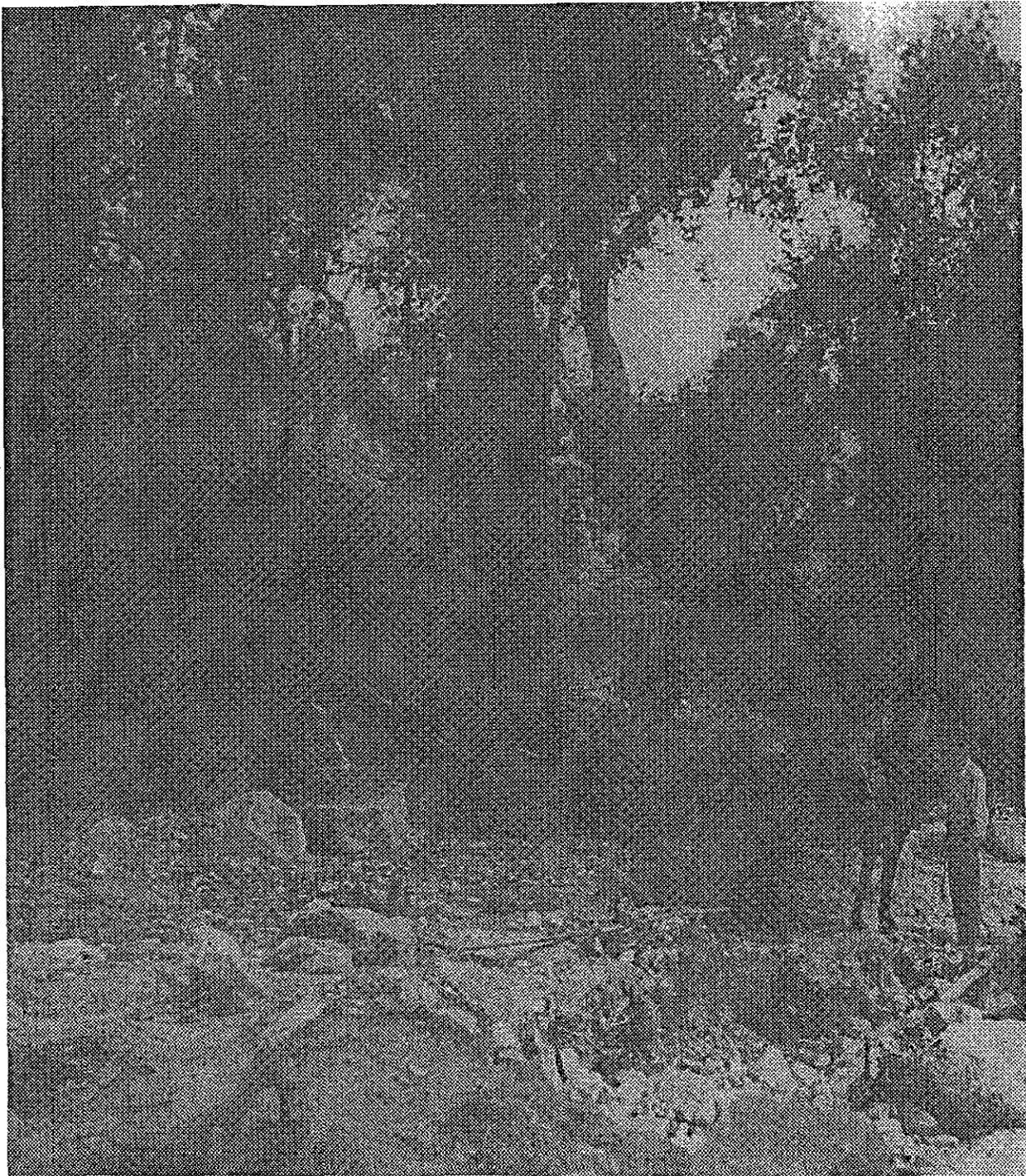


Figure 9. The image shows Indian Garden in a 1966 photo. The Trail Caretaker's Residence is in the background. Foreground shows boulders, tree limbs and rubble washed into the creek bed. Rising waters and runoff are issues for this site as it lies in a flood plain. GCNPA Number 10068.

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Appendix F. Photographs of Existing Conditions.



Figure 1. The image captures the character of the Indian Garden site against the steep walls of the canyon. Shady and tranquil, the site is distinguished by leafy trees, benches, fountains, paths and low rock walls. View is looking south into the center of the site with the Trail Caretaker's Residence on the left, the Rock House, on the right. ARG Photo dated May, 2000.

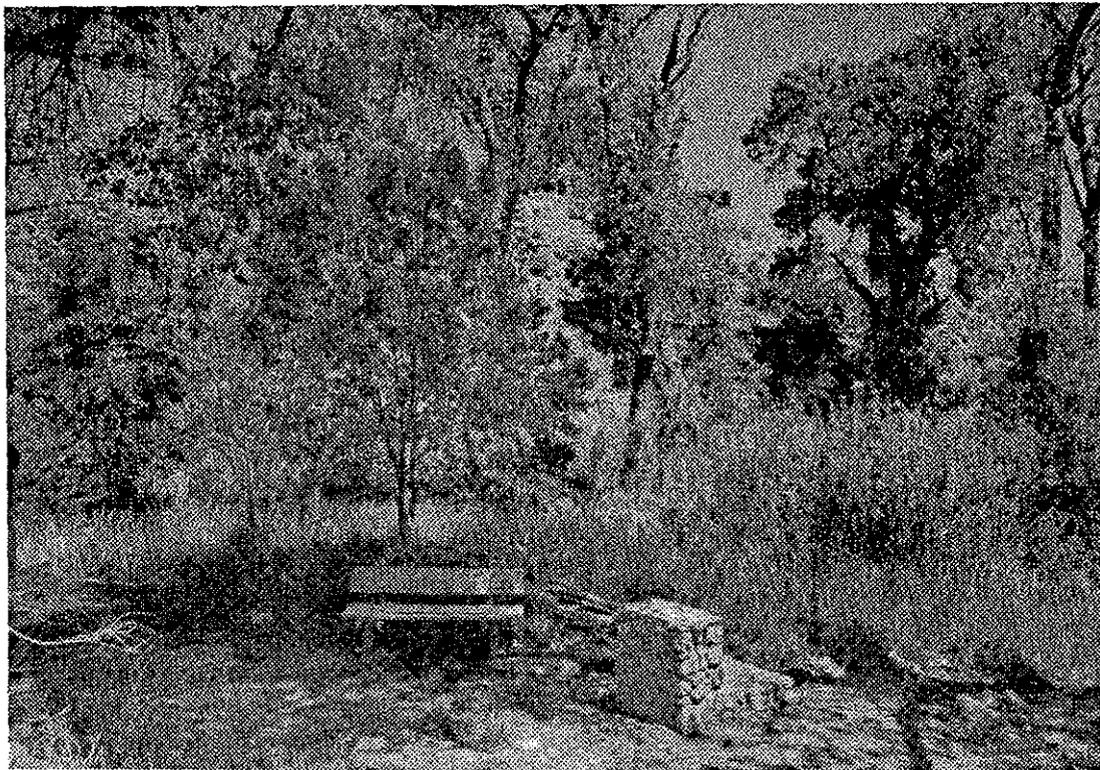


Figure 2. The image illustrates the relationship of the Indian Garden site to the inner canyon walls. The rocky outcropping and jagged canyon wall profile in the distance provide a dramatic contrast to the cool, shady site. View is looking west from in front of the Trail Caretaker's Residence. ARG Photo dated May, 2000.



Figure 3. The image illustrates the gabion walls that mark the southern boundary of the immediate environs of the Trail Caretaker's Residence at Indian Garden. The rock walls measure approximately 5' in height and are constructed like a wire cage filled with stones to divert run-off and act to prevent damage during flooding. View is looking southwest from behind the structures. ARG Photo dated May, 2000.



Figure 4. The image illustrates the proximity of the gabion walls to the Trail Caretaker's Residence at Indian Garden. View is looking southeast from the space between the two structures. ARG Photo dated May, 2000.



Figure 5. The image illustrates the paths that wind around and through the site connecting the Bright Angel Trail to the two residences. The charmingly overgrown paths, some paved in irregularly-shaped stones, some unpaved, are a common feature. View is looking west toward the Rock House across the principal elevation of the Trail Caretakers Residence. ARG Photo dated May, 2000.



Figure 6. The photo is taken of the stone porch that runs along the west elevation of the Trail Caretaker's Residence and below the door added in the 1960 works. It is thought that the porch and other elements of the 1960 alteration re-use stones that were dismantled from two of the four original corner piers. ARG Photo dated May, 2000.



