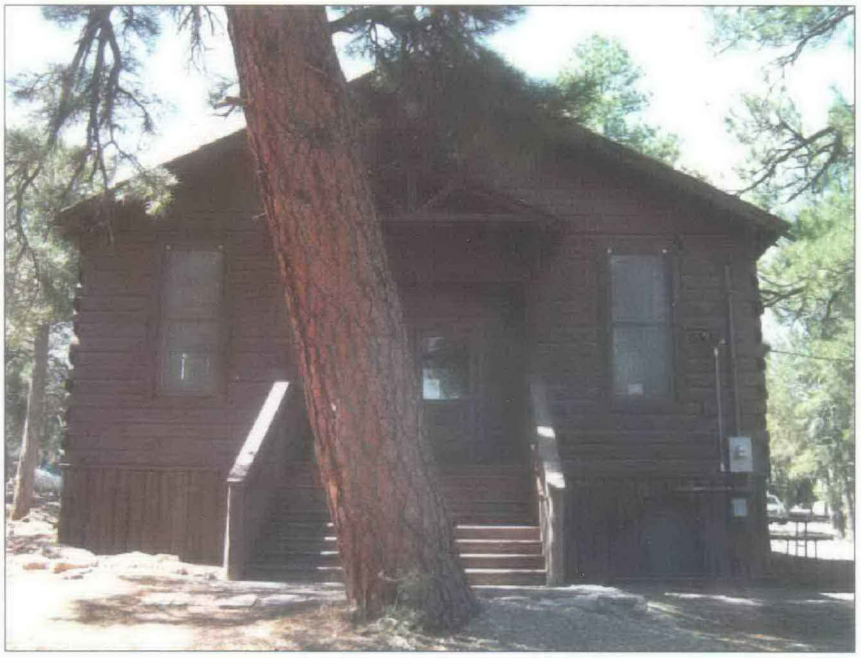


HISTORIC STRUCTURE REPORT

OLD GRAND CANYON SCHOOL
GRAND CANYON NATIONAL PARK

Preservation Studies Program
College of Architecture and Landscape Architecture
The University of Arizona

In conjunction with:
Colorado Plateau/Cooperative Ecosystem Studies Unit (CP/CESU)

September 2007

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TECHNICAL INFORMATION CENTER
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PROJECT TEAM

This Historic Structure Report is the result of an endeavor between the National Park Service (NPS) and The University of Arizona (UA) through the Colorado Plateau/Cooperative Ecosystem Study Unit (CP/CESU) and Joint Ventures Agreement.

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Management Summary

EXECUTIVE SUMMARY

The Old Grand Canyon School was constructed in 1916 to replace the original school building at the south rim of the Grand Canyon. Its layout was based on the principles of rural schoolhouse architecture and its design dictated by the unique setting. At the time, the south rim had little regulation regarding building construction and no town plan. After management shifted to the National Park Service in 1919, a town plan was developed to organize the various needs and users. As the Village expanded, the Grand Canyon became a place where residents could settle and raise families. More than any other building, the Old Grand Canyon School marks the change from pioneer settlement to organized community.

In 1923, an addition more than doubling the size of the Old Grand Canyon School was built against its south side. The addition respected the character-defining features of horizontal log slab siding, skirting, and trim. The building continued to function as a school until 1939, when the Civilian Conservation Corps (CCC) built a new school to accommodate the Village's growing population.

Soon after, the Naturalist Workshop occupied the Old Grand Canyon School as a place for naturalists to study and manage the park's museum collection, and an exhibit facility for the general public to learn about the Grand Canyon. In 1957, the Naturalist Workshop vacated the Old Grand Canyon School and the Western Office Design Center occupied it as office space. Its length of tenancy is unknown. The building was used as offices by North Rim Unit staff members in the mid-1970s; their length of tenancy is unknown.

The Old Grand Canyon School remained generally unchanged until approximately 1948. At that time, the belfry was removed.

The Old Grand Canyon School received preservation maintenance on the exterior in the mid-1980s. It was extensively rehabilitated in preparation for office use on the south side in 1990, and for the public library on the north side in 1994. It has not received preservation maintenance since.

The Old Grand Canyon School is generally in fair condition with three major deficiencies. Many of the wood slab skirting boards are in direct contact with the ground and are displaced or decayed. The increased book load in the original (north) section of the building has led to structural issues. The building also suffers problems of access, including an entrance ramp that detracts from the character of the building and site.

The recommended ultimate treatment of preservation for this building has four main components.[1] In order of priority, they are:

1. Perform site work, including regrading;

2. Stabilize the Old Grand Canyon School by correcting differential settlement, installing a foundation appropriate for the building's current use as a library, adding other support members to the floor and roof systems, and correcting affected materials where specified;

1 The List of Classified Structures (2006) lists rehabilitation as the ultimate treatment. However, the current use is appropriate and rehabilitation is not necessary. Preservation treatment will allow the building to continue to function as required by the general public and park staff.

3. Repair building exterior, including log siding, skirting, and trim. Install a modern heating, ventilation, and air conditioning system; and

4. Reconfigure access to and from the building, including appropriate signage.

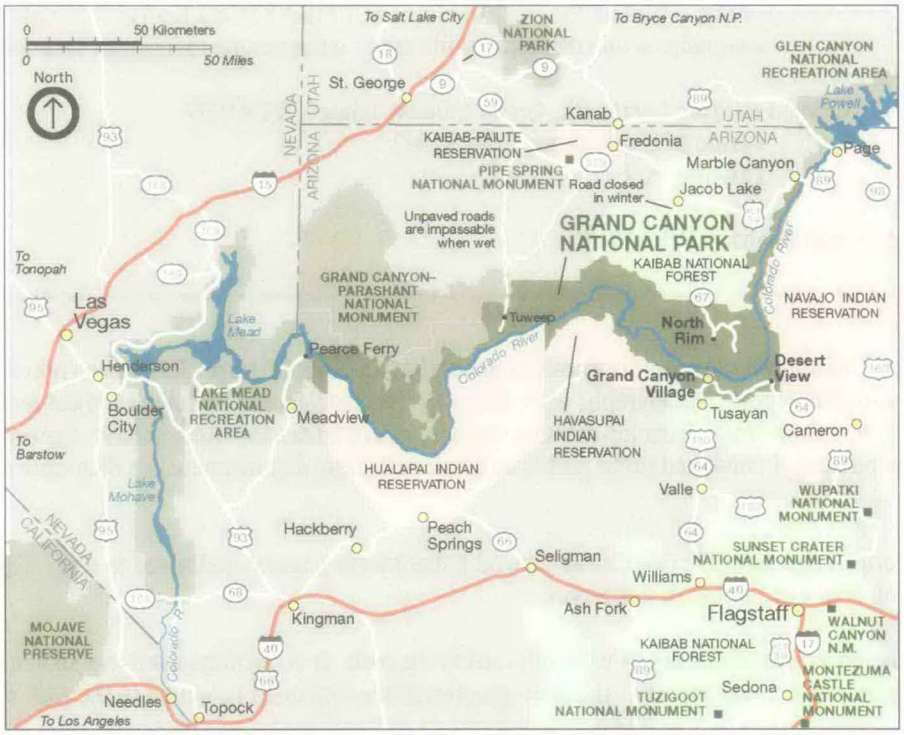


Fig. 1: Location of Grand Canyon National Park (Source: National Park Service, Harpers Ferry Center)

ADMINISTRATIVE DATA

OLD GRAND CANYON SCHOOL

Building Number: 208

List of Classified Structures: 055447

Proposed Treatment[1]

Preservation - Stabilization of historic character-defining features and replacement where necessary

Cultural Resource Data

National Register of Historic Places, Grand Canyon Village, Boundary Increase, 10/24/1995

Period of Significance: 1897-1942

Criteria A: Associated with events that have made a significant contribution to the broad patterns of our history

Criteria C: Embodies distinctive characteristics of a type, period, or method of constrution, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction

National Historic Landmark, Grand Canyon Village, 2/18/1997

Period of Significance: 1897-1942

Criteria: A, C

Period of Significance: 1916-1948[2]

A separate disk containing photographic documentation of the Old Grand Canyon School was provided to Grand Canyon National Park with this report. Photographs were taken by The University of Arizona project team in May - July and October 2006. They show both character-defining features and deficiencies. Additionally, historic photographs of the Old Grand Canyon School contained in the park's museum collection and maintenance files were scanned and saved to this disk.

All known historic drawings of the Old Grand Canyon School were scanned and saved to disk. This disk was provided to Grand Canyon National Park with this report.

All records gathered as part of this report were returned to the park. It is recommended that source material as well as a copy of this report and archival copies of the photograph and drawing disks be stored in the park's museum collection.

1 The List of Classified Structures (2006) lists rehabilitation as the ultimate treatment. However, the current use is appropriate and rehabilitation is not necessary. Preservation treatment will allow the building to continue to function as required by the general public and park staff.

2 For the purposes of this report, the period of significance should include the dates in which the building maintained its original design and materials.

Developmental History

Historical Background & Context

Although a handful of white prospectors settled at the south rim of the Grand Canyon as early as the 1880s, they led individualist lives and could hardly be considered a community. But after the extension of the Santa Fe Railway to the Grand Canyon Village in 1901, workers were needed to operate the trains, hotels, restaurants, livery stables, and other elements of the tourist trade.[1] A small town quickly sprang up to support this burgeoning tourism industry.

One resident, William Wallace Bass (1849-1933) settled on the south rim and worked as a miner, trail builder, promoter, and tourist guide. Together with his wife Ada, they had four children – the first white family on the rim – and were instrumental in organizing the first school. The Bass children accounted for half of the eight students required by the state for a school, and classes began in an unused building ("Cameron's Green House") on Ralph and Niles Cameron's land in 1911. The first class was taught by Miss Grace Miller on July 10, 1911; classes continued in this space for years with various teachers.[2]

The first building designed specifically for use as a school was constructed by F.A. Boulin under contract with the Board of School Trustees of School District Four. It was completed on July 27, 1913. The building consisted of a classroom (18' x 20'), a vestibule (8' x 10'), and an additional room (8' x 10'). Two small (4' x 6') outbuildings were constructed at the same time, presumably as outhouses. The total cost was $256, which was provided by William Bass. The 1914-1915 school year began with a new teacher, Miss Ione Loman.

As the population of the Grand Canyon Village expanded, the student population outgrew this small building. Soon after it was built, a health inspector cited the School Board for its inadequate size. On January 18, 1915, the Board moved to provide a larger school room in the form of a new school building. Construction began on a new, larger one-room schoolhouse (Old Grand Canyon School) in 1916.



Fig. 2: Cameron's Green House, n/d (Source: http://www.kaibab.org/gcps/schoolhs.htm)

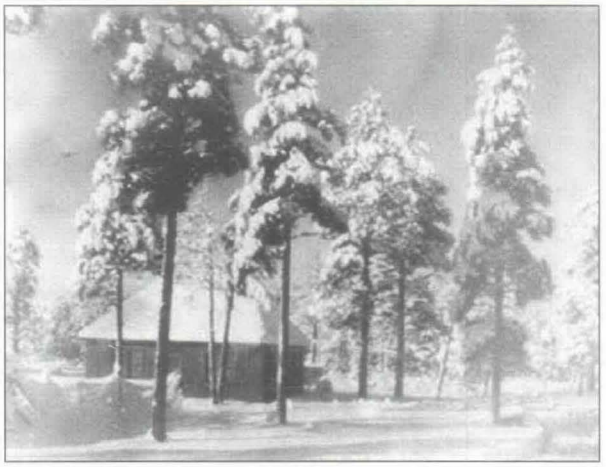


Fig. 3: First Grand Canyon School building, n/d (Source: http://www.kaibab.org/gcps/schoolhs.htm)

1 The Grand Canyon has been occupied by humans for thousands of years. Havasupai lived in the canyon at the time of the first white settlement.

2 Hubert Lauzon, "History of the Grand Canyon School," The Grand Canyon Pioneers Society Newsletter (November 1992): http://www.kaibab.org/gcps/schoolhs.htm (accessed 1/10/2007).

The design of this new building, Old Grand Canyon School, matches the one-room schoolhouse typology common across the rural United States in the late 19th century and early 20th century.

Rural Schoolhouse Architecture

Rural schoolhouses were located within walking distance from the homes of farmers, ranchers, miners, or others that worked the land. Often a community's first school was quickly constructed and used until the community grew and could support a second, larger schoolhouse.

Although the materials of construction varied, the general form of the schoolhouse was similar throughout the country, and its form related directly to its function. The size of a schoolhouse was dictated by the range of a typical teacher's voice, first recommended as 30 feet x 40 feet by William Alcott in 1831. In 1873, the *American Journal of Education* recommended a 28 feet x 40 feet schoolhouse, comprised of a classroom (28' x 32'), two cloakrooms (8 feet x 9 feet each), and an entry (8 feet x 10 feet).[3]

Schoolhouses were generally rectangular and oriented with the short gable end on the north or south side. Cloakrooms were often oriented along the front façade. Usually only one wall was glazed as it was believed that light from both the east and west sides of the classroom would damage student's eyes. Multiple small paned double-hung windows provided abundant natural light from either the east or west. Northern windows were used to even the lighting, if necessary. To eliminate distraction, there were to be no windows behind the teacher.