Figure 7. The image illustrates the principal elevation of the Trail Caretaker's Residence at Indian Garden. From this angle, the aesthetic effects of the 1960 alteration and removal of the stone corner pier from the main facade are most noticeable, changing the balance and symmetry of the composition. Note the prominence of the role of landscaping to the project. ARG Photo dated May, 2000.

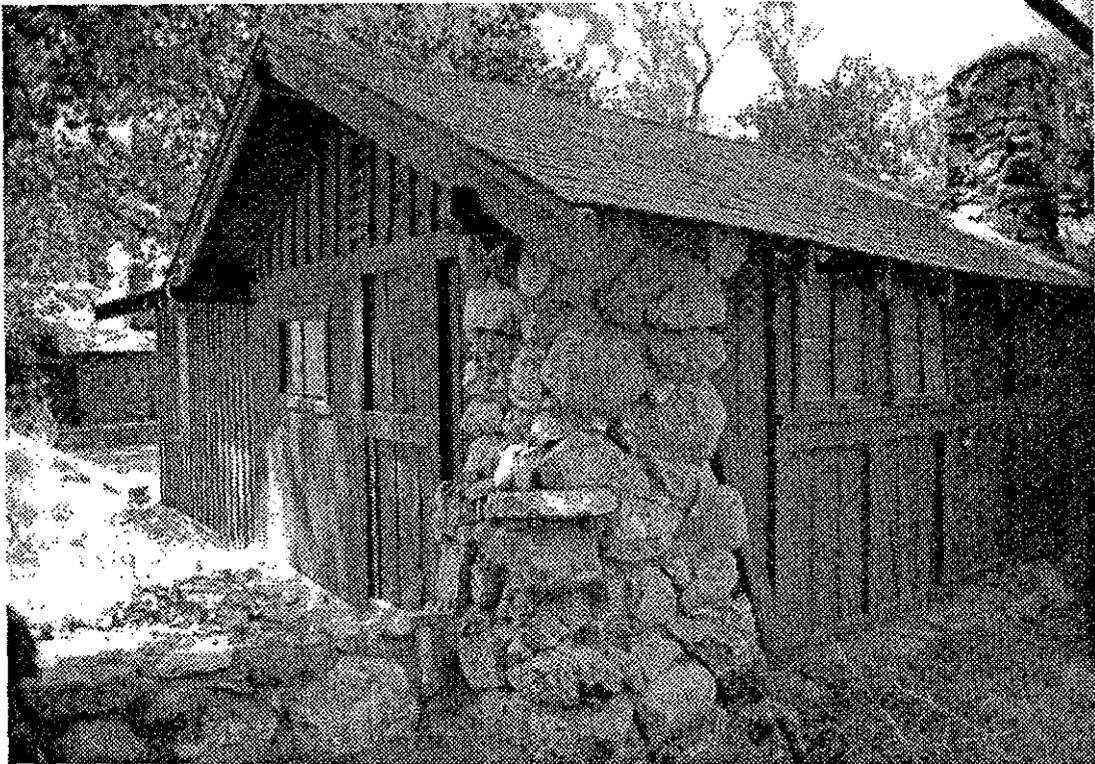


Figure 8. The image illustrates the rear elevation of the Trail Caretaker's Residence at Indian Garden. The 1960 addition is visible to the left. Note the stonework of the corner pier and chimney both constructed in local native stone. ARG Photo dated May, 2000.



Figure 9. The image illustrates the asymmetrical west elevation of the Trail Caretaker's Residence at Indian Garden, the principal elevation of the 1960 alteration. This elevation looks toward the Rock House and forms a "wall" of the central clearing between the two buildings, logical location for an open space for benches, picnicking or repose. ARG Photo dated May, 2000.



Figure 10. The image illustrates the path that parallels the north-running creek bed and the Bright Angel Trail to the left of the photo. The path skirts the east elevation of the Trail Caretaker's Residence. View is looking south. ARG Photo dated May, 2000.

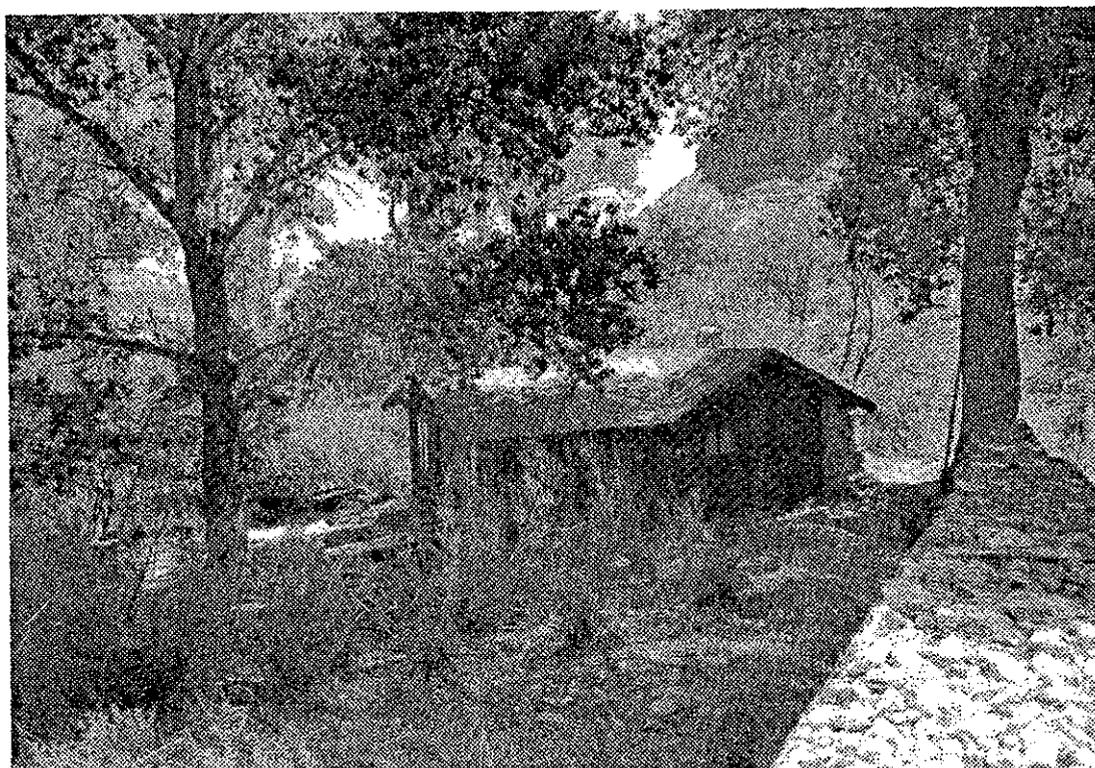


Figure 11. The image illustrates the roof configuration of the Trail Caretaker's Residence. From this angle, the image also illustrates the orientation of the cabin toward the inner canyon. ARG Photo dated May, 2000.



Figure 12. The image illustrates the cabin's interior roof framing showing the original part of the structure in the rear and the newer truss construction completed in 1960. ARG Photo dated May, 2000.

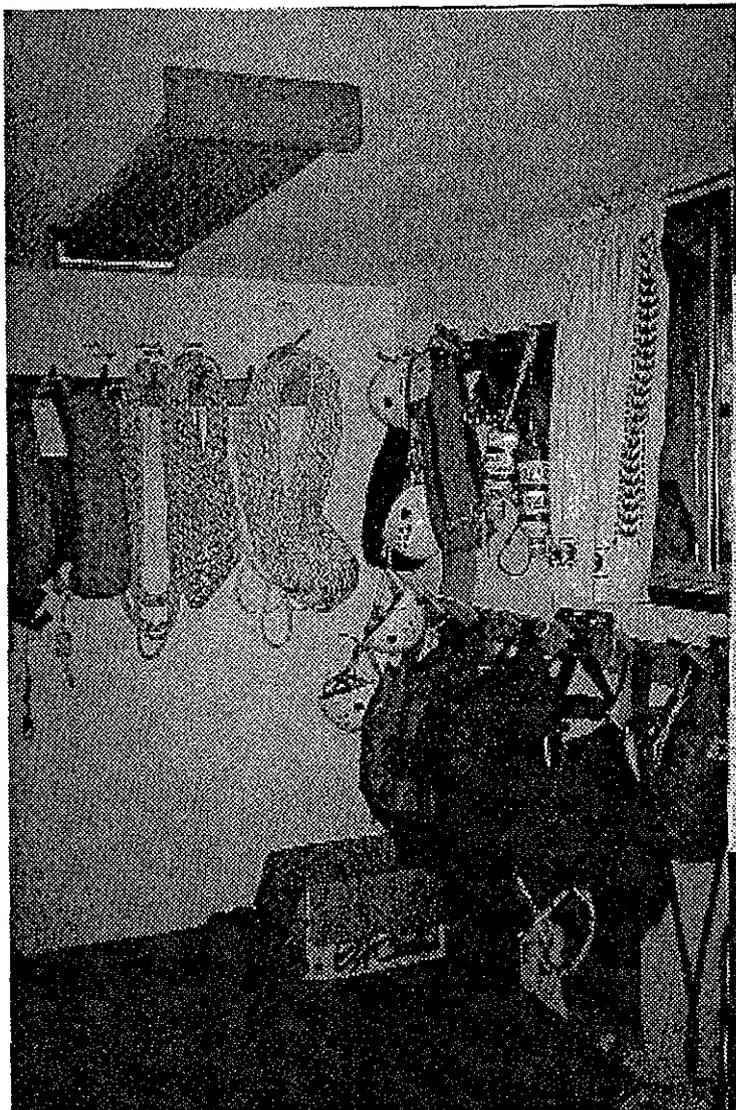


Figure 13. This image is representative of the use of the former Trail Caretakers residence as storage. Note gypsum walls and ceiling and ceiling-mounted fluorescent light. ARG Photo dated May, 2000.

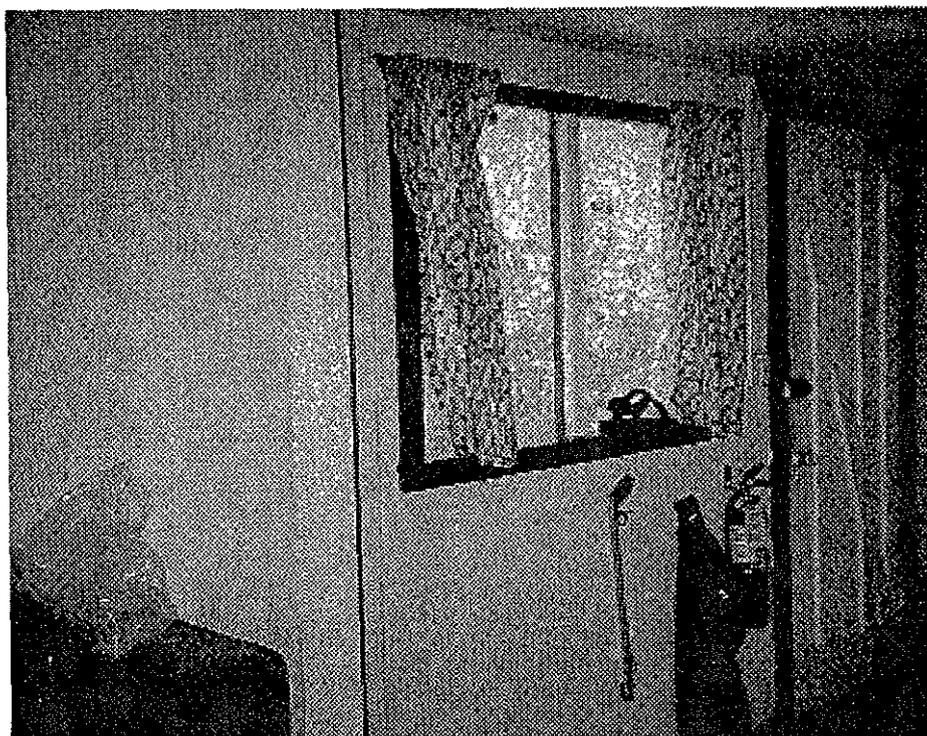


Figure 14. View of the interior wall of the principal facade. Note original door at right. ARG Photo dated May, 2000.

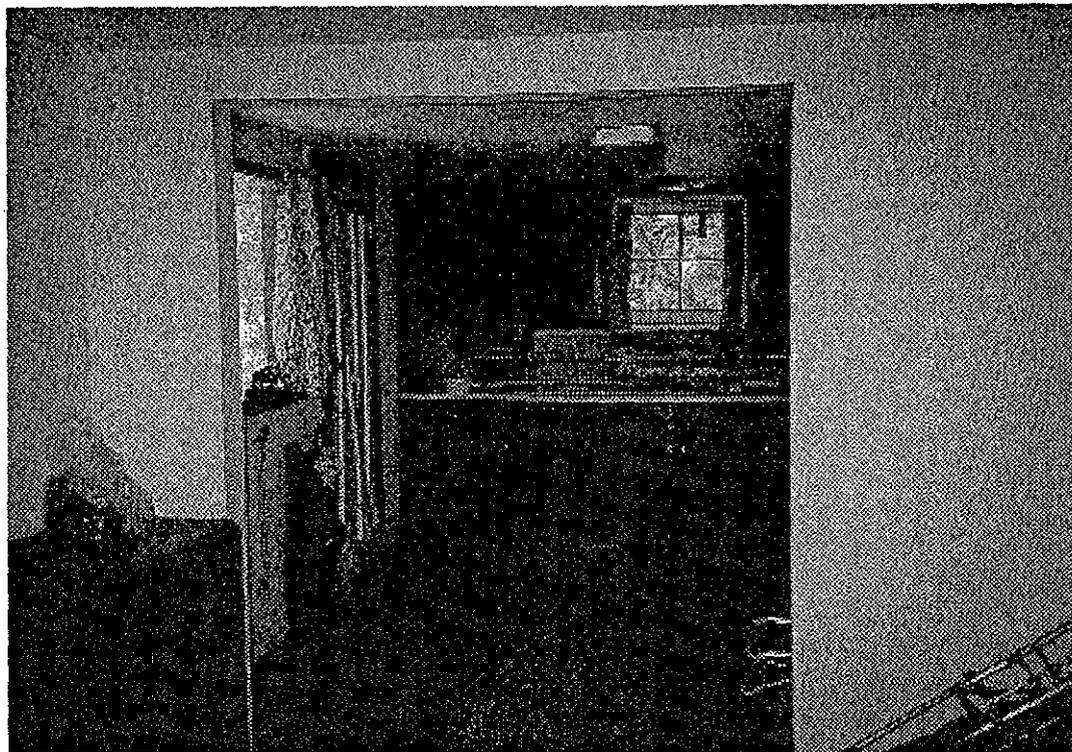


Figure 15. This image represents the view looking from the living room into the kitchen. ARG Photo dated May, 2000.

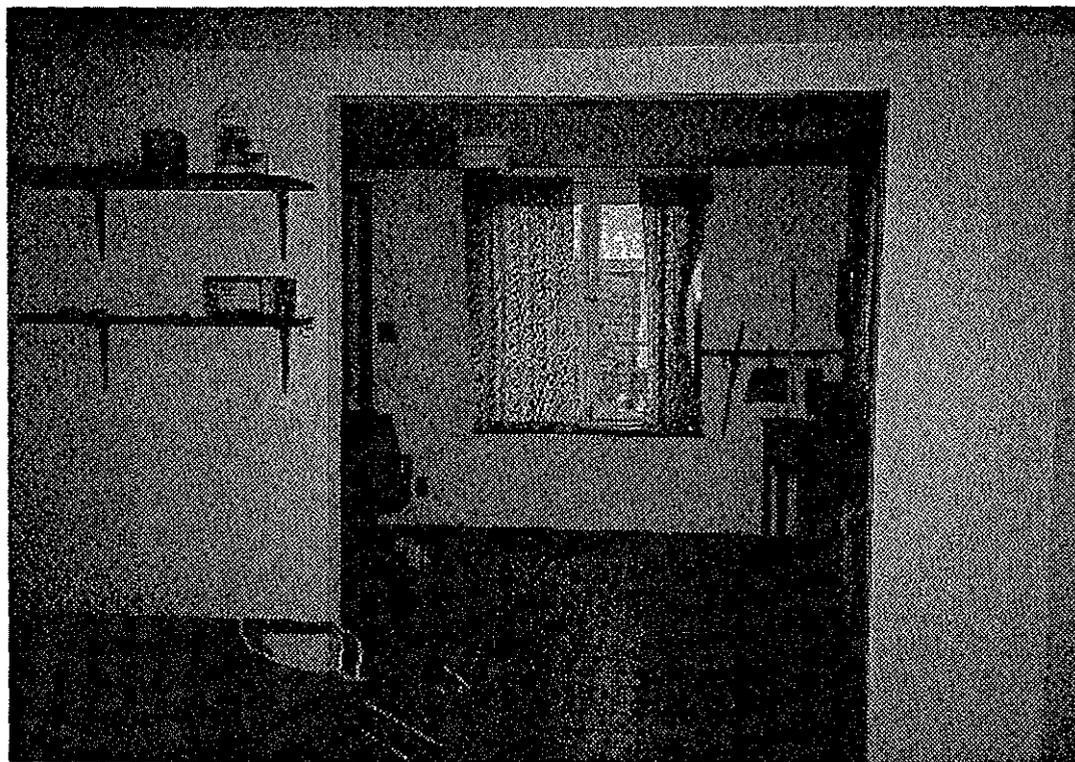


Figure 16. This image represents the view looking from the kitchen, part of the original structure, into the living room, looking west. ARG Photo dated May, 2000.