Many schoolhouses had a square or round belfry with a bell used to notify the community when class was in session. Gabled vestibules were another common improvement. Despite the myth of the little red schoolhouses, most were painted white.

In the west, schoolhouses were often a community's only public building and were the mark of a "community with a future."[4] Often, school buildings had another life as the community center and hosted social events, political and social services, and other entertainment.

The Old Grand Canyon School shares many of the characteristics common to rural schoolhouses. It is oriented with the entrance on the north side, and has a gabled vestibule. Like the others, the Old Grand Canyon School once had a bell tower. The building's rooms, and their dimensions, are strikingly similar to those recommended by the *American Journal of Education*, with cloakrooms along the front façade.[5] Closely spaced windows provide ample light from the east side, while northern windows even the effect.

The original section of the Old Grand Canyon School varies from the common schoolhouse form in the two clerestory windows on the west elevation and its exterior coloration. The building was originally dark oak or walnut with light cream trim, and not painted entirely white as was common.[6] Dark coloration was appropriate for its location in an

3 Andrew Gulliford, *America's Country Schools* (University Press of Colorado, 1996), 188.

4 Ibid., 160.

5 The original section of the Old Grand Canyon School building is approximately 30 feet x 40 feet and comprised of a classroom (30 feet x 30 feet), two side rooms (8 feet x 10 feet each), and an entry (6 feet x 10 feet). A detailed description of the Old Grand Canyon School is contained in the *Physical Description* section of this report.

6 Description of the Old Grand Canyon School's exterior coloration is based on the original construction contract. It is unknown if the trim was originally painted as specified.

area appreciated for its natural scenic beauty and dense tree cover. This unique location created a special educational experience for its students.

School at Grand Canyon National Park

As a public institution, the schoolhouse bought the Grand Canyon Village community together. While the employees of the Santa Fe Railroad, the Fred Harvey Company, and later the National Park Service, may not have had much interaction in their professional lives, their children all attended the Old Grand Canyon School. Students came from various ethnic backgrounds as well, including Caucasian, Mexican, and Native American.

The Parents Teachers Association (PTA), which was instrumental in fostering a sense of community at Grand Canyon National Park, held benefits for school improvements after its forming in 1920. Benefits included programs and plays in which the community actively participated.

An adjacent playground provided a place for students to release their energy and enjoy one another's company. The gated school yard included a baseball field, merry-go round, teeter-totters, swings, bars and rings. In 1935, the Civilian Conservation Corps (CCC), a New Deal-era work program, constructed bleachers at the school. In the following year, a wading pool was constructed at the playground, and steps and a walkway were built to the playground.

Early Development at Grand Canyon

The early Grand Canyon Village was a small town made up of pioneers working either the land or the early tourist industry, through the Santa Fe Railway, Fred Harvey Company, or their own enterprises. There was no town plan, and little regulation regarding building construction. By the mid-1910s, the Village had expanded to over fifty buildings, all haphazardly organized and many of temporary construction. Of this era, park historian Michael Anderson wrote:

> Forest service and concessioner neglect resulted in a community resembling western boom towns of no definitive form, replete with scattered trash heaps and open-pit toilets, employees housed in wooden shacks, tents, and sidetracked boxcars, and wagon paths leading everywhere and nowhere.[7]

On February 26, 1919, Grand Canyon National Park was established and management soon shifted to the National Park Service. It is presumed that the location of the Old Grand Canyon School was considered when the National Park Service created a town plan organizing the Village into specific administrative zones.

As the Village expanded, the Grand Canyon became a place where residents could settle and raise families. More than any other building, the Old Grand Canyon School marks this change. The Old Grand Canyon School is proof of the village's permanency and the increasing standards of its residents.

Statement of Significance

The Old Grand Canyon School is significant as (originally) a one-room schoolhouse and a public institution in the early development of the Grand Canyon Village. The historic addition is significant for its use as a classroom and its representation of the population growth of the Grand Canyon Village.

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7 Michael F. Anderson, *Polishing the Jewel: An Administrative History of Grand Canyon National Park* (Grand Canyon Association, 2000), 9.

For the purposes of this report, the period of significance should include the dates in which the building maintained its original design and materials.

The first section of the Old Grand Canyon School was completed in 1916. Although it was substantially altered by an addition in 1924, the addition is historically significant and does not detract from its integrity. The Old Grand Canyon School retained its original design and materials until the belfry was removed at some point between 1948 and 1952. Thus, the period of significance is 1916-1948.

Chronology of Development & Use

Date	Development
1915	Bidding opened on construction of Old Grand Canyon School
1916	Construction completed by F.A. Boulin
1923	Contract awarded to John W. Johnson for construction of addition
1929	Old Grand Canyon School awarded superior rating
1934	Old Grand Canyon School partioned into three classrooms
1936	School Board Clerk Barbara H. McKee calls Old Grand Canyon School out-of-date and inadequate
1938	National Park Service received Works Progress Allotment for construction of new school
1939	New school building completed to replace Old Grand Canyon School
1939	National Park Service acquired Old Grand Canyon School from Coconino County
1940	Old Grand Canyon School occupied by Naturalist Workshop
1949	Old Grand Canyon School reroofed
1957	Naturalist Workshop vacated Old Grand Canyon School building for new Visitor Center Old Grand Canyon School prepared for office use Old Grand Canyon School occupied by Western Office Design Center offices (length of tenancy unknown)
1965	Old Grand Canyon School remodeled (details unknown)
1974	Old Grand Canyon School occupied as winter quarters for park staff Old Grand Canyon School reroofed
1975, 1976	Old Grand Canyon School occupied by North Rim Unit Staff offices (lenth of tenancy unknown)
1985-1987	Exterior of Old Grand Canyon School received preservation maintenance
1990	Interior of the south side of Old Grand Canyon School rehabilitated South side of the Old Grand Canyon School occupied by Denver Service Center offices
1994	Interior of the north side of Old Grand Canyon School rehabilitated Wood walkway constructed to west entrance for universal accessibility North side of Old Grand Canyon School occupied by public library
1995	Grand Canyon Village Historic District boundary increase included Old Grand Canyon School
1996	North stairs of Old Grand Canyon School replaced
1998	South side of Old Grand Canyon School occupied by Safety Office
1999	Two temporary window air conditioning units installed on the east elevation
2003	Wood plank landing replaced on the south side of the Old Grand Canyon School
2004	Two additional temporary window air conditioning units installed on the east elevation

With the population of Grand Canyon Village increasing, and the first Grand Canyon School inadequate in size, a new building was needed. In July of 1915, bidding was opened to furnish materials and labor for a new school building (Old Grand Canyon School). F.A. Boulin submitted the winning bid of $1385. The resulting contract specified the materials and design of the building, including:

Exterior:

- Rock, sand, and cement foundation
- Redwood roof shingles
- One layer of asphalt paper between (1" x 8" shiplap) sheathing and slabs on exterior walls
- Two coats of oil stain on roof and wall slabs
- One coat of stain, one coat of shellac, and one coat of varnish on trim
- 6'-0" coal cellar
- Windows with sash locks

Interior:

- Four-ply Beaver board for wall covering
- ½" – 3" clear pine wall paneling
- 1'-6" drop ceiling with picture molding
- Asphalt paper between the sub and main floors
- Weighted hung windows and transom windows with lifts

Outbuilding:

- Shiplap siding and roof shingled
- Enclosure surrounding building

The school building was to be a dark oak or walnut with light cream trim. The roof was to be moss green, interior walls a buff color with dark oak battens, and the ceiling ivory. The location was chosen for its proximity to the water and steam lines of the Fred Harvey Garage (1914).

The scope of the original contract was amended to include materials and labor for a foundation, alteration of the north elevation, a hood over the front entrance, and a belfry. Bookcases and lockers were to be provided in the interior. Site addendums included an additional outbuilding and excavation for an outhouse.

Construction of the Old Grand Canyon School was completed in 1916. An insurance policy, dated September 22, 1916, specified the presence of fresco and decorative work in addition to the features discussed above. Drawings of the Old Grand Canyon School, as it originally existed, are contained in Appendix A.

No longer needed, the first school building was purchased by Bert Lauzon and moved to his homestead in 1917.

The School Improvement Era

In November 1923, a contract was awarded to John W. Johnson to construct an annex to the Old Grand Canyon School. This addition was to be joined to the existing building, and have toilets installed. Construction was 50%



Fig. 4: View of the northeast corner of the Old Grand Canyon School, 1948 (Source: GRCA Museum Collection, Photograph 1555)



Fig. 5: Students and teachers posed on the north elevation stairs of the Old Grand Canyon School, 1929 (Source: GRCA Museum Collection, Photograph 17738)

completed by November 28, 1923 and it is presumed that the addition was finished soon after. When the building was completed it had more than doubled in size. Classes were divided into grades 1-4 and 5-8, and a second teacher was hired. A set of doors in the shared wall provided access between the two sides of the building. A teacherage (house for teachers) was constructed nearby in the same year.[8] Architectural drawings of this and other modifications to the Old Grand Canyon School can be found in Appendix A.

In 1929, the Grand Canyon School was awarded a superior rating, noting that it was the only rural school in the county with such a rating. Of the school, the *Coconino Sun* said: "It is beautifully kept up and the active P.T.A., school trustees and teachers cooperate to give it every advantage."[9]

As the population of the Grand Canyon Village increased, student enrollment grew dramatically. In 1934, the student body was large enough to warrant another classroom and the building was partitioned into three rooms. Students were divided into three classes and a third teacher was hired. The porch on the teacherage was enclosed to provide living quarters for this additional teacher.[10] Despite these modifications, the Old Grand Canyon School could no longer hold the student body.

It is unknown when the School Board determined that the existing building was no longer adequate but documentation suggests that they requested funding for a new school as early as 1936. In a letter to the Superintendent Miner Tillotson, School Board Clerk Barbara H. McKee stated: "The present 20-year old building is a fire-trap and the sanitary conveniences are hopelessly out-of-date and inadequate for the present number of pupils."[11] McKee requested

8 Walter J. Stevenson to Mrs. Gertrude McKinstry, June 26, 1923, Museum Collection, Grand Canyon National Park, National Park Service.

9 *Coconino Sun* (Flagstaff), 22 November 1929.

10 Barbara H. McKee, interview by Kim Besom, 2 September 1995, transcript, Museum Collection, Grand Canyon National Park, National Park Service.

11 Barbara H. McKee to Superintendent Tillotson, April 1936, Museum Collection, Grand Canyon National Park, National Park Service.

that the Works Progress Administration upgrade the existing building, stating that the School Board could provide half of the materials. Without qualified individuals in the area, the Works Progress Administration was unable to help at that time.

In September 1938, the National Park Service received a $31,500 Works Progress Administration allotment for the construction of a new school. In a written agreement, the School District permitted the National Park Service "to tear down, or otherwise dispose of the present school building and teacherage belonging to the District, and to use all materials obtained therefrom [sic] in any manner he sees fit, either in construction of the new building, or otherwise."[12]



Fig. 6: South elevation of the addition to the Old Grand Canyon School, circa 1940 (Source: GRCA, Museum Collection, Photograph 894)

The new school building (Building 227) was completed by November 1939. The new school consisted of three rooms and an auditorium; it has since been modified and is still in use. The teacherage (Building 66) was moved to Juniper Street and remodeled by the Civilian Conservation Corps (CCC) for park housing in 1939; it has been altered since.

In a written agreement, the National Park Service acquired the Old Grand Canyon School building from the county in 1939. In spite of the School District's written permission to demolish the Old Grand Canyon School, ranger naturalists advocated for its retention and the National Park Service began rehabilitating it for a new use the following year.

Naturalist Workshop

In April 1940, the Old Grand Canyon School was assigned to the National Park Service naturalist division for temporary use as a Naturalist Workshop. Ranger naturalists studied the park's natural and cultural resources, and disseminated information to park visitors through exhibit display and ranger-led tours. Naturalists worked to prepare the building, consolidate their various collections, and create special exhibits throughout the spring. It was opened to the public in July.

The Naturalist Workshop was a dual purpose facility – it provided a workplace for naturalists to study and manage the museum collection, and an exhibit facility for the general public to learn about the Grand Canyon. The Naturalist Workshop housed a reference library, history files, natural history specimens, and a study collection. Naturalists were on hand to answer questions and provide training to specialized groups.

The museum collection was exhibited in the north side of the building, and the workshop was located in the south side. The exhibit display took advantage of school-era features including the partition doors and built-in shelving for display. Reading tables were later added in the museum exhibit area, presumably for research in the collection. The walls, doors, trim, and battens were painted a light color. Built-in display shelves on the north wall were backed with beadboard painted the same color.

12 11/7/1938 Agreement between National Park Service and Grand Canyon School District No. 4. Museum Collection, Grand Canyon National Park, National Park Service.



Fig. 7: Naturalist Workshop exhibit display in the north side of the Old Grand Canyon School, 1948 (Source: GRCA, Museum Collection, Photograph 1498)



Fig. 8: Naturalist Workshop workshop area in the south side of the Old Grand Canyon School building, n/d (Source: GRCA, Museum Collection, Photograph 5846)

By 1949, the Old Grand Canyon School building was in need of repair; it was rated in poor structural condition and fair mechanical condition.[13] It was reroofed by Fisher-Benz Roofing and Supply Co. of Phoenix in the same year. No other maintenance is documented.