Figure 17. The image illustrates the relationship of the inner canyon location of Indian Garden as the first stop for hikers descending into the depths of the canyon. The distant views into the canyon are a characteristic feature of the site. View is looking north from the Trail Caretaker's Residence. ARG Photo dated May, 2000.

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Appendix G. National Register Nomination for the Bright Angel Trail, dated September 13, 1992. (Due to document length, only the Statement of Significance is included.)

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 Bright Angel Trail
other names/site number Bright Angel Toll Trail; Cameron Trail

2. Location

street & number Grand Canyon National Park not for publication
city, town Grand Canyon Village vicinity
state Arizona code AZ county Coconino code AZ005 zip code 86023

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
<input type="checkbox"/> private	<input type="checkbox"/> building(s)	Contributing	Noncontributing
<input type="checkbox"/> public-local	<input type="checkbox"/> district	<u>7</u>	<u>8</u> buildings
<input type="checkbox"/> public-State	<input type="checkbox"/> site	<u>3</u>	_____ sites
<input checked="" type="checkbox"/> public-Federal	<input checked="" type="checkbox"/> structure	<u>1</u>	_____ structures
	<input type="checkbox"/> object	_____	_____ objects
		<u>11</u>	<u>8</u> Total

Name of related multiple property listing:
Grand Canyon, Arizona Historic Trails & Roads

Number of contributing resources previously listed in the National Register 0

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

B. Statement of Significance

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

nationally statewide locally

Applicable National Register Criteria A B C D

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

Areas of Significance (enter categories from instructions)

Politics/Government
Conservation
Entertainment/Recreation
Transportation

Period of Significance

1890-1941

Significant Dates

1890-1891
1898-1899
1929-1932
1938-1939

Cultural Affiliation

N/A

Significant Person

Cameron, Ralph Henry

Architect/Builder

Pete Berry, et al 1890-1891
Niles Cameron, et al 1898-1899
National Park Service 1929-1939

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

The Bright Angel Trail fulfills two of the four National Register criteria as follows:

A. The trail is significant under Criterion A for its role in the political debate involving public versus private control at Grand Canyon. The initial salvos fired in the battle for Grand Canyon control came less than a year after the arrival of the Grand Canyon Railway, and centered on ownership of the Bright Angel Trail. Although this conflict eventually spread to all sections of the Canyon, the most heated debate focused on this one trail through the 1920s, long after most skirmishes in more remote sections of the park had ended.

While the struggle between government, big business, and small private operators raged, the Bright Angel Trail served as a primary avenue for mining and tourism in the developing central section of Grand Canyon. Mining interests at Indian Gardens and along the Tonto Platform benefitted from (and prompted) construction of the trail in 1890-1891. For more than a decade it served as the western leg of an early network of trails (which included the Grandview and Hance trails) built to transport mining materiel and supplies into the Canyon and mules burdened with precious ores out of the Canyon to the south rim. As prospecting and mineral production declined, the trail's popularity among tourists increased, especially after the railroad's arrival in 1901. From that year until construction of the South Kaibab Trail in the 1920s, the Bright Angel carried nearly all tourist traffic within the central corridor. Even after the South Kaibab's construction and through the entire historic period under consideration, the trail continued to carry more tourists than any other trail within the park.

See continuation sheet

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number 8 Page 2 Bright Angel Trail

B. The Bright Angel Trail is significant under Criterion B for its association with Ralph Henry Cameron. Cameron was born in Southport, Maine, in 1863, moved west in 1881, and arrived in Flagstaff with the Atlantic & Pacific Railroad in 1883. An intelligent man with boundless energy, he worked during the 1880s at the local sawmill, as a railroad clerk, as manager and later owner of a merchandise store (sold to the Babbitt brothers in 1889), and as agent for the Haywood Cattle Company. During these same years he ran six thousand sheep on shares and built not only a fair amount of capital for later Grand Canyon investments but also a reputation within Yavapai County as a man of his word. Cameron's reputation increased during the 1890s as he helped form Coconino County in 1891 and was appointed the county's sheriff by the territorial governor-- a position he held throughout the decade.

During the last two decades of the nineteenth century, Cameron developed extensive interests at the Grand Canyon's south rim. Along with his brother, Niles, and Pete Berry, Cameron filed on the Last Chance copper claim in 1890--one of the very few inner Canyon mines that ever shipped ore and turned a profit. The following year he joined with others to finance construction of the "Bright Angel Toll Road." By the first few years of the twentieth century he had attained control through mining and water claims of approximately 13,000 acres within the Canyon and along its south rim, establishing the most formidable legal obstacle to federal control at Grand Canyon.

Legal difficulties would escalate to political debates at the national level as Cameron continued his success in politics. In 1904, his popularity earned his election as Chairman of the Coconino County Board of Supervisors, a position he used to fight his battles over Bright Angel Trail control and to garner local public support for his Canyon enterprises. As the Forest Service and Fred Harvey combination gained strength, so too did Cameron with his election as territorial delegate to Congress in 1909.

Cameron's popularity and the Republican landslide of 1920 gave him a seat in the United States in 1921, a position he held until 1927. From this vantage, Cameron raised the issue of public versus private land rights to a new level. He served as an important catalyst in congressional debates over the powers of the fledgling National Park Service through his success at temporarily eliminating Park Service appropriations from the national budget, an action that rallied Congressional leaders to the side of the Park Service and increased its administrative strength. During his tenure he also influenced Coconino County voters to defeat a measure that would sell the Bright Angel Trail to the federal government, an

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on tenaciously with the help of his political offices. It is also true that the U.S. Forest Service, National Park Service, and Santa Fe/Fred Harvey combine brought order and needed improvements to the rapid development at South Rim. The debate, however, centered on the perceived rights of an individual at risk to an omnivorous conglomerate, and later to a governmental agency reaching for omnipotence. The question of who is good and who is bad in this type of conflict depends on one's views of a desired end justifying any means toward attainment. This history will not answer that question, but attempts a more balanced account than is often given to the question of control of the Bright Angel Trail.

The first question to be addressed is that of initial rights to the Bright Angel Trail within existent public land laws of 1891, the year that Pete Berry, et al, completed the trail to Indian Gardens. Statutes in effect at that time and since 1887 allowed enterprising men willing to risk their own money to build roads and trails through lands not already used for public purposes, and to operate these transportation routes as toll roads for a period of up to fifteen years. In 1891, after an expenditure of two months labor and \$500 cash, Pete Berry and his partners immediately filed on the Bright Angel as a toll road, though contemporary accounts indicate that they did not charge locals for its use throughout the 1890s. Rather, they often entered into reciprocal agreements like that with Sanford Rowe in 1892, whereby Rowe was allowed to lead tourists down the trail and Cameron and others were allowed to use the water available at Rowe's Well.

Some two dozen men who worked on or used the trail in the 1890s testified in 1902 and 1903 that the original trail partners were the acknowledged owners of the "Cameron Trail" throughout the last decade of the nineteenth century. A few locals like Bucky O'Neill, John Hance, and Martin Buggeln argued through words or actions that trail ownership was doubtful, but the preponderance of testimony of Cameron's friends as well as others who had nothing to gain by lying indicates that the partners maintained the trail to suit their needs and allowed others to use it at no cost, mainly because at that time usage did not justify a toll keeper.

In 1901, the original franchise to operate the Bright Angel Trail expired and Pete Berry immediately sought and was granted the allowable five-year extension from Coconino County on January 31 of that year. When it became clear in early 1901 that the Santa Fe planned to complete the railroad line begun by Lombard, Goode, and Company, Ralph Cameron quickly began to secure total rights to the trail. Soon after Berry extended the franchise, Cameron bought out his interest and that of his other partners. Between March, 1902,

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and February, 1903, he spent five to six thousand dollars on trail reconstruction and maintenance. By the middle of 1903, he built Cameron's Hotel and Camps at the Bright Angel trailhead--a two-story hotel with adjoining tent cabins--and Cameron's Indian Garden Camp four and a half miles below on the Tonto Platform. His investment in the trail, it seemed, was finally about to pay some dividends.

Not content with whatever rights the toll trail might provide, Cameron and his brother Niles began to file mining, mill, and water claims at strategic points along the trail. The brothers filed several claims near the trailhead, including the Copper King before 1901 and the Cape Horn and Golden Eagle in April, 1902. Cameron had long ago secured William Ashurst's claims at Indian Gardens and had since filed on other water sites in that location. In June, 1904, he filed the Magician mining claim and Alder millsite at the base of the Devil's Corkscrew and the Wizard claim and Willow millsite near the mouth of Pipe Creek (the adits of these claims are seen today along the trail). There is no evidence that Cameron ever shipped ore from these claims and the federal government later rejected his attempts to patent the sites, yet liberal mining laws, assays of up to 12% copper and other trace metals, and evidence of modest claim improvements would help tie up the locations and the larger trail into the early 1920s. This illegal practice of filing claims for other than mining purposes was common among the early tourist operators well versed in mining law, and much despised by Forest Service personnel who knew full well why it was done.

As Cameron secured control over the Bright Angel trail route and prepared for tourist operations, Martin Buggeln and the Santa Fe were equally busy establishing tourist accommodations nearby. In June, 1901, Buggeln bought out J.W. Thurber's interests in the Flagstaff to Grand Canyon stage line and Bright Angel Hotel at the rim. In September, 1901, the railroad surveyed its twenty-acre station site allowed by law and soon after built a cabin and added adjacent tents known as Bright Angel Camp which Buggeln came to manage. The survey and camp may have prompted Cameron to file his Cape Horn and Golden Eagle claims which overlapped the station site the following year, igniting the first of many legal battles between the man and the corporate giant. The courts later upheld the railroad's twenty-acre station, but allowed Cameron the remainder of his two claims, thus, Cameron, the Santa Fe, and Martin Buggeln operated adjacent competitive tourist businesses at the head of the Bright Angel Trail by the end of 1903.

It was perhaps inevitable that some form of economic warfare would erupt, given Cameron's and Buggeln's competitive natures. The

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railroad's role, however, was not as immediately clear to those at Grand Canyon. The Atchison, Topeka & Santa Fe controlled the Atlantic & Pacific by this time as well as the Grand Canyon Railway from Williams to the south rim. It also had a long standing, symbiotic relationship with the Fred Harvey company, which operated hotels and restaurants along the rails throughout the west. As early as May, 1902, the railroad's directors planned to build a grand hotel which Fred Harvey would operate adjacent to the Buggeln and Cameron hotels, but found it convenient in the meanwhile to work with Buggeln against Cameron while plans for the El Tovar developed.

The legal battles began tentatively in 1902 with Cameron's claims to the station site and the railroad's challenge to trail ownership, but the battle began in earnest in April, 1903, when Cameron imposed a toll on all trail users. Since 1901, Buggeln's wranglers had been leading hundreds of tourists on daily trips down the Bright Angel, charging three dollars per day per horse and five dollars per day per guide, sharing receipts with the railroad, and paying nothing for trail use or maintenance. Cameron's rates were competitive at two dollars per day per horse (including a one dollar toll for his customers) and four dollars per day per guide, but he had to shoulder all trail maintenance costs. Cameron had been itching to impose a toll all along, but prior to 1903, the Department of the Interior had threatened to prosecute anyone who attempted to charge a trail toll. By January of that year, the agency had perhaps checked with legal counsel since it informed Cameron that he had, in fact, legal and exclusive rights to the trail. Cameron wasted no time in erecting a toll gate, and the railroad wasted no time instigating the Territory of Arizona vs. Ralph H. Cameron.

In this first of many lawsuits, the jury decided that Cameron did not own the trail's franchise (still in Berry's name), and that the franchise could not be transferred. Although the decision forced Cameron to return ownership to Berry, it had little effect on operations since Berry acknowledged Cameron as a partner, nor did it disqualify the partnership from charging tolls. The railroad immediately backed Buggeln with an injunction and another lawsuit filed in May to eliminate the collection of tolls, but the district court in December, 1903, ruled in favor of the Cameron partnership. The partners came back with a lawsuit for damages incurred from the seven-month injunction and tried to collect the \$5,000 bond Buggeln and the railroad had posted. The legal war was engaged.

The railroad, perhaps a bit taken aback by a citizen willing to take them to court, appears to have made a move to buy out the Cameron interests at this time. Flagstaff's Coconino Sun reported

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such negotiations in March, 1904, but Cameron denied talking to the railroad about a purchase. Buggeln meanwhile filed another suit in May, 1904, claiming that the partnership had never filed a trail plat, made no statement of receipts as required by law, nor paid a two-percent county tax. The Arizona Supreme Court ruled later in the year in favor of the partnership.

Elected Chairman of the Coconino Board of Supervisors in 1904, Cameron decided to use his political position to put the railroad on the defensive. In that year, the board initiated a claim that the railroad had not paid its taxes. The county ruled in September, 1905, that the railroad indeed should be on the tax rolls and owed back taxes to 1901. The Territorial Board of Equalization (Ralph Henry Cameron, Chairman) determined the railroad's tax to be \$4,500 per mile, or approximately \$300,000 per year for the Canyon spur. The Santa Fe naturally filed a suit contesting the assessment, and filed yet another suit to contest Cameron's claim to the railroad depot, previously mentioned, which resulted in a stalemate.

The year 1906 marked a shift in opposing forces as well as battle strategy over Bright Angel control. In that year, Martin Buggeln lost the will to fight and sold his interests including the Bright Angel Hotel to the Fred Harvey company, which had completed the magnificent El Tovar Hotel the year before. Buggeln did not lose his love for the Canyon, however, and in 1907 bought the old Hance place to the east where he ran cattle until his death in 1939. Typical of the power struggle as it developed in later years, the National Park Service would thwart Buggeln's attempts in 1925 to start a small tourist enterprise from his Hance holdings. By that year, he may have had reason to regret that he had broken ranks with his economic class in the early years to side with big business.

With Buggeln out of the picture in 1906 and Fred Harvey entrenched in his stead, the fight for control proceeded with the Santa Fe and Fred Harvey fighting their own battles in the open. Cameron made allies of Coconino County's citizens, newspapers, and Board of Supervisors, as well as (to a lesser extent) the Arizona territorial legislature to help balance the scales. Strategy also shifted, as the debate focused on the county's right to operate the trail as a toll road and to whom it gave the franchise.

The Berry franchise to the Bright Angel Trail expired in January, 1906, and the trail nominally reverted to Coconino County. The Board of Supervisors rejected Cameron's attempt to acquire the franchise in his name, but awarded it to Lannes L. Ferrall, who was required to maintain the trail and allowed to keep one hundred percent of the tolls. Cameron lost some measure of control at this

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point, but not much, since he retained his facilities and mining claims along the trail. More importantly, he could not be too unhappy with the county's choice of tollkeepers, since Ferrall was Cameron's brother-in-law, the manager of Cameron Hotel & Camps, and for years thereafter one of Cameron's closest friends. Cameron's sister, Louisa Ferrall, happened to be the Grand Canyon postmistress as well, a position she used to keep Cameron abreast of developments while he was out of town.

The Santa Fe no doubt understood the Cameron-Ferrall relationship which retained control of the trail, and immediately tried several end runs to break the monopoly. First, it requested a permit from the Bureau of Forestry to operate and control the trail, in effect trying to remove the trail from county jurisdiction. The county learned of this request, wrote the Bureau to disregard it, and ordered the county sheriff to protect the trail from outside attempts to control it. When the Bureau refused to issue the permit, the railroad filed suit against the county contesting the validity of Ferrall's contract and claiming the county had no right to operate a toll trail. While this case awaited trial, Cameron adroitly persuaded the Arizona legislature to pass the "Cameron Bill," which gave the county exactly that right. In a measure that highlights the emerging political sides in the struggle, the governor--appointed by the federal government--vetoed the bill on advice of the Department of the Interior, and the legislature--elected by the people--unanimously overrode the veto.

Angry over the federal government's interference and big business's attempts to dictate law in northern Arizona, the County Board of Supervisors backed by the Cameron Bill changed its position in 1907 and smoothed the way for transferring the trail franchise to Ralph Cameron. Ferrall was understandably amenable to the transfer and Cameron sweetened the deal a little by offering to pay ten percent of toll receipts to the county. Outraged at the proposed transfer, the Santa Fe countered with an offer to operate the trail, provide insurance against trail accidents, and pay seventy percent of receipts to the county. Despite this offer, the board voted on April 17, 1907, to give Cameron a new five-year franchise. Responding to criticism in the Williams News and (Flagstaff) Cocconino Sun, board Chairman Jesse Gregg defended the action by stating that the railroad was simply trying to remove control from the county and that the railroad's offer was spurious since Ferrall's contract had nearly four years left to run. Gregg's logic was both thin and inconsistent, but the board's vote assured Cameron's trail control through 1912.