In 1949, it was reported that the "lack of a suitable museum, to house priceless scientific collections, continues to be a serious deficiency in the park interpretive field of operation."[14] In 1953, during the planning of an Interpretive Unit to replace the Naturalist Workshop, the Naturalist Workshop was termed "an inadequate frame building."[15] The Interpretive Unit, which opened in a newly constructed visitor center in July 1957 effectively replaced the functions of the Naturalist Workshop and was both a site for dissemination of information to the public and a storage facility for the park's scientific collections. In March 1957, the Naturalist Workshop in the Old Grand Canyon School building was vacated in preparation for the move to the new Interpretive Unit.

During its history as the Naturalist Workshop, the Old Grand Canyon School's south entrance was protected by a canopy projecting from the existing trim. The canopy last appears in a photograph dated 1957; the date of its removal is unknown. The bell tower last appears in a photograph dated 1948; it was removed by 1952. Three modern windows were added to the south side of the west elevation at some point between 1953 and 1985. Their purpose and installation is not documented.

Interim Uses

Little is known of the occupancy of the Old Grand Canyon School building after the Naturalist's Workshop departure. In March 1957, the building was prepared for office use by the Western Office Design Center. They moved in the following month; its length of tenancy is unknown. The Old Grand Canyon School was remodeled in 1965, but documentation of the specific work does not exist.

13 Maintenance Form, Maintenance File, Grand Canyon National Park.
14 Report dated 26 May 1949, Museum Collection, Grand Canyon National Park.
15 Supplemental Annual Report for Fiscal Year 1953, Museum Collection, Grand Canyon National Park.

The Old Grand Canyon School is next referenced as winter quarters for park staff in 1974; the building was reroofed that year. In 1975 and 1976, it was used as office space for the North Rim Unit staff members; their length of tenancy is unknown.

Threats and Protection

In an attempt to organize the Grand Canyon Village into usage zones, the *Proposed Development Concept Plan* (1974) specified the removal of many buildings. The *Plan* claimed that the Village was an unpleasant "mixture of the new and the old, the functional and the obsolete, the esthetic and the eyesore."[16] Although the Old Grand Canyon School was listed in good condition and was in use, the *Plan* (1974) called for its removal and relocation.

Although Historian Ross Holland determined that the Old Grand Canyon School might merit preservation, it was "not considered sufficiently important to the interpretation of the early village."[17] The area was better suited for "construction of new overnight facilities, as well as new shops, restaurants, and meeting facilities."[18]

This consolidation plan was never implemented and the Old Grand Canyon School never relocated.

Rehabilitation of the South Side for Denver Service Center Offices

In preparation for rehabilitation as office space for construction supervisors from the Denver Service Center of the National Park Service, the Old Grand Canyon School was assessed and treatment recommendations made in the spring of 1985. Recommendations included site regrading, foundation repair, reroofing, exterior wall repair, installation of insulation, interior finishes, modification of plumbing, electrical, and heating systems, and compliance with various codes.

Rehabilitation work began that fall. First, asbestos pipe insulation was remediated. Next, T. Reilly Builders of Prescott was contracted for roof repair and the installation of two chimney stacks for the new gas fired heaters. They repaired a roof sag by nailing 2 x 6 inch members against eight pairs of rafters, introducing 2 x 6 inch collar ties for each pair, and renailing the webbing at the third points. With the sag corrected, K.B. Ponderosa of Flagstaff replaced the roof sheathing, wood shingles, and flashing in January 1985. Lastly, excavation, grading, framing of new structural members, installation of new water and sewer lines, dampproofing the exterior walls below grade, installation of subflooring, and refinishing the maple flooring were completed to make the building weather resistant and structurally sound by March 1986.

These tasks depleted the rehabilitation budget, and Historical Architect Billy Garrett recommended obtaining additional funding to complete the following:

Replacement of deteriorated/missing log slab siding
Paint/stain exterior
Insulation of perimeter walls
Drywall of interior

16 Grand Canyon National Park, National Park Service, *Draft Environmental Statement, Proposed Development Concept Plan, Grand Canyon Village* (Unpublished, 1974), 47.
17 Ibid., 84.
18 Ibid., 11.

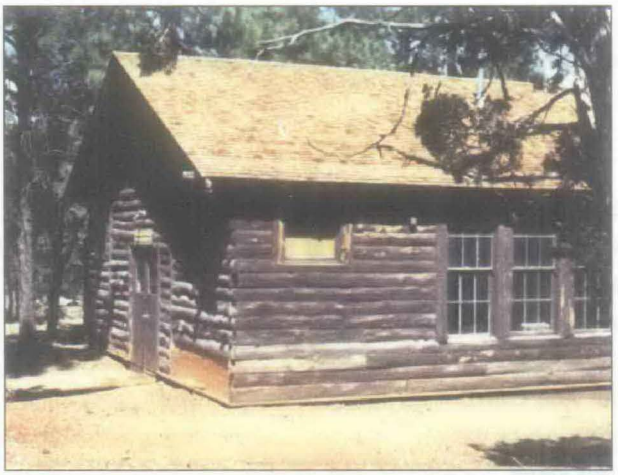


Fig. 9: View of the southeast corner of the Old Grand Canyon School building during rehabilitation, 1985 (Source: GRCA, Maintenance Files)

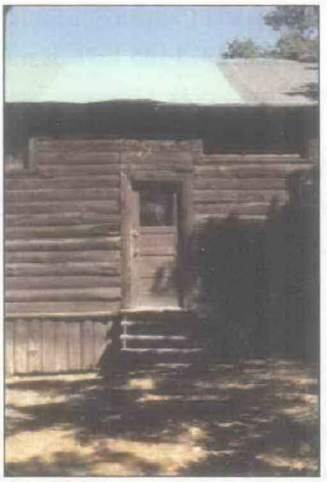


Fig. 10: West entrance before rehabilitation, 1985 (Source: GRCA, Maintenance Files)

Repair and weather-strip of all doors and windows
Installation of oak floor in south vestibule
Installation of gypsum board on ceiling
Construction of stone retaining wall around south end for proper drainage
Replacement of stairs on north end to meet code
Reconstruction of porch over south entry "to protect that end of the facility from direct exposure to the elements and to allow a transition from inside to outside."
Repair/replacement of lighting as needed

Rehabilitation work continued on the building exterior in the following year. The source of funding for this additional work is unknown. In August 1987, the sides of the west entrance staircase were enclosed and covered with rough-cut split logs, and the steps were reinforced with 2 x 4 inch supports. A railing was added from the porch deck to the lowest step. The stairs, railings, and enclosure were stained at that time.

In November 1987, the log slab siding was replaced in the lower southeast corner of the building, and the skirting replaced on the east and west elevations where it was removed during rehabilitation work. The northwest corner of the north entrance was reinforced and loose steps, siding, and railings were properly secured. The slab siding of the west door landing and steps were replaced with a thicker slab material. Other work included securing the west door jamb and hinges, replacing its threshold, and replacing the hardwood flooring of the south entrance.

In 1988, an Assessment of Actions Having an Effect on Cultural Resources form was submitted detailing further rehabilitation work. It included the installation of insulation, replacement of fibrous wallboard, and installation of an adequate heating system. To make effective use of the space, one interior wall was to be removed and another created. An interior doorway was to be created. The southern porch was to be reconstructed based on historic photographs. To limit the replacement of historic building materials, existing doors and windows were to be rehabilitated.[19]

19 It is presumed that the work contained on the Assessment of Actions Having an Effect on Cultural Resources form was completed, but documentation to that effect does not exist.

In June 1990, interior modification of the south side of the building was solicited. The work included, but was not limited to:

Replacement of all wall and ceiling finishes
Installation of new building insulation
Doors and partitions[20]
Refinishing existing wood floors
Overhauling all windows
Removal and replacement of heating, electrical, and illumination systems
Minor plumbing[21]

It is presumed that this work was completed and Denver Service Center construction supervisors moved in to the building soon after. Modifications to the partition layout are detailed in the architectural drawings in Appendix A.

Rehabilitation of the North Side for the Community Library

When the Babbitt's Brothers store, which housed the community recreation center and public library, was destroyed by fire in the winter of 1994, the Old Grand Canyon School was rehabilitated for use as a library. To ready the space, the interior was gutted. The partition doors and built-in cabinetry remained in place, and battens were reinstalled in their original location after the completion of work. Work included:

Replacement of wallboard with gypsum board
Insulation of walls
Installation of new electrical wiring, outlets, and fluorescent lighting fixtures
Installation of a propane furnace with duct work in the ceiling
Replacement of doors in kind
Installation of tacked down carpet
Repair of windows
Paint off-white[22]

Additionally, the blocking behind the old chalkboard was retained along with its frame. An accessible walkway was provided to the west entrance which necessitated the removal of the non-historic steps and landing. Once inside this door, a partitioned entry gave access to the separate offices. An asphalt walkway was constructed to the parking area at the termination of the wood plank walkway.

An Assessment of Actions Having an Effect on Cultural Resources form was submitted for replacement of the north stairs in October 1996; it is presumed that the work occurred soon after. Plans called for a new stair of similar design and construction to comply with current building code for riser height and tread, and handrail placement and design. Treads were increased from 8 to 11 inches and the landing depth was increased. Metal pipe handrails were added to both sides of the stairs and a free-standing rail installed at the center.

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20 Partition walls were modified during this rehabilitation work, but existed before. It is unknown when partition walls were added in the south side of the building.

21 Pre-Solicitation Notice, Project IFB GRCA-DS83, Museum Collection, Grand Canyon National Park, National Park Service.

22 Superintendent Boyd Evison to Regional Director, 13 July 1994, Maintenance File, Grand Canyon National Park, National Park Serivce.



Fig. 11: North side of the Old Grand Canyon School building during rehabilitation, 1994 (Source: GRCA, Maintenance Files)



Fig. 12: North side of the Old Grand Canyon School building after rehabilitation, 1994 (Source: GRCA, Maintenance Files)

Contemporary Use

In 1995, the Grand Canyon Village Historic District, already listed in the National Register of Historic Places, was increased in size to include 194 contributing resources, including the Old Grand Canyon School. As part of the Grand Canyon Village District, it was made a National Historic Landmark in 1997.

The *General Management Plan* (1995) specified retention of the Old Grand Canyon School, and rehabilitation of it for use as a training facility, which predates the rehabilitation for both the library and safety office occupations.

In 2006, a List of Classified Structures update listed the Old Grand Canyon School building in fair condition. The primary negative impact to the building was stated as inappropriate or inadequate preservation/rehabilitation. The overall management treatment was preservation.

Although the use of the north side of the building as a library was intended as temporary, the library continues to occupy the space and there are no plans for relocation. The library was a private non-profit organization and is now a branch of the Flagstaff Public Library system. The library is used most often by Xanterra employees, but National Park Service staff and the general public also use the facility. The library offers programs for children and utilizes the outdoor picnic tables for special events.

The safety office of the Grand Canyon National Park has occupied the south side of the building since 1998, after the Denver Service Center relocated. It has offices, a conference room, and storage areas within the building.

PHYSICAL DESCRIPTION

The following contains a systematic inventory of all features, materials, and spaces according to significance, condition, and impact level.

Significance is defined as the quality of being important, or the feature's association with the historical themes expressed in the *Historical Background and Context* section of this report. Significance is exemplified in the character defining features. It is evaluated as High, Medium, or Low.

Condition is the feature's state at the time of assessment with respect to performance, stability, and integrity. It is evaluated as Good, Fair, or Poor, as specified by the List of Classified Structures.

Good	The structure and significant features are intact, structurally sound, and performing their intended purpose. The structure and significant features need no repair or rehabilitation, but only routine or preventative maintenance.
Fair	a.) There are early signs of wear, failure, or deterioration though the structure and its features are generally structurally sound and performing their intended purpose. OR b.) There is a failure of a significant feature of the structure.
Poor	a.) The significant features are no longer performing their intended purpose. OR b.) Significant features are missing. OR c.) Deterioration or damage affects more than 25% of the structure. OR d.) The structure or significant features show signs of imminent failure or breakdown.

An impact is a detectable result of an agent or series of agents having a negative effect on the significant characteristics or integrity of a structure, and for which some form of mitigation or preventative action is necessary. It is evaluated as Severe, Moderate, or Low as defined by the List of Classified Structures. At least one of the criteria must be met for the declared impact level.

Severe	a.) The structure will be significantly damaged or irretrievably lost if action is not taken within two (2) years. b.) There is an immediate severe threat to visitor or staff safety.
Moderate	a.) The structure will be significantly damaged or irretrievably lost if action is not taken within five (5) years. b.) The situation caused by the impact is potentially threatening to visitor or staff safety.
Low	a.) The continuing effect of the impact is known, and will not result in significant damage to the structure. b.) The impact and its effects are not a direct threat to visitor or staff safety.

The physical description is divided into three sections: site, exterior, and interior. Within each section, both character-defining features and deficiencies are outlined. Treatment recommendations, rated according to priority, are outlined for each deficiency; a summary of recommended treatments is presented in the *Treatment & Use* section of this report. Drawings of the Old Grand Canyon School as it currently exists can be found in Appendix B.