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The county's franchise transfer did not end the railroad's attempts to chase Cameron out of Grand Canyon. Testimony involving the early suit questioning the county's right to operate a toll road reached the Arizona Supreme Court for the nineteenth time in January, 1909, but the court ruled that Cameron had the right to collect tolls. The Santa Fe's strategy had shifted again, however, this time to the validity of Cameron's mining claims along the trail. Testimony before the Arizona land office in 1908 was forwarded to the Department of the Interior, which ruled in February, 1909, that Cameron had not developed the mining sites, thus, they reverted to Grand Canyon National Monument. In the meanwhile, the Arizona Supreme Court gave the railroad another bit of good news when it ruled that tax assessments on the Grand Canyon spur could not begin until 1909.

The Department of the Interior's decision in 1909 had little effect on Cameron's operations. Even if the decision were legal and enforced, it could have no effect on the operation of the Bright Angel Trail as a toll road. Niles Cameron, C.C. Spaulding, and Lannes Ferrall continued to collect tolls and run the tourist camps despite the decision, and Niles continued (perhaps at an accelerated pace) to perform regular trail maintenance and assessment work at the mining claims. Meanwhile, the Santa Fe did not try to exploit the decision, but rather, chose to pursue construction of its own road and trail west of the Bright Angel from Grand Canyon Village to Hermit Basin.

In May, 1909, District Forester Arthur C. Ringland toured the proposed road and trail route with Santa Fe and Fred Harvey officials, and quickly forwarded a special permit with his endorsement on to Washington. The proposed "Special Use Permit to the Santa Fe Land Improvement Company" represented the federal government's willingness to work with a large corporation to eradicate the smaller, intractable, private operators within public lands, as well as its early willingness to use its own front man to accomplish bureaucratic aims. The permit specifically gave the Santa Fe control of the Bright Angel Trail--property it had absolutely no right to give--and a right of way for a road and trail to Hermit Basin, a hotel at that location, and several rim drives which, incidentally, would pass over several of Cameron's mining claims. The department's cunning is revealed in the stipulation that the permit was subject to all valid claims, especially those of the county and Cameron, and that federal assistance would not be forthcoming in any legal battles that might (certainly) ensue. The permit was, in fact, a statement of formal alliance between the federal government and the Santa Fe, a blank check for the railroad to construct its own tourist facilities, and a clear invitation for the railroad to continue its legal battles at its own expense.

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The special permit exacerbated the bitterness among the locals, including the Camerons, Pete Berry, and William Bass. Ralph Cameron fired off a letter to Chief Forester Gifford Pinchot in August, 1909, protesting that the Bright Angel, Grandview, Hance, Boucher, and Bass trails (all proprietary routes it should be noted) were quite enough to service Canyon tourists. Despite Cameron's protests, requests for postponement, notices of trespass, injunctions, and ensuing lawsuit, the railroad moved ahead in 1911 with a macadamized road from Hopi Point through Cameron's claims on the rim, and a trail down to Hermit Basin. They completed the Hermit Trail in 1912, thus opening the first viable trail alternative to the Bright Angel in the vicinity of Grand Canyon Station.

While the Santa Fe built its trail, the U.S. Forest Service persevered in its attempts to remove small operators and their mining claims from Grand Canyon National Monument. As early as 1908, J.H. Clark, Acting Supervisor of the Kaibab National Forest, complained that

One thing is certain.... Very few if any of the mining claims located along the Canyon were made for their probable mineral value. There seems to always be some other motive in locating these claims, such as the acquiring of water rights which would be hard to obtain in the regular way.

Clark referred to the status of claims within the monument, proclaimed on January 11, 1908. Claims filed after that date would not be recognized, but existent claims already littered the rims and inner Canyon, frustrating both the Department of Agriculture's and later Department of the Interior's goals to implement some form of developmental control. Cameron's claims alone amounted to some 13,000 acres, and a mineral inspector out to survey the area near Pete Berry's Grandview Hotel in 1910 correctly noted that "the country was all plastered up with fraudulent mining claims so a person that wants to get anywhere or do anything cannot get any ground."

After 1910, the Santa Fe/ Fred Harvey interests backed off from direct resistance to Cameron's control and allowed the federal government to take up the active fight. Since the government no longer contested the county's right to operate a toll trail, it centered its efforts on disproving fraudulent mining claims. Cameron no doubt alarmed park managers when the Cocconino Sun reported his developmental plans in 1912 and 1913. One article reported that Cameron had struck an option deal worth \$5,000,000 for thirty-five of his claims, seven of which were at Indian Gardens and

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the remainder along Pipe Creek. The syndicate purchasing the option had plans for a hydroelectric plant above Pipe Creek to power its mills, and a reservoir that would fill the Tapeats Narrows of Garden Creek. This plan never materialized, but Cameron formed a company of his own in 1912 or 1913 to extract platinum from some of these claims.

With a burgeoning tourist traffic and increasing pressure in the 1910s for promotion of Grand Canyon to national park status, neither the Department of Agriculture, Santa Fe railroad, Fred Harvey company, nor the general public were anxious to see reservoirs, power plants, and actual mining operations taking place in what had become the central corridor of Grand Canyon tourism. In 1913, the government stepped up its lawsuits in an attempt to have the mining claims declared invalid. Cameron sold some of these properties to the railroad in 1916, but varied lawsuits continued until 1920 when the United States Supreme Court ruled most of his claims illegal, and declared Cameron and his associates trespassers in the one-year-old Grand Canyon National Park.

Although the Supreme Court had finally ruled on his claims, the battle over Cameron's presence and control along the Bright Angel Trail was far from over. Still, Cameron's alliance had seriously eroded by 1920. The National Park Service replaced the U.S. Forest Service as Cameron's principal antagonist in 1919, and brought fresh troops and a new enthusiasm to the fray. By this year, most of the old-timers who held the public's support had become just that: old, and no longer interested in carrying on the fight. Pete Berry had bowed out of the struggle in 1913, but not before selling out with malevolent glee to William Randolph Hearst (another story). William Bass still controlled his properties in the western end of the park, but was actively looking for a buyer. John Hance, Sanford Rowe, and Martin Buggeln had retired from active combat. Niles Cameron, one of the more active if little known players in the day-to-day struggle, had died in 1912. Of the original mining-tourism entrepreneurs, only Cameron possessed the vigor to keep fighting.

Cameron's chief allies--the people and government of Coconino County--had also come around to the advantages and the necessity of a national park and the order it would bring to the chaos at Grand Canyon Village. Grand Canyon tourism had exploded during the years 1901 through 1920, and the advent of automobile tourism by the latter year threatened any kind of quality experience one might enjoy at the new park. Traffic overtaxed the limited roads and trails, sanitation problems proliferated with inadequate housing facilities in the vicinity of the Bright Angel trailhead, and informal camps atop and within the canyon resembled urban ghettos.

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The situation clearly called for stricter management. Cameron had become an anachronism, a single individual with rights but no real solutions to the challenge of increased tourism. The success of the idea he and others had conceived and developed had finally done him in, but after two decades of incessant fighting against larger foes, he did not grasp the larger picture. Ralph Cameron's bitterness became the theme of the 1920-1928 period of Bright Angel history.

After 1920, Cameron carried his personal war against the Department of the Interior and the National Park Service to the United States Senate. His election in that year illustrated his extant local popularity and remaining influence despite his unpopular stance on Grand Canyon development. In 1922, in a move that can only be described as retribution against old enemies, Cameron succeeded in temporarily removing the national park's woefully inadequate operating funds from the Department of the Interior's budget. Fortunately, the Santa Fe and Fred Harvey continued to pour millions into Canyon development in the early 1920s, lessening the impact of Cameron's move and the early paucity of funds. Meanwhile, in 1923, U.S. Attorney General Harlan F. Stone through special assistant Harold Baxter finally evicted Cameron's employees from their decaying tourist facilities at Indian Gardens. Cameron's last major victory over his foes came in 1924, when he used the final measure of his influence to convince the voters of Coconino County to reject the federal government's offer to buy the Bright Angel Trail. This action convinced the National Park Service to begin construction on the South Kaibab Trail--the second major Grand Canyon trail built to circumvent Cameron's interests.

Ralph Cameron lost his reelection bid to the senate in 1926, left the disposition of the Bright Angel Trail to the county, and retired to the East to lick his wounds. By that year, the Park Service completed the South Kaibab Trail, reducing the Bright Angel's strategic value. Coconino County reopened negotiations for the trail's sale in 1927, asking that the federal government appropriate one million dollars to spend on a new approach road from the National Old Trails Highway (U.S. Route 66) to the south rim. Negotiations since 1919 had revolved around just such a trade, but had consistently been blocked by Cameron. Since the Bright Angel remained a more popular trail than the South Kaibab, the government agreed to the new offer (for a lesser amount) and ownership transferred to the federal government on May 22, 1928.

Debra Sutphen's history of the Grandview Trail reveals that the fight for federal control of Grand Canyon roads and trails continued into the early 1940s, thus, the historic context of public versus private rights at Grand Canyon does not end with Ralph

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Cameron's defeat. Still, the legal and political struggle over the Bright Angel Trail reveals better than the later battle the full range of maneuvers, bitterness, and duplicity entailed in this conflict of nearly three decades. A longer history is possible, one that more fully explores the National Park Service's skillful manipulation of the Fred Harvey company during the 1920s and 1930s, but this aspect of ultimate federal control is developed within the Grandview, South Kaibab, and Bass trails' nominations.

Historic Context: Entertainment/Recreation, 1892-1941.

It may be difficult to believe that while the debate raged over public versus private control over the Bright Angel Trail, tourists unaware of the storm followed its path to admire Grand Canyon's scenic splendors. A decade before the political debate emerged, Sanford Rowe, operating from a base camp five miles north of the trailhead known as Rowe's Well, began to lead tourist trips from the south rim to the Tonto Platform. Rowe developed a full tourist enterprise in the 1890s and 1900s, including a livery in Williams, a stage line to the Canyon purchased from William Bass, and a later automobile camp at Rowe's Well complete with a coffee shop, bar, and dance hall. Rowe was apparently the only man engaged in tourist trips down the trail before the turn of the century.

Although prospectors had pioneered routes from the Tonto Platform to the Colorado River by the late 1880s, Sanford Rowe's tourists likely settled on a ride down to "Angel Plateau" (Plateau Point) for a quick glimpse of the river before turning back for the south rim. With completion of the Bright Angel to the river in 1899, visitors might easily descend in a day, enjoying Indian ruins along the west cliffs of upper Salt Creek, the infamous Devil's Corkscrew, and a leisurely stay at the mouth of Pipe Creek. The trail ended at this point, but the more adventuresome could cross the river in one of the crude canvas or wood scows in use by the turn of the century and venture up Bright Angel Creek. After 1907, tourists might take the Bright Angel as far as Salt Creek, then continue along the Tonto Platform to the Tipoff and a descent along David Rust's trail (precursor of the lower South Kaibab Trail) to cross the river on Rust's cable car.

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Martin Buggeln began to offer trips down the Bright Angel Trail by 1901. Thomas Smith and Frank Cornette worked as trail guides for Buggeln in 1902 and noted "many hundreds" of tourists in that year. Cameron, too, employed wranglers to lead trips down his trail by 1903. It is worth noting that although John Hance, Pete Berry, and William Bass started their guided tours down their own trails into the Canyon long before Cameron and Buggeln came on the scene, the railroad's arrival instantly focused tourist operations at the Bright Angel Trail and usage immediately superseded that of all other trails combined.

By the middle of 1903, Ralph Cameron had completed Cameron's Hotel and Camps at the rim and Cameron's Indian Garden Camp upon the Tonto Platform. His hotel registers for 1903-1907 indicate that he initially captured a good market share of the tourist business from Buggeln and the Santa Fe. In 1904 through 1906, nearly two thousand visitors registered annually at his hotels or tent camps, at rates varying from \$1.50-\$3.00 per night. Aside from revenues derived from saddle stock, trail guides, tolls, and rooms, Cameron provided meals, rim rides (one dollar and up), riding skirts (fifty cents), and other sundries for his paying guests and trail users. In 1904, Cameron could claim that business had never been better. During a six month period in 1907 he collected \$2,996 in tolls alone, and after payment for trail maintenance and county (10%) and territorial (2%) taxes, netted a toll road profit of \$2,107.80.

Cameron's business remained good into the 1910s, but the amount earned provided little more than a modest living and could not compare to Fred Harvey's operations after 1905. After his election to Congress in 1908 and in later years when he engaged in other business enterprises, Cameron had to pay permanent employees such as Lannes Ferrall, manager of his rim hotel, and Niles Cameron and Clarence C. Spaulding, managers at Indian Gardens. Employees and interminable lawsuits drained his revenues and may account for less money invested in trail maintenance by the 1910s. In 1915, Cameron collected \$20,000 in tolls, yet tourists complained that the Bright Angel Trail was in poor condition.

Since Cameron charged a one dollar toll throughout his possession of the trail, and pedestrians travelled for free, his collections of 1915 suggest that more than 20,000 tourists per year used the trail by the middle 1910s. This may represent the peak number of tourists riding mules and horses down the trail during the historic period. After the National Park Service assumed control of the trail and the Fred Harvey company gained a monopoly on saddle stock traffic, usage continued during the 1930s at approximately this level. Superintendent Miner R. Tillotson noted in 1937 that

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"annual travel [along the Bright Angel] has been as follows: 1933--12,725; 1934--17,403; 1935--20,515; 1936--20,607." Although annual Grand Canyon visitation had multiplied from a few hundred in 1900 to 44,000 in 1919, 200,000 in 1929, and 300,000 in 1937, trail usage apparently remained fairly constant through the 1930s.

The flurry of trail building and reconstruction within Grand Canyon's central corridor between 1929 and 1939 enhanced the tourist experience, offering better trails for stock and pedestrians as well as better accommodations and a number of route alternatives. The South Kaibab Trail offered a shorter route to the river, better vistas, and a more direct crossing to Bright Angel Creek, but also a steeper descent without water along the way. After 1936, as today, rangers recommended a descent along the South Kaibab, a stroll along the Colorado River Trail, and an ascent up the Bright Angel. Improved camp facilities at Indian Gardens and watered rest stops along the trail further recommended continued use of the Bright Angel. In recognition of its continued importance to Grand Canyon tourism, the Department of the Interior in 1981 designated the Bright Angel--along with the the North Kaibab, South Kaibab, and Colorado River trails--as a National Recreation Trail within the National Trails System. The Park Service since the 1930s has maintained it and the other central corridor trails to the highest standards of Grand Canyon trail maintenance.

Historic Context: Transportation, 1871-1941.

The Bright Angel Trail route is one of many paths within Grand Canyon used by Havasupais and their predecessors to access inner Canyon resources from the south rim. Few trails, however, allow a narrative continuum from Indian to European-American usage. The close relationship between early pioneer William Bass and his Havasupai neighbors provides an unbroken history of usage, revealed in the Bass Trails nomination. Similar narratives, if not a close white-Indian relationship, are found for Havasupai use of the Bright Angel Fault as a transportation route between the south rim and the Tonto Platform.

Physical evidence of a Havasupai trail has been identified in the descriptive section of this nomination. Written records as well as Havasupai oral history document use of this trail within traditional Havasupai seasonal migrations. Curtis McClure, who first visited Indian Gardens as one of the original trail builders in 1890, noted that

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there were evidences in existence at the Indian Gardens, showing that at some time previous, some cultivation of the ground had been carried on by someone [and] it apparently had been burned off two or three times....

George Wharton James, an ardent Grand Canyon promoter with extensive personal knowledge of the Havasupais, noted that "a certain family of the Havasupais used to farm in a crude way on this spot," and that remnants of their irrigation ditches remained in the early 1890s. He added that the Havasupais as late as 1900 could give the names of the prehistoric families that had rights to this inner Canyon site (and other Canyon sites). Park Superintendent Miner Tillotson identified this family as that of Big Jim, who remembered his family's occupation as far back as the 1860s and lived at the gardens and atop the south rim well into the twentieth century.

Pete Berry and others who built the first European-American trail in 1890-91 had similar transportation goals in mind. Until 1890, prospectors had used John Hance's early trail to access the Tonto Platform. William Ashurst's discovery of promising ore deposits at Indian Gardens in the late 1880s prompted the search for a more direct supply and ore shipment route to the south rim, thus accounting for the trail's construction. Almost immediately, Sanford Rowe found the Bright Angel a convenient way to bring his paying guests down to the Tonto Platform. After 1899, the trail became the favored path for tourists descending as far as the river. These transportation uses have been described above within the contexts of mining and tourism.

It is at first difficult to imagine that a trail built for pedestrians and saddle stock could serve as a major subregional transportation route well into the age of automobiles, but the Bright Angel Trail served this purpose until the late 1920s. In 1902, Francois Matthes constructed a rough trail from the north rim through Bright Angel Creek to the river, thus, in combination with the Bright Angel Trail, establishing a transcanon corridor. This avenue immediately superseded the Bass trails as the favored route because the Grand Canyon Railway spur, arriving at the head of the Bright Angel the year before, allowed a comfortable ride south to the Atlantic & Pacific tracks at Williams and to any destination from that town. "Uncle Dee" Wooley recognized the potential in 1903 when he and others formed the Grand Canyon Transportation Company and financed his son-in-law, David Rust, to improve the north trail and the crossing at the river. Since the 1890s, travelers along the corridor had hazarded crossings in fragile punts, but Rust installed a cable system in 1907 and the Park Service further secured the crossing with suspension bridges in 1921 and 1927.