Summary

The Old Grand Canyon School is located on the east side of the Grand Canyon Village Historic District and is approached by vehicular traffic from a spur road off Navajo Street. A paved pedestrian path links the building to other areas within the Village.

The Old Grand Canyon School is a rectangular, one-story frame building constructed in two phases. Both sections of the building are composed of wood slab siding, which give the impression of log construction. The point of connection is easily discernable where the log slabs of each section intersect.

The Old Grand Canyon School is generally in fair condition with three major deficiencies. First, many of the wood slab skirting boards are in direct contact with the ground and are displaced or decayed. Second, the increased book load in the original section of the building has led to structural issues. Additionally, the accessible walkway added to the west entrance detracts from the character of the building and site.

Because the two different uses of the building are not marked on the exterior, library patrons continually attempt entrance through the south side of the building from the parking lot. There are posted notices rerouting patrons around the building to the north entrance.

Although the ADA-compliant walkway was installed to allow access into the library from the west entrance door, this door has been locked since the fall of 2006.[23] Patrons continue to attempt entry through this route and must turn back to use the north staircase entrance.

The only restroom (for the north and south sides) is near the entrance on the south side of the building, and library patrons must enter an initial set of double doors to access this restroom.

23 The west door has been locked to entry since someone exited out of this door after stealing from the library in 2006. The door remains unlocked from the inside.

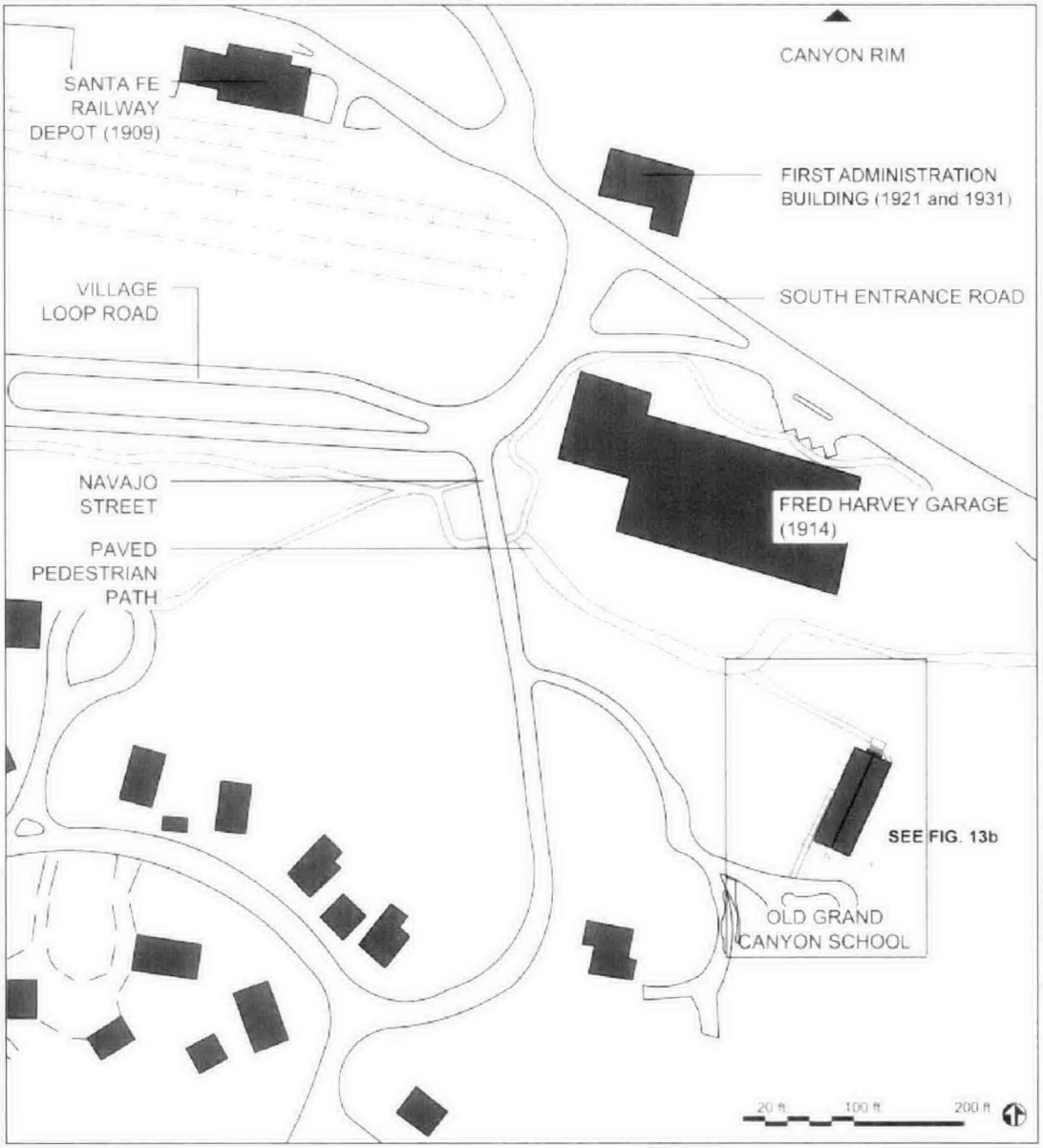


Fig. 13a: Site Plan

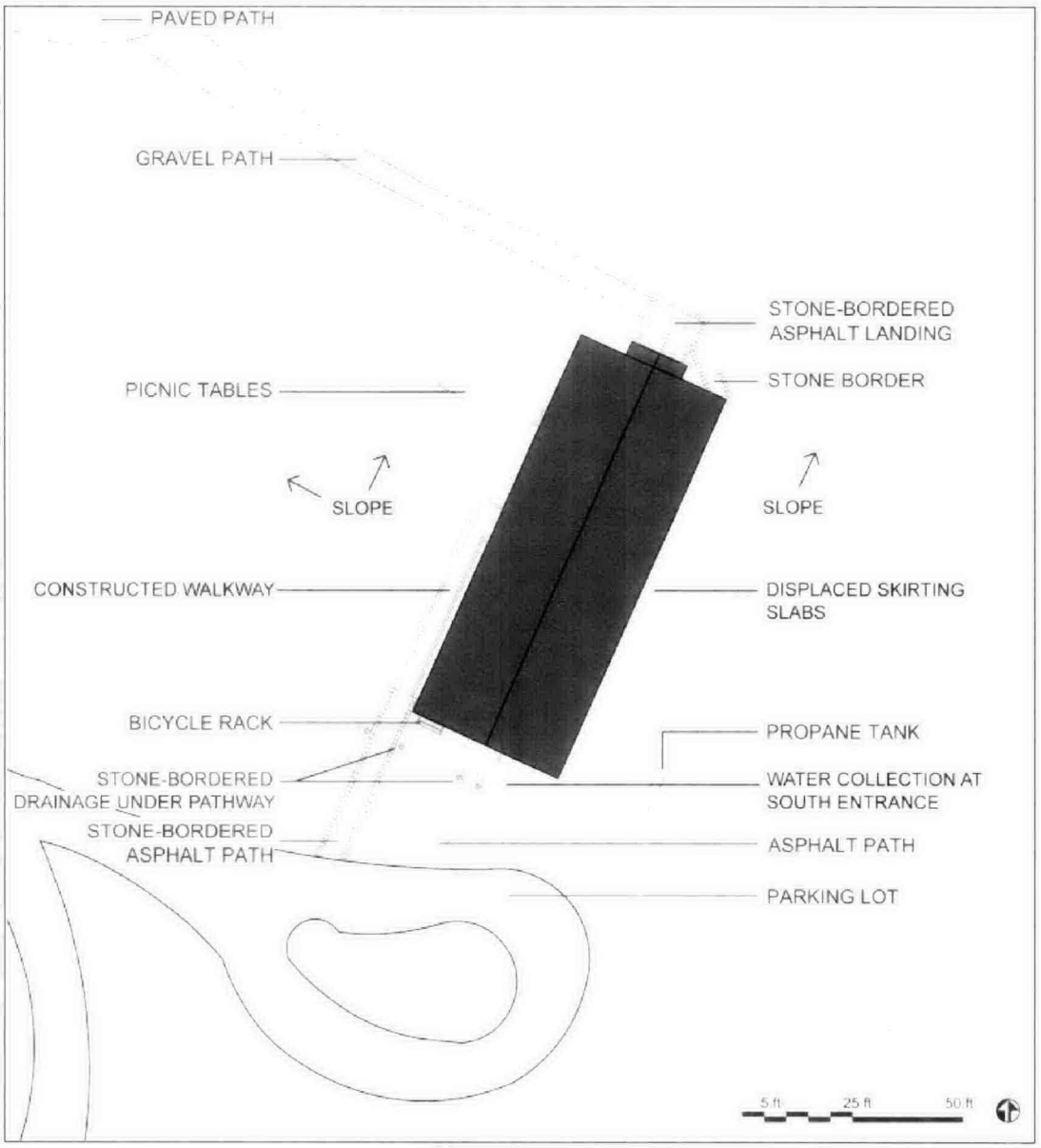


Fig. 13b: Site Plan

Site / Setting

Significance: High
Condition: Good
Impact: Low

Character Defining Features: Native vegetation; stone pathways

The Old Grand Canyon School building is located in the northeastern section of the Grand Canyon Village. It is accessible to vehicular traffic by Navajo Street to the west and to pedestrian traffic by means of an east-west pathway to the north. The Old Grand Canyon School is located approximately 140 feet south of the Fred Harvey Garage (1914) and 275 feet south of the East Entrance Road. A wood fence helps screen the Fred Harvey Garage from view.

The site is dominated by ponderosa pine trees, sparse grasses, and barren earth. Although trees are generally a safe distance from the building, their branches extend over the roof in some locations. Dense tree cover is present in the area approximately 30 feet east of the building.

The ground slopes downward dramatically to the north and gently to the west, which generally helps to move water away from the building. There are natural drainages approximately 12 feet east and 40 feet west of the building. Both drainages direct water northward. Water collects in front of the south elevation. A drainage pipe runs below the wood plank walkway on the south elevation and is bordered by rocks at the eastern end.

A paved pedestrian and bicycle path, approximately 40 feet north of the building, links the Village core with Market Plaza. A gravel path spurs off the paved path and approaches the north elevation stairway from the west. Stones border both this gravel pathway and the asphalt landing at the bottom of the stairs. Another stone border leads from this asphalt landing to the east elevation. This pathway is approximately 12 feet long; it is not surfaced.

A wood plank walkway leads to the entrance to the south door. It was installed in 2003, replacing a similar wood plank landing.[24] It is approximately 8 feet square with a clear-coat stain. A bicycle rack is present in front of the south elevation, just west of the plank walkway.

A wood plank walkway spans the south half of the building on the west elevation and terminates at the mid-building entrance door. It is approximately 4 ½ feet wide and 47 feet long to accommodate wheelchair access. The south end of the constructed walkway rests upon the ground and because of the site slope, the north section is elevated approximately 3 ½ feet above ground level. Vertical wood panels (2 feet long x 1 foot wide) span the gap between the constructed walkway and railing.

An asphalt path extends from the point at which the constructed walkway terminates to the parking lot. There is a drainage pipe under this path and three parking spots at its termination. The parking spots are not limited to accessible parking.

Other site features include three picnic tables on the west side of the library and a propane fuel tank approximately 20 feet east of the building on the south side. The east side of the building is littered with wood skirting slabs which have fallen from their proper locations. This is discussed further in the *Exterior* section.

24 It is unknown when a plank walkway was originally installed.

Site Deficiency	Recommended Treatment*	Impact
Water collection at the south building wall. (Fig. 16)	Regrade site to direct water away from the building.	Severe
Displaced wood slab skirting boards. (Fig. 19)	Retain displaced skirting slabs and install at proper location.	Severe
Wood plank walkway. (Fig. 17)	See *Alternatives for Treatment* for recommendation to expand the library into both sides of the building, and utilize the south entrance for universal accessibility. The constructed walkway could then be removed.	Moderate
Presence of propane fuel tank. (Fig. 20)	No action required. If aesthetically desired, screen propane tank with native vegetation or an unobtrusive wood fence.	Low
* *Note*: Please see *Requirements for Treatment* for additional information on each recommendation.		



Fig. 14: View northwest of the Old Grand Canyon School showing the stone-bordered asphalt path to the paved pedestrian path. The Fred Harvey Garage is visible to the right, 2006.

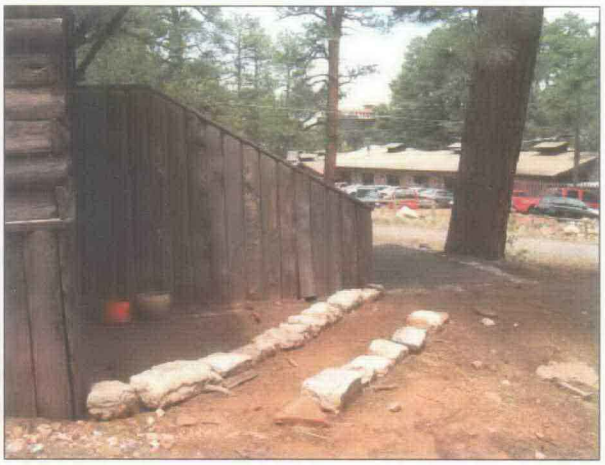


Fig. 15: View of staircase and stone-bordered path at the northeast corner of the Old Grand Canyon School, 2006.



Fig. 16: Wood plank landing, asphalt path, drainage, and bicycle rack at the south entrance to the Old Grand Canyon School, 2006.



Fig. 17: Wood walkway along the west elevation on the south half of the building, 2006.

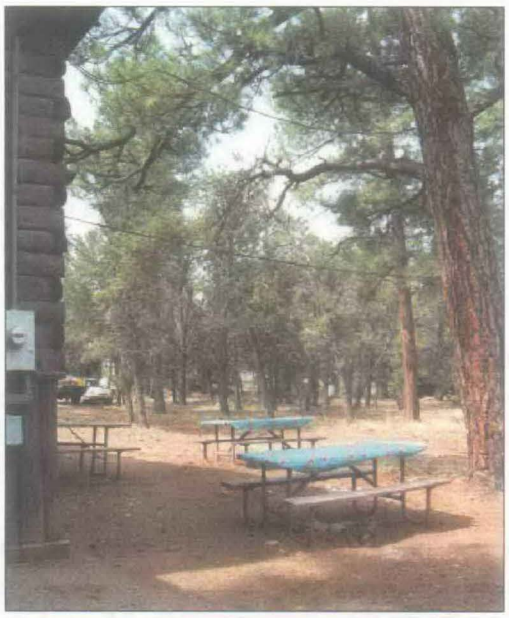


Fig. 18: View of the northwest corner of the Old Grand Canyon School showing picnic tables and vegetation, 2006.

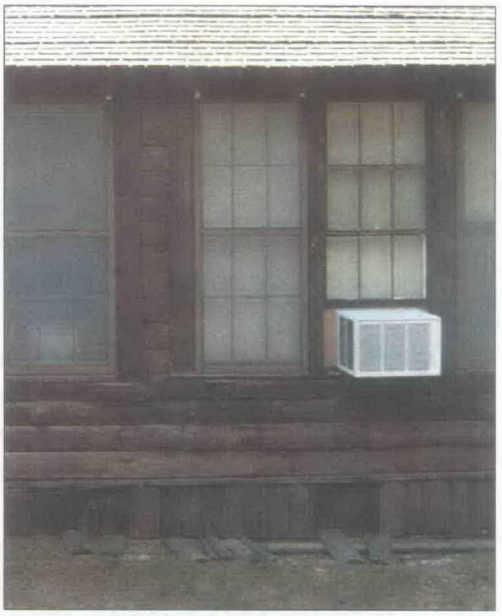


Fig. 19: View of the east elevation showing displaced skirting slabs, 2006.



Fig. 20: Propane tank east of the Old Grand Canyon School, 2006.

Exterior

Significance: High
Condition: Poor
Impact: Severe

Character Defining Features: Wood roof shingles doubled every fifth course; log slab siding and skirting; north elevation staircase; recess at north elevation entrance; gabled canopy over north entrance; wood door, window, and wall trim

The one-story Old Grand Canyon School was constructed in two phases which blend easily with each other. The point of connection is visible where log slab siding from the two sections meet. Although each elevation of the building is different, they all share the same finishing treatment of log slab siding. Entrance to this rectangular gabled building is gained on both gable ends and the west elevation.

Although it is a frame building, horizontal log slab siding gives the appearance of log construction. The log slabs are approximately 8 inches wide and vary in length. All log slabs are painted brown; the paint is worn in some locations. At the corners, log slabs extend beyond those of the adjacent side to give the appearance of structural notching. Some logs are warped at these connections and are no longer properly attached to the building. Other problems include cracked and missing log slabs, and historic bark beetle damage. There are holes in the log slabs in a few locations.

Vertical log slab skirting covers the shiplap siding on the foundation piers. Because of the site slope, and the taller foundation on the north elevation, skirting is longest on the north side of the east and west elevations. Skirting is shortest on the south sides of the east and west elevations. It is not present on the south elevation. Typical skirting deficiencies include: decay due to contact with ground moisture; missing or displaced skirting slabs; and worn paint. Other skirting problems include a bowed skirting wall on the west elevation, and infill in an area of skirting north of the west entrance door.

The symmetrical north elevation has a grand staircase testifying to its historic public use. The enclosed railings extend to the ground as walls, the outside of which are covered with vertical log slabs. A section of the north elevation, with the same width as the staircase, is recessed into the building. Central double doors are located in this area. A covered porch, under the main roof, extends over the entrance and is the same width as the staircase.

Nine-over-one double-hung windows flank the north elevation entrance. A fixed nine-lite attic window is located in the gable end. The gable is faced with wood shingles, with approximately 6 inch exposure of varying width, randomly arranged and painted brown to match the log slab siding. Doors to access the crawlspace flank this staircase; they are both within the skirting. The eastern door is composed of four vertical log slabs and is well camouflaged. The western door is composed of brown-painted beadboard, recessed into the log slab skirting. Both doors are approximately 3 ½ feet high. Utilities enter the building on the north elevation.

The south elevation echoes the north elevation in design but with significant variation. The central double-door entrance on the south elevation is not recessed but is asymmetrically bordered by an area of log slab trim. Four-lite windows flank the entrance on the other side of this trim. A fixed two-lite attic window is located in the gable end. As

on the north elevation, the gable is composed of wood shingles painted brown to match the balance of the building's exterior. Shingle walls are laid coursed with butts level on both north and south elevations.

The west elevation has a centrally-located door which provides access to both sides of the building. This door is approached by an ADA-compliant wood walkway discussed in the *Site* section of this report. This constructed walkway dominates the west elevation and is visible on the north and south elevations. Wood slab skirting is missing in the area below the west entrance door leaving the concrete block foundation visible.

The double-door entrances on both the north and south sides of the building have semi-transparent stained wood panel doors with a 3 feet tall x 2 ½ feet wide window at eye level. There is a single paneled door on the west elevation; it is painted brown.

There are numerous types of windows including: fixed nine-lite (north elevation attic), fixed two-lite (south elevation attic), four-lite hopper (south, west, and east elevations), six-over-six double-hung (west and east elevations), nine-over-four double-hung (east elevation), nine-over-one double hung (north elevation), one-over-one double-hung (west elevation), 8-lite hopper (west elevation), and 12-lite hopper (west elevation). Screens are hinged to the top window trim on the building exterior and are present on most windows. Screens are not present where air conditioning units are mounted. Air conditioning units are mounted in four windows on the east elevation; they remain in situ year-round.[25] Doors and windows are trimmed with log slabs.

Wood roof shingles are doubled every fifth course and are natural in color. They were last replaced in 2003 and are in good condition. There is a ridge at the junction of the original building and its addition likely due to differential settlement.[26] There are three vents, two on the south side of the west elevation and one on the south side of the east elevation. Rafters are protected by the roof and are generally in good condition. On the gable ends, the ridgepole and purlins, both of which extend beyond the eave line, are decayed from water damage. A gutter spans the area over the west entrance door.

25 Two units were installed in 1999 and two in 2004. All four units were to be removed and a long-term HVAC solution implemented no later than October 1, 2006.

26 It is recommended that a structural engineer evaluate the Old Grand Canyon School. The engineer may determine that the visible junction between the two construction phases may be due to the roofs not properly meeting each other, and not due to differential settlement.

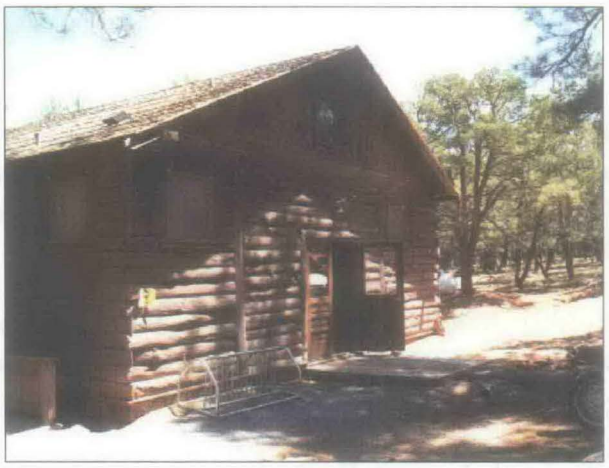


Fig. 21: South elevation, 2006.

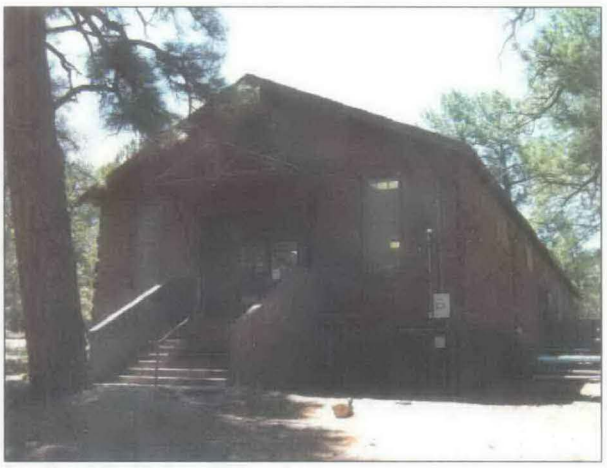


Fig. 22: North elevation, 2006.

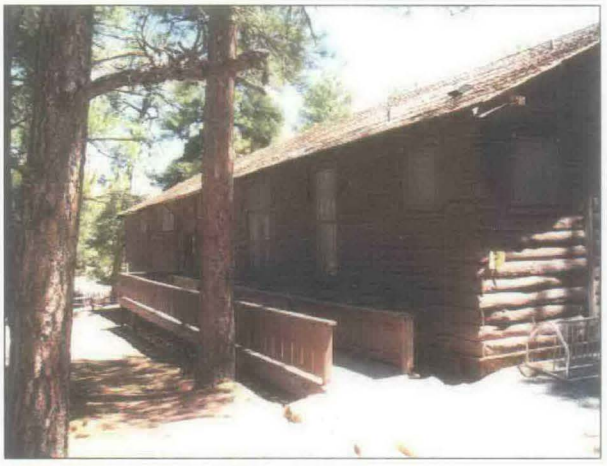


Fig. 23: West elevation, 2006.



Fig. 24: East elevation, 2006.

Exterior Deficiency	Recommended Treatment*	Impact
Displaced or cracked siding or skirting. (Figs. 27, 28, 32, 41)	Repair siding with wood splice, painted to match existing. Retain displaced skirting and install in the proper location.	Severe
Decayed siding, skirting, or trim. (Fig. 30)	Remove area of decay. Patch with wood splice, if appropriate. Paint to match existing.	Severe
Decayed purlins and ridgepoles. (Fig. 43)	Remove decayed area and patch with epoxy. Patch with wood splice, if necessary. Paint to match existing.	Severe
Bowed foundation wall and skirting. (Fig. 37)	Install proper foundation. Remove decayed floor joists and add floor joists in the quantity appropriate to the building load.	Severe
Inappropriate roof slope, including sagging and uneven ridges. (Fig. 44)	Install proper foundation. Adjust ridge board and rafters to remove sag, replacing specific members as required. Install rafters in the quantity appropriate to the building load. Resheath and shingle roof.	Severe
Hole in wood slab siding. (Fig. 25)	Repair hole with wood splice, painted to match existing siding.	Moderate
Peeled paint on siding, skirting, or trim. (Figs. 26, 29)	Repaint building to match existing coloration.	Moderate
Blocked gutter.	Remove debris and clean gutter system.	Moderate
Infill in foundation skirting. (Fig. 36)	Remove skirting in area of infill. Replace with skirting slabs of appropriate height to be above grade, painted to match existing skirting.	Low
Beadboard door in foundation skirting. (Fig. 35)	Remove beadboard door. Replace with skirting door to match east crawlspace door, painted to match existing skirting.	Low
Concrete block foundation visible. (Fig. 39)	Install skirting slabs over concrete block, painted to match existing skirting.	Low
Presence of window air conditioning units. (Fig. 42)	Install a central HVAC unit servicing both sides of the building. Remove window air conditioning units.	Low
Historic bark beetle damage.	No treatment required.	Low
Obvious connection between the original building and historic addition with horizontal log slab siding. (Figs. 32, 33)	No treatment required.	Low
* *Note*: Please see *Requirements for Treatment* for additional information on each recommendation.		



Fig. 25: A hole in the wood slab siding near a window on the west elevation, 2006.



Fig. 26: Peeled paint and historic bark beetle damage on the west elevation 2006.

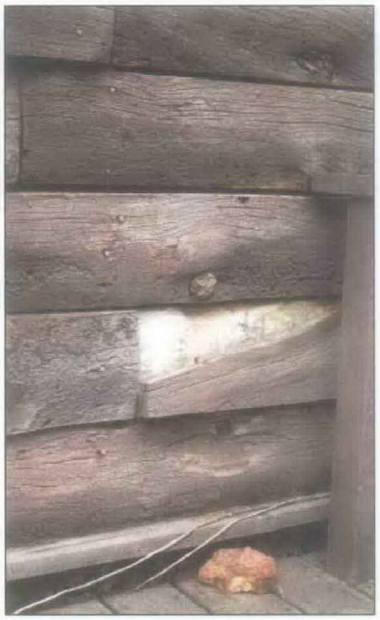


Fig. 27: Wood slab cracked and partially removed, 2006.