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number 8 Page 17 Bright Angel Trail

From the 1890s through the late 1920s, residents of the Arizona Strip north of Grand Canyon used the Bright Angel corridor as the most efficient route to county seats at Flagstaff and Kingman. As park development accelerated at the north rim in the 1920s, the corridor became an even more important and often used link to park headquarters at Grand Canyon Village. This importance waned with the completion of the Navajo Bridge across Marble Canyon in 1928, but never completely disappeared as some local residents (particularly park rangers) preferred the twenty-mile walk or mule ride to the more than two-hundred-mile automobile trip between the two rims. Air travel since the 1940s has further reduced the need to use the corridor as a subregional travel route, but some still prefer this avenue.

Today, the Bright Angel Trail continues as an important link in the transcanyon pathway, not only for the tens of thousands of tourists who travel it for fun each year, but also for Fred Harvey and National Park Service employees who provide support services to ailing hikers and the facilities at Indian Gardens and Phantom Ranch. This extensive local usage will continue as long as Grand Canyon remains a national park.

April 13, 2001

Architectural Resources Group

Appendix H. Consultant Reports.

Flack + Kurtz Inc.

Indian Gardens Caretaker's Residence
Grand Canyon National Park, Arizona

BUILDING ASSESSMENT REPORT

Prepared for:
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August 11, 2000

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I. INTRODUCTION**A. GENERAL**

The Indian Gardens Caretaker's Residence is located just off the South Rim on the Bright Angel Trail in Grand Canyon National Park. The site elevation is approximately 3,500 feet above sea level.

The residence was originally constructed in 1932. Since then an addition has increased the size of the building to approximately 860 square feet. Its current use is as an emergency supplies storage area. The plan is to renovate and restore the building to provide shelter and a destination point for hikers.

This report provides a basic assessment of the building's HVAC, plumbing, fire protection and electrical systems. The report is based on a review of available building drawings, pictures provided by ARG and a verbal description of existing conditions by ARG based on their site visit on May 17th, 2000. The estimation of the future viability of existing systems is based solely on the information provided above. The walk through was limited to the observation of visible equipment only. Equipment was not tested or operated for functionality, nor were hidden areas exposed or inspected.

Recommendations related to code issues are based on the current versions of the Uniform Building, Electrical, Fire, Mechanical, and Plumbing codes.

II. HEATING, VENTILATING AND AIR CONDITIONING**A. GENERAL DESCRIPTION**

In general the electrical and phone systems seem to be in good working order and has been fairly well maintained over its operational lifetime. There is no heating or ventilating currently provided and the plumbing systems have been disconnected.

B. AIR CONDITIONING SYSTEM**1. Existing Conditions**

Originally there appears to have been a wood fired stove that was used to heat the residence. Since the renovation the stove was removed. The flue vent appears to have been left in place. There is insulation in the attic, however the walls are probably not insulated.

2. Recommendations

It will need to be determined if heating is required for this building. This will depend on it's yearly use (could be closed during the winter). Heating could be added by replacing the wood fire stove or possibly adding electric resistance heating elements. Natural ventilation would be provided by the existing operable windows.

III. PLUMBING

A. DOMESTIC WATER SYSTEM

1. Existing Conditions

There is no water service for this building.

2. Recommendations

Water service is available nearby at some adjacent building.
However, the NPS does not desire any domestic water service to this building.

B. FIRE PROTECTION SYSTEM

1. Existing Conditions

There currently is no fire protection in the building

2. Recommendations

Wall mounted fire extinguishers are recommended.

C. SANITARY AND STORM SYSTEM

1. Existing Conditions

There currently is no sanitary or storm service to this building.

2. Recommendations

No recommendations.

IV. ELECTRICAL**A. ELECTRIC SERVICE****1. Existing Conditions**

Electrical service to the building is provided via overhead lines by APS at 120/240V, 1-phase, 3-wire. The service disconnect is a 3P-100A circuit breaker which in turn feeds a 100A main panel.

2. Recommendations

The existing service equipment appears to be in fair condition but is a candidate for replacement due to its age. Recommend replacement.

The existing service capacity is adequate for the planned renovation. The service point of entry can be relocated instead of wrapping around the building.

B. POWER DISTRIBUTION**1. Existing Conditions**

A single panelboard for lighting and receptacle circuits is located in the building. Service to the panelboard is via overhead conduit routing. The panelboard is rated at 120/240V, 1-phase.

2. Recommendations

The existing panelboard should be replaced with a new panel during the renovation phase.

C. LIGHTING AND RECEPTACLES**1. Existing Conditions**

Lighting consists mainly of surface mounted fluorescent light fixtures.

Recessed wall mounted receptacles and telephone outlets are located at various points to satisfy current equipment locations.

2. Recommendations

Light fixtures should be replaced with new energy efficient lighting systems where possible. Magnetic ballasts should be assumed to contain PCB's and disposed of in accordance with all applicable rules and regulations

D. FIRE ALARM SYSTEM

1. Existing Conditions

There is no fire alarm system currently installed.

2. Recommendations

The current occupancy use group does not require a full fire alarm signaling system. Smoke detectors should be provided to provide spot coverage and protection for life safety.



Caretaker's Residence – Indian Gardens

Existing Conditions

The Caretaker's Residence is comprised of the 14' x 24' original building, built in 1932, and an addition along the full length of the west side, added in approximately 1960. Plans for the original structure are available, although none have been located for the addition. To attach the addition, two stone piers and the wall closure at the side were removed from the original structure. The addition's roof hip was placed at a 90-degree angle to the existing roof hip. The newer roof framing was built directly over the older framing, with only approximately four feet of the original sheathing being removed for access purposes within the attic space.

The original structure is constructed of three parallel 4x6 wood girders, spanning front-to-rear of the building, supported on 2x8x8 wood blocks on a series of concrete foundation piers. The concrete piers are 8" square at the top of the pier. The piers should expand to a minimum of 18" square, according to the original drawings. Five piers support the girders at the two exterior lines and four piers support the interior girder line. The girders are anchored with a 5/8" diameter anchor bolt centered in each pier.

The floor is built of 2x6 joists at 16" on center, bearing on the 4x6 girders and supporting a tongue-and-groove wood floor sheathing. At the roof line, a top plate of two offset 2x6 members supports the 2x6 roof rafters and 2x4 ceiling joists, both at 24" on center. The rafters are braced midspan with 2x6 diagonals and cantilever beyond the side walls. The roof is sheathed with straight, tongue-and-groove 1x boards.

The exterior walls consist of a vertical 1x10 board and 1x3 batten system at the wall with a frame comprised of 2x6 members at the exterior face. At the corners, full-height diagonal boards on the exterior face provide lateral bracing. Where the two stone column piers were removed for the addition, these diagonals were removed. At the back side, plywood sheathing was added around the window. At the front entrance, a short diagonal exists in part of a single bay under the window adjacent to the addition. This diagonal is not providing any effective bracing at its current location.

Two corners of the original building still retain the stonework columns, which appear to be the original support points for the 2-2x6 plates supporting the roof framing. At the inside corners, the stonework wraps around the board and batten exterior wall system. The stones are relatively large but of inconsistent shape and size. All stones are grouted in place with a Portland cement mortar.

A brick flue chimney at the interior changes to a stone chimney above the roof/attic space. Although the stones in the chimney are smaller than the column stones, their grouted construction is similar to the stonework columns.

There are no construction drawings for the addition, although most of the framing appears similar in nature. The roof rafters are 2x6 at 24" on center with 1x straight sheathing above. Based on the crawl



space access point, it is reasonable to assume that the floor framing is similar in nature to the original portion of the structure.

The walls of the addition appear to be of 2x4 stud construction with either 1x vertical boards or plywood at the exterior face and 1x3 vertical battens.

Recommendations

The existing building appears to be in relatively good shape. Although the exterior paint is peeling, the wood is not visibly deteriorated or damaged. The remaining stonework is intact, without missing stones or excessive loss of grout.

If the addition remains, it should be verified that the addition's walls are adequately tied to the original building's front and rear walls to transfer lateral loads for the full structure, since some of the diagonal bracing has been removed. Adequate support of the original roof at the corners where the stone columns were removed should also be verified.

If the addition is removed, the diagonal bracing at the exterior of the original walls should be replaced or an alternate system should be installed, such as plywood sheathing at the interior face of walls. The building should be restored to its original construction detailing.

Work for either of the above conditions would be considered adequate under the provisions of the 1997 Uniform Building for a building in seismic zone 2B. The occupancy of the building is not expected to change substantially.



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