Fig. 28: Corner condition showing displaced wood slabs, 2006.



Fig. 29: Peeled paint on wood slab skirting, 2006.



Fig. 30: Decayed log slab skirting, 2006.



Fig. 31: Missing wood slab skirting at the southwest corner, 2006.

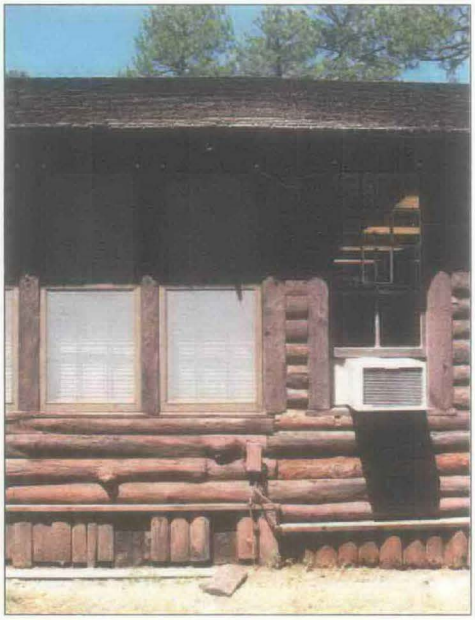


Fig. 32: Connection between the north and south sides of the building on the east elevation, and displaced skirting, 2006.

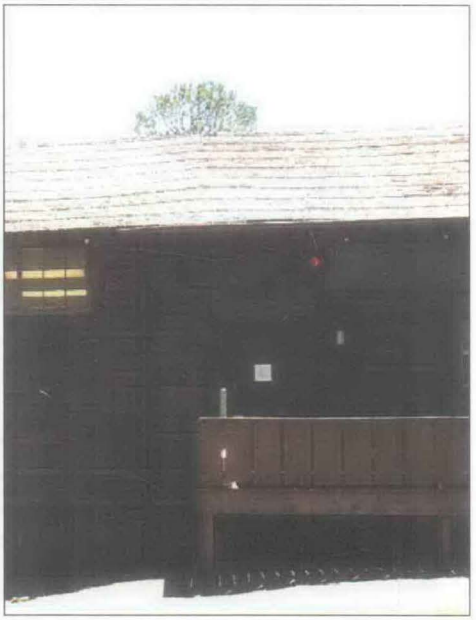


Fig. 33: Connection between the north and south sides of the building on the west elevation and raised roof ridge, 2006.



Fig. 34: East door to the crawlspace on the north elevation, 2006.



Fig. 35: West door to the crawlspace on the north elevation, 2006.



Fig. 36: Area of infill on the west elevation wood slab skirting, 2006.

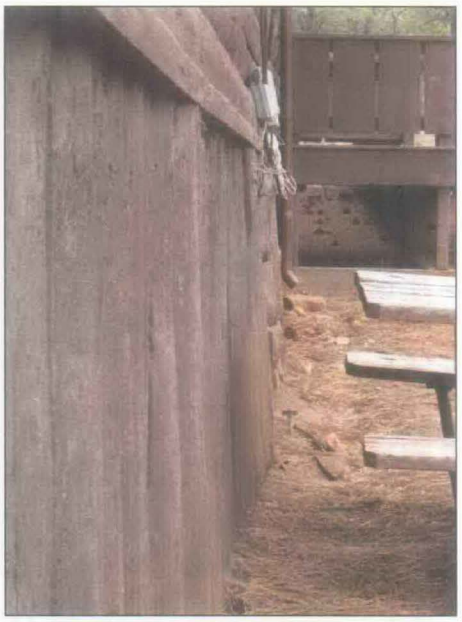


Fig. 37: Bowed wood slab skirting on the west elevation, 2006.



Fig. 38: South elevation of the walkway to the west entrance, 2006.



Fig. 39: Area below the walkway at the location of the west entrance showing concrete foundation, 2006.



Fig. 40: Damage to wood slab siding at the location of the west entrance likely caused by a historic railing, 2006.

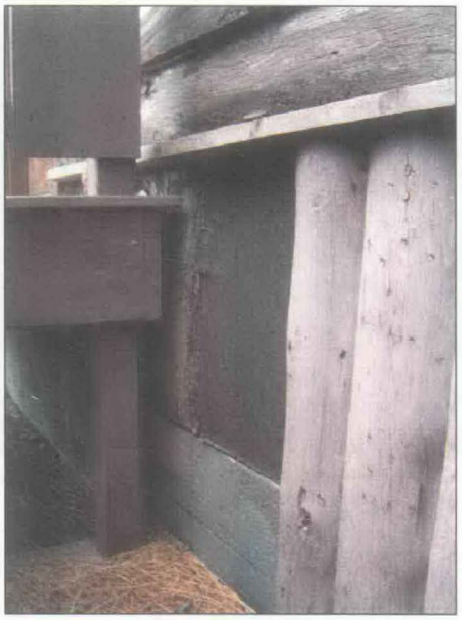


Fig. 41: Missing wood slab skirting at the location of the west entrance, 2006.



Fig. 42: Air conditioning unit in an east elevation window, 2006.



Fig. 43: Decayed rafter and outrigger on the south elevation, 2006.



Fig. 44: East elevation showing the raised roof at the connection of the north and south sides of the building, 2006.

Interior

Because the north and south sides of the building were constructed and rehabilitated at different times for different uses, they have unique characteristics. This section is divided into the building's north and south sides.

North Side (currently Public Library)

Significance: High
Condition: Fair
Impact: Moderate

Character Defining Features: Interior layout; wood doors on the south wall; wood windows; built-in board and batten cabinetry in the east and west side rooms; built-in display shelf; board and batten ceiling in vestibule; wood baseboard, window, and door trim

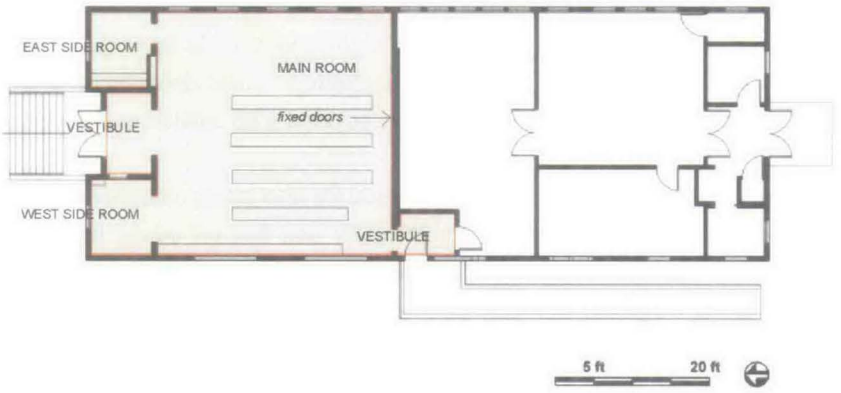


Fig. 45: Reference floor plan showing the north side of the building as shaded, 2006.

The north side is approximately 40 feet x 30 feet and comprised of a central vestibule (6 feet x 10 feet) flanked by two side rooms (8 feet x 10 feet each), and a large room (30 feet x 30 feet) to the south.

Throughout the north side, the walls are drywall painted ivory, except the west side room, discussed below. Door and window trim, approximately 4 inches wide, is painted ivory, as are wall and ceiling battens. Baseboard trim, approximately 6 inches tall, is likewise painted. The ceiling is painted ivory, except in the vestibule which is stained beadboard. The floor is carpeted throughout.

The library is lit with natural light and ceiling-mounted fluorescent fixtures. Natural light enters the east and west side rooms from nine-over-one double-hung windows on the north elevation. The main room has abundant lighting from five nine-over-four double-hung windows on the east elevation, and two twelve-lite clerestory hopper windows on the west elevation.

The west side room is currently used as a children's reading room. There is a blocked door between the vestibule and the west side room. The west side room has an opening to the main room. The walls and trim of the west side room are painted pastel purple and green. There is a built-in cabinet faced with beadboard in the northeast corner of the room, painted with the same coloration.

The east side room is currently used as the librarian's office and has an opening to the main room. Window and door trim is darkly stained in this room. The west wall has built-in cabinetry which is faced with beadboard, darkly stained. The south wall is covered with similarly designed cabinetry, but serves as a decorative front only; it does not open. The battens in this room are darkly stained. The battens on the east wall exist only on the top half of the wall, and may be evidence that built-in cabinets once existed on the lower portion of that wall. The librarian's desk is situated in the main room in front of the east side room.

The main room, which once functioned as the classroom, contains the bulk of the library collection as well as public computers. Most of the books and media are housed on four freestanding shelves and one shelf against the west wall, all oriented lengthwise north to south. The west shelving unit is approximately 1 ½ feet wide x 24 feet long. The nearest shelf is approximately 2 feet x 15 feet, and the other three are approximately 2 feet x 18 feet. All are 7 ½ feet tall. There are smaller freestanding displays on the east side of this room and in the west side room. There are six computer workstations for public use, four on the east wall and two on the south wall.

A number of significant features remain from the period of significance, including six paneled wood doors that once allowed access between the original building and the south addition. These doors are now fixed in place and sealed with a narrow strip of baseboard trim.[27] The door panels are covered with a fabric tack surface.

The fabric tack surface also covers an area east of the doors and the area inside a built-in display between the vestibule and the east side room. The built-in display is approximately two feet off of the floor and has two small wood shelves that are supported by brackets. Historically, a total of seven display shelves spanned the width of the built-in, beginning at floor level. It was originally backed with beadboard.

A doorway at the west end of the south wall provides access to the west entrance door through a small vestibule. Universal accessibility is gained through this door from an exterior wood walkway spanning the south half of the west elevation. There is a doorway to the south side of the building on the south vestibule wall, which is blocked by a copy machine in the south side of the building.

Access to the attic is gained from the vestibule ceiling, which historically provided access to the belfry bell. Historically, there were a set of double doors on the south side of the vestibule to shield the main room from inclement weather.

The north side of the building suffers from its continued use as a library and the stress of the heavy book load. The floor is soft in many areas and creaks when traversed. The ceiling is bowed.

27 There is a set of wood doors hidden behind these visible doors. The original function of these hidden doors is unknown.

Interior Deficiency (North Side)	Recommended Treatment*	Impact
Bowed ceiling. (Fig. 47)	Install proper foundation. Repair or replace roof framing members contributing to the raised roof ridge. Add roof rafters in a quantity appropriate to the roof load. Replace the ceiling in the north side of the building. Paint ceiling to match existing. Reinstall battens in to match existing.	Severe
Soft floor boards.	Verify existence of proper foundation. Remove deteriorated floor joists. Add floor joists in a number appropriate to the book load.	Severe
Removed cabinet in east side room evidenced by short battens.	No treatment required.	Low
Display shelf altered from original configuration. (Fig. 52)	No treatment required.	Low
Lack of restroom. Library patrons currently exit the building to use the restroom on the south side of the building.	No treatment required. See *Alternatives for Treatment* for recommendation to expand the library into both sides of the building. Restroom access could be gained without having to exit the building.	Low
Ackward ADA-compliant access through west side door.	See *Alternatives for Treatment* for recommendation to expand the library into both sides of the building, and utilize the south entrance for universal accessibility. The constructed walkway could then be removed.	Low
* *Note*: Please see *Requirements for Treatment* for additional information on each recommendation.		

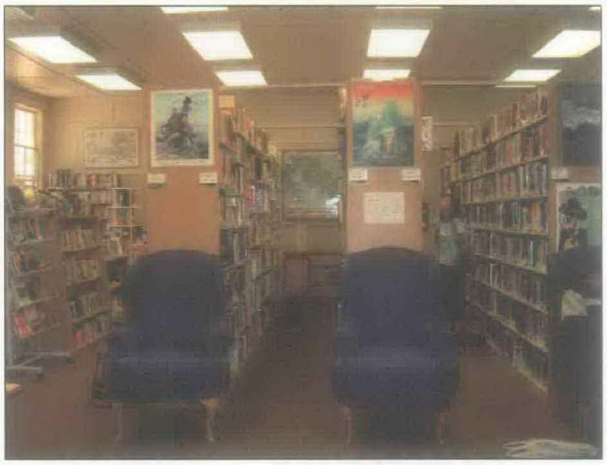


Fig. 46: Interior view of the library facing south showing doors on south wall, 2006.

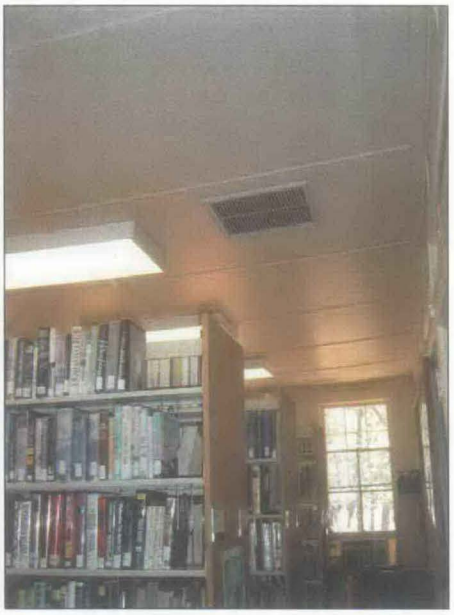


Fig. 47: View of the library facing east showing the bowed ceiling and ceiling battens, 2006.

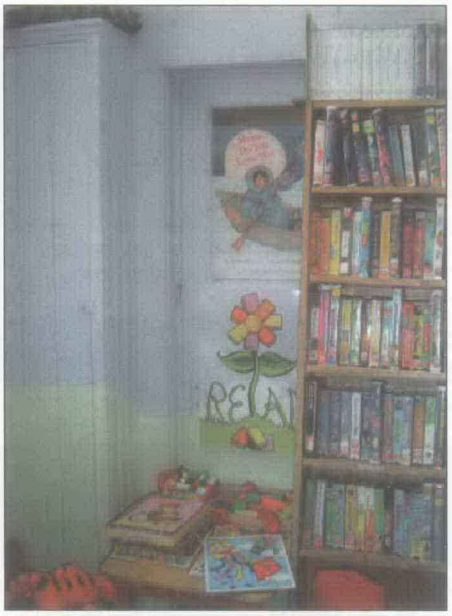


Fig. 47: View of the west side room showing the built-in cabinet and blocked door to the vestibule, 2006.

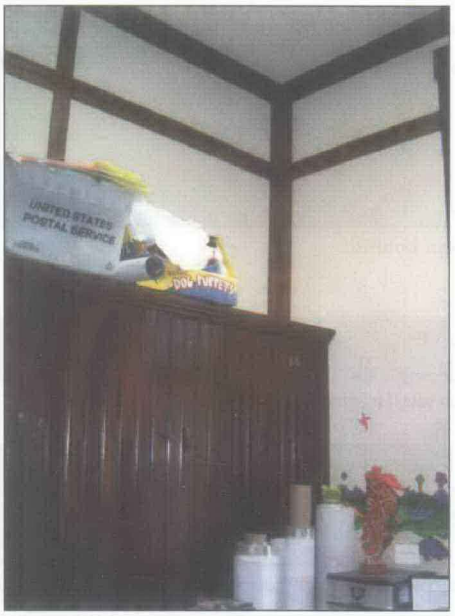


Fig. 48: Built-in cabinetry and battens in the east side room, 2006.

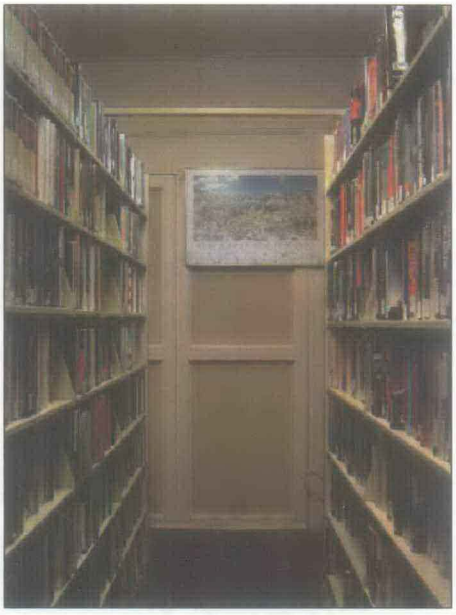


Fig. 49: View of the doors connecting the north and south sides of the building, 2006.

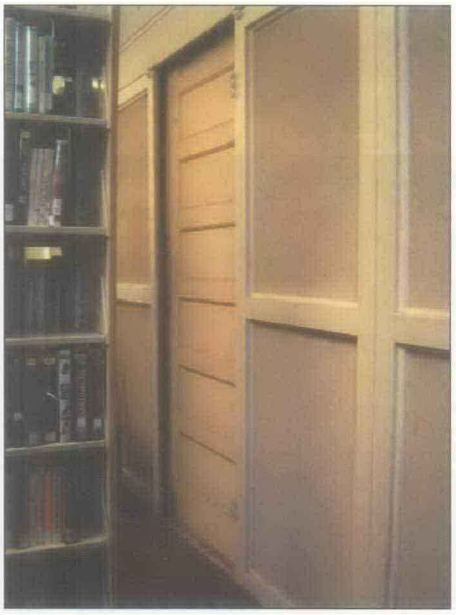


Fig. 50: View of the doors connecting the north and south sides of the building, and the additional hidden doors behind them, 2006.



Fig. 51: Battens and exposed blocking on the west wall, 2006.

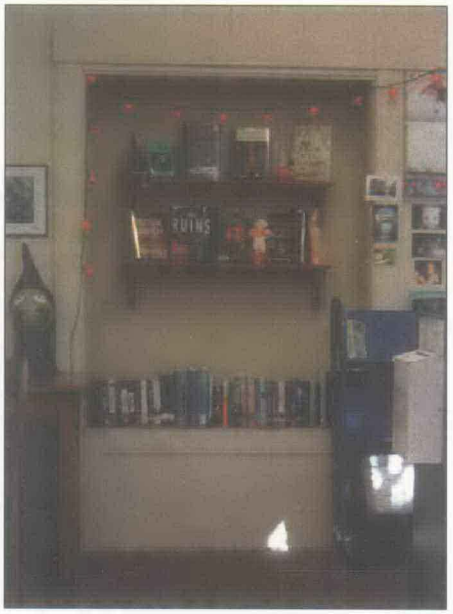


Fig. 52: Display shelves on the north wall, 2006.

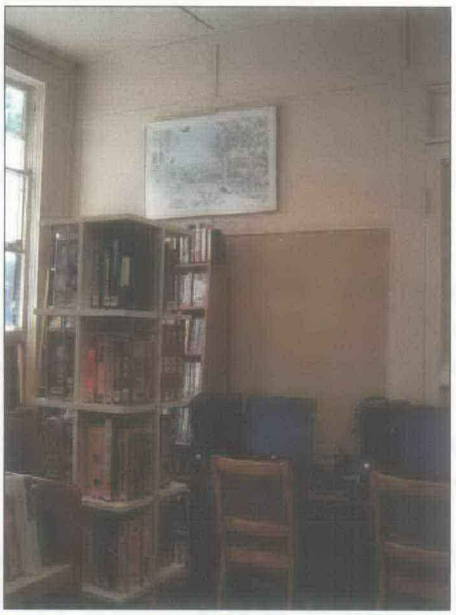


Fig. 53: Fabric-covered wall surface on the south wall, 2006.

South Side (currently National Park Service Safety Office)

Significance: Medium

Condition: Good

Impact: Low

Character Defining Features: Wood floor; wood windows; wood window and door trim

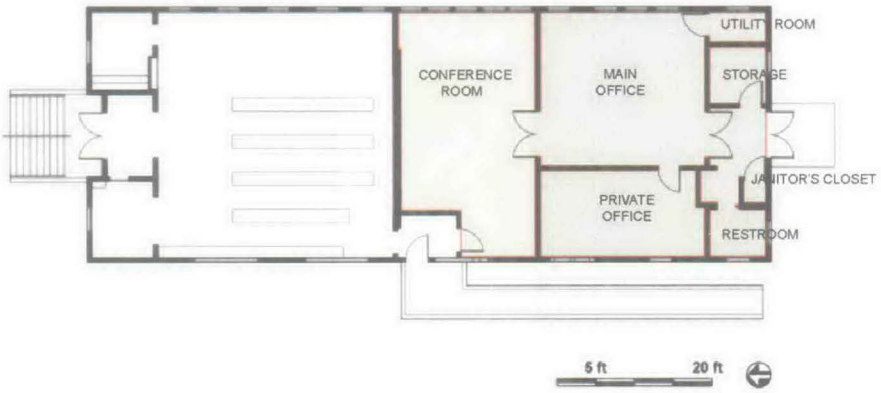


Fig. 54: Reference floor plan showing the south side of the building as shaded, 2006.

The south side is approximately 50 feet x 30 feet and comprised of office and storage areas, and a large conference room. A central vestibule (8 feet x 9 feet) is flanked by storage (8 feet x 7 feet) and utility (8 feet x 4 feet) rooms to the east, and a janitor's closet (3 feet x 3 feet) and restroom (8 feet x 6 feet) to the west. The vestibule opens into the main office (21 feet x 20 feet), which provides access to a private office (21 feet x 11 feet) to the west and a conference room (18 feet x 30 feet) at the north. Access to the attic is gained from the vestibule ceiling.

Throughout the south side, the walls and ceiling are drywall painted ivory. The office and conference room flooring are wood. The restroom and storage areas have linoleum flooring. Doors and door trim are darkly stained. Window trim, approximately 4 inches wide, is painted ivory. Throughout the public spaces, baseboard is lightly stained wood. Baseboard in the restroom and storage area is plastic.

The safety office is lit with natural light and ceiling-mounted fluorescent fixtures. Natural light enters through windows on the west, east, and south walls. The private office has one six-over-six double-hung window, two one-over-one double-hung windows, and an eight-light clerestory hopper window on the west wall. The main office has four six-over-six double-hung windows on the east wall. The conference room has five six-over-six double-hung windows on the east wall, and both an eight-lite clerestory hopper window and one-over-one double-hung window on the west wall. There is one four-lite window in each the utility and storage rooms, and two four-lite windows in the restroom.

The central vestibule contains a set of double wood doors to the entrance, which are mirrored by double wood doors leading to the main office. The vestibule also provides access to the storage area to the east and the janitor's closet and restroom to the west. The storage closet has floor-to-ceiling shelving on the north and east walls. The small janitor's closet contains a washtub which rests on the floor on the west wall. There is an additional storage area outside of

the restroom which contains three shelves for janitorial supplies. These shelves are lightly stained. This narrow area would not accommodate a hinged restroom door and a pocket door is present instead.

The double wood entrance doors are aligned with double wood doors between the main office and conference room. These doors are not historic and were installed as part of the 1990 rehabilitation.

The north wall of the conference room has an indentation to the east and west of the six doors which face the library. There is an enclosed vestibule granting access to the west entrance door in the northwest corner of the conference room. This vestibule walls are approximately 8 feet tall and the balance of the conference room is approximately 10 ¾ feet tall. The door to this vestibule, leading to the west entrance and the north side of the building, is blocked by a copy machine. The east conference room windows have wood blinds.

The south side of the building is generally in good condition.

Interior Deficiency (South Side)	Recommended Treatment*	Impact
Blocked exit to the west door. (Fig. 58)	Relocate photocopier to provide a secondary means of egress.	Severe
Exposed outlet for data jack in conference room. (Fig. 64)	Properly install data jack and outlet.	Moderate
* *Note*: Please see *Requirements for Treatment* for additional information on each recommendation.		

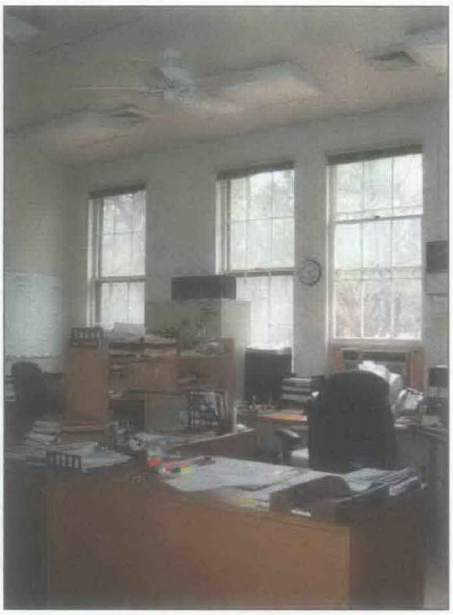


Fig. 55: View of the main office facing northeast, 2006.

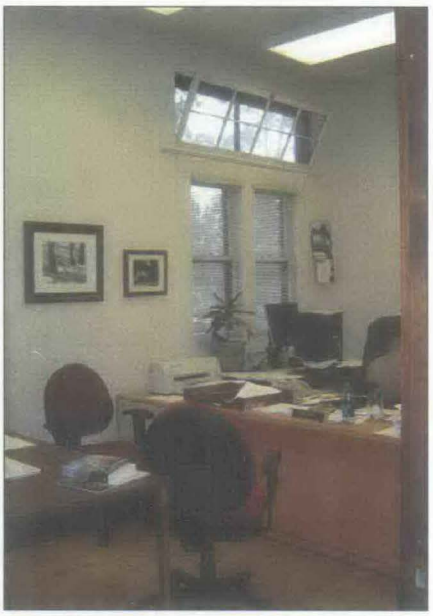


Fig. 56: View of the private office facing northwest, 2006.

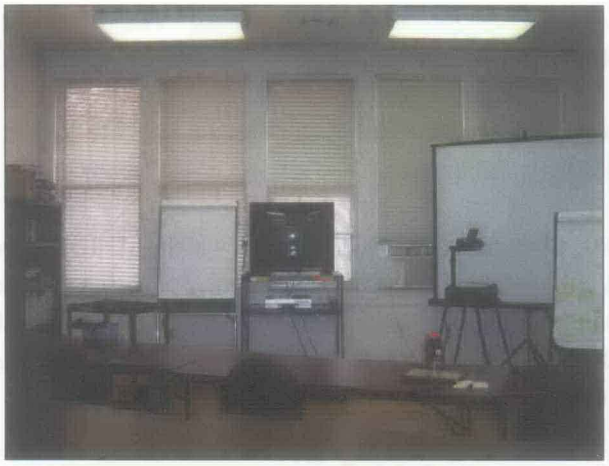


Fig. 57: View of the conference room facing east, 2006.

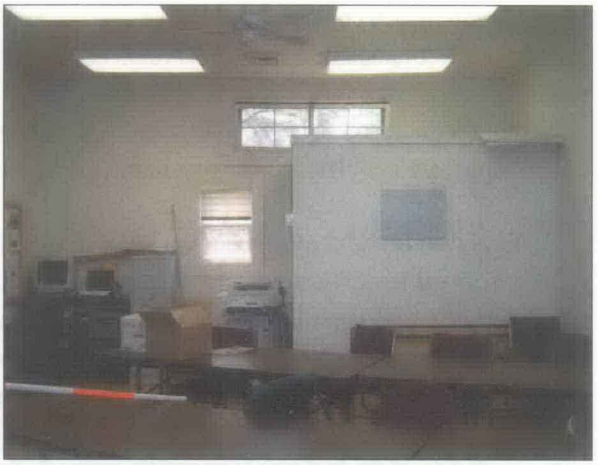


Fig. 58: View of the conference room and blocked entrance enclosure facing west, 2006.



Fig. 59: View from the conference room to the south entrance showing repeated set of double doors, 2006.

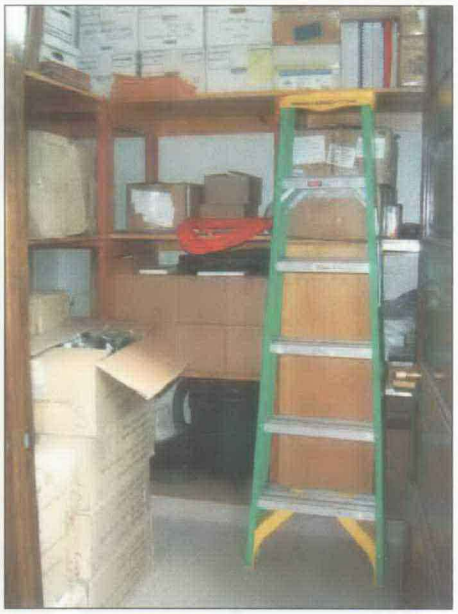


Fig. 60: Storage closet, 2006.



Fig. 61: Storage area and pocket restroom door, 2006.



Fig. 62: Restroom, 2006.



Fig. 63: Janitor's closet, 2006.



Fig. 64: Exposed outlet in conference room, 2006.

Treatment & Use

Ultimate Treatment & Use

The following section recommends preservation of the Old Grand Canyon School. The Secretary of the Interior defines preservation as:

> the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses on the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction.[28]

The Old Grand Canyon School continues to function as required by park staff. It retains all original exterior features, except the belfry and south entrance canopy. Interior modification and rehabilitation has been respectful of character-defining features. Preservation of the Old Grand Canyon School will maintain its existing form and materials where possible. Its preservation will allow both its continued use and ability to function as a testament to the pioneer spirit and early development of Grand Canyon Village.

Preservation treatment of the Old Grand Canyon School is supported by park management actions and plans. The *General Management Plan* (1995) specified retention of the Old Grand Canyon School, and rehabilitation of it for use as a training facility, which predates the rehabilitation for both the library and safety office occupations. Preservation treatment was formalized in the List of Classified Structures (2006).

To complete preliminary stabilization and preservation maintenance would elevate the Old Grand Canyon School's condition to 'good,' and guarantee its continued functionality and architectural integrity.

Functional Deficiencies

The Old Grand Canyon School is generally in fair condition and has some major deficiencies, specified below. Deficiencies fall into four major categories, including site grading, structural instability, building component deterioration and visitor access. Specific preservation treatments are listed in the following section, *Recommended Improvements.*

Site Grading

Despite natural south-north drainages that direct water away from the east, west, and north sides of building, water continues to collect at the south entrance.

Structural Instability

The roof ridge shows signs of differential settlement/movement at the junction of the original one-room schoolhouse and the addition, likely caused by differential settlement of the various building sides.[29] Additionally, the roof is inadequately supported by undersized and excessively spaced rafters.

28 National Park Service, The Secretary of the Interior's Standards for Preservation: http://www.cr.nps.gov/hps/tps/standguide/preserve/preserve_index.htm (accessed 13 September 2006).

29 It is recommended that a structural engineer evaluate the Old Grand Canyon School. The engineer may determine that the visible junction between the two construction phases may be due to the roofs not properly meeting each other, and not due to differential settlement.

The Old Grand Canyon School suffers additional structural instability caused by the book load, which is heavier than the classroom use for which it was originally designed. This problem is manifested in the creaking floor and bowed ceiling in the north side, and the bowed foundation wall on the north side of the west elevation.

Building Component Deterioration

The building is overdue for preservation maintenance, and suffers deterioration as a result. Deterioration includes slightly damaged log slab siding and excessively decayed skirting slabs.

Visitor Access

Visitors continuously attempt entry into the library from the south side of the building, necessitating safety office personnel to post notices on the south entry doors and occasionally personally redirect others.

In the safety office conference room, a large photocopy machine blocks the door to the vestibule and west door, leaving only one means of egress from the south side of the building.

The west elevation door has been locked since the fall of 2006, not allowing wheelchair and other users to gain access to the north side of the building.

The accessible walkway mars the appearance of the Old Grand Canyon School.

Recommended Improvements

This section presents the components of preservation treatment, and details the order in which they should occur. Recommendations respect the character-defining features of the Old Grand Canyon School and are intended to retain and preserve those features. The treatment recommendations below are related to the deficiencies summarized in the preceding section, *Functional Deficiencies*, and discussed in detail in the *Physical Description* section of this report. For a comprehensive list of deficiencies, and the exact location of their occurrences, please see the *Physical Description* section.

Treatment recommendations, intended to stabilize the Old Grand Canyon School and extend its utility, will undoubtedly impact historic building materials. Although the overall emphasis is to retain original materials, it is recommended that some damaged original materials, specified below, be replaced to ensure structural stability.

When original/historic materials are to be moved offsite for repair, they should be properly marked so that they may return to their original location. All work, whether it for repair or replacement, should be documented by written summary and location mapping.

The ultimate treatment of preservation has four main components. In order of priority, they are:

1. Perform site work, including regrading.

2. Stabilize the Old Grand Canyon School by correcting differential settlement, installing a foundation appropriate for the building's current use as a library, adding other support members to the floor and roof systems, and correcting affected materials where specified.

3. Repair building exterior, including log siding, skirting, and trim. Install a modern heating, ventilation, and air conditioning system.

4. Reconfigure access to and from the building, including appropriate signage.

A cost estimate for recommended treatments can be found in Appendix C.

Component One

Perform site work, including regrading.

Site regrading will eliminate water from pooling near the south entrance of the building and prepare the building for repair of differential settlement. The area around the Old Grand Canyon School must be regraded to direct water away from all sides of the building. A perimeter drain system should be installed.

The west elevation gutter drainage should be directed further away from the building.

Trees in close proximity to the Old Grand Canyon School should be trimmed or thinned as appropriate to alleviate potential fire hazards.

The stone border leading between the north and east elevation should be removed. This walkway does not serve a purpose, is misleading, and no data supports its existence as historic.

The propane tank should be screened with natural vegetation or an unobtrusive wood fence.

Component Two

Stabilize the Old Grand Canyon School by correcting differential settlement, installing a foundation appropriate for the building's current use as a library, adding other support members to the floor and roof systems, and correcting affected materials where specified.

Before any other work is to commence on the Old Grand Canyon School, a structural engineer should evaluate the building. The recommendations below may require modification after a proper structural assessment.

The foundation piers must be adjusted to prevent many of the deficiencies previously discussed, including differential settlement. Settled piers should be raised so that they are even with the majority of the foundation piers.

Any decayed floor joists should be replaced and additional joists added in a quantity appropriate to the building load. The west foundation wall, currently bowed at the north side, should be repaired. Installation of rigid insulation around the foundation and below the flooring will increase thermal comfort and reduce energy costs.

The roof system should be evaluated to determine which roof framing members are creating the raised ridge. Once determined, these members should be repaired or replaced to create an even ridge line across the main section of the Old Grand Canyon School. Additional rafters may be required to support the roof load.

Once the framing members are in proper placement, the roof should be sheathed and covered with fire pressure treated cedar shingles for a Class B roof assembly. Copper flashing should be installed. Vents should be covered with insect screens to prevent rodent access.

The ceiling in the north side of the building, now bowed, should be replaced and the battens reinstalled.

Component Three

Repair building exterior, including log siding, skirting, and trim. Install a modern heating, ventilation, and air conditioning system.

Excessively bowed siding slabs should be removed and replaced with similarly shaped and textured log slabs. New siding should be painted to match the existing coloration. Loose log siding should be nailed down to match the existing siding.

Skirting boards suffer numerous problems, including decay and displacement. After marking the location of each individual skirting slab, all log slab skirting should be removed. Hardy panel – a fiberglass and cement composition board – with wire mesh should be installed against the foundation wall to prevent rodent access into the building. Decay should be sawn off of the bottom of the skirting slabs before reinstallation. Excessively decayed skirting slabs should be replaced with similarly shaped and textured log slabs. The three skirting slabs affected by the area of infill on the west elevation should be replaced. Skirting slabs should be installed where missing, including the area where the concrete block foundation is visible, near the accessible walkway. New skirting members should be painted to match the existing coloration. Skirting members should be installed above grade.

The beadboard door on the north elevation should be removed and replaced with a log skirting slabs to match the other crawlspace door. New skirting slabs should be painted to match the existing coloration.

All holes in the exterior trim should be filled with wood splices, painted to match the surrounding building component.

All log slab siding, skirting, and trim should be painted to match the existing coloration.

Gutters on the west elevation should be cleaned.

Additionally, the Old Grand Canyon School must be sealed to prevent rodent access, and recommendations to seal specific building materials are listed under Component Two and Three. All efforts should be made to prevent rodent access to the building interior, but the treatments must be sensitive to the character and significance of the Old Grand Canyon School. The park's Historical Architect should be consulted before sealing the building to ensure the appropriate methods and materials are used.

A central heating, ventilation, and air conditioning (HVAC) system should be installed to service both sides of the building. A split-system should be installed with the ventilator in the attic and the condenser placed outside in an unobtrusive location. The placement and style of vents should respect the character of the building. The window-mounted air conditioning units and the existing system, which does not function properly on the north side of the building, should be removed.

Component Four

Reconfigure access to and from the building, including appropriate signage.

This component seeks to make improvements and/or alterations that would increase the Old Grand Canyon School's utility to park visitors and staff. Recommendations below address immediate needs to comply with egress and access codes. Recommendations for long-term accessible entry are included in the following section, *Alternatives for Treatment.*

Exterior signage should be installed at the north and south entrances specifying the building uses and occupants. A free-standing sign should be installed near the parking lot and south side of the building directing visitors to the north entrance for the library.

The safety office photocopier should be relocated to provide a secondary means of egress from the south side of the building.

The west door should remain unlocked during library hours for wheelchair-user access. If this entrance must be locked during library hours for safety or security, an intercom system should be installed to alert the librarian that access is needed. Although the constructed walkway is visually distracting to the appearance of the exterior elevations, it should remain in place to provide wheelchair access to the public library until a long-term solution is chosen. A discussion of this walkway and alternate solutions is presented in the section, *Alternatives for Treatment.*

REQUIREMENTS FOR TREATMENT

Preservation of the Old Grand Canyon School must conform to National Park Service cultural policies and guidelines. It will be reviewed for compliance with the General Management Plan (1995), National Environment Protection Act (NEPA), Section 106 of the National Historic Preservation Act (NHPA), and all applicable codes and standards required by law and National Park Service policy.

As stated in the Director's Order on Cultural Resource Management (DO-28) and according to federal law and National Park Service policy, "all historic structures in which the Service has a legal interest are to be managed as cultural resources. Regardless of type, level of significance, or current function, every structure is to receive full consideration for its historical values whenever a decision is made that might affect its integrity."[30]

Section 106 of the National Historic Preservation Act (NHPA) mandates that all federal agencies, including the National Park Service, take into account the effects of their actions on properties listed, or eligible for listing, in the National Register of Historic Places. The Advisory Council on Historic Preservation must be given a reasonable opportunity to comment on any actions effecting federal properties.

Preservation treatment should follow the Secretary of the Interior's Standards for the Treatment of Historic Properties, and the guidelines for applying those standards. See Appendices D and E for preservation standards and guidelines.

Additionally, all treatments must comply with the requirements of the following codes and standards:

International Building Code 2006
International Existing Building Code 2006
Minimum Design Loads for Buildings and Other Structures (ASCE 7-98)
Seismic Evaluation of Existing Buildings 2003 (ASCE 03-031)
National Design Specifications for Wood Construction (NDS-2005)
National Park Service, Director's Order 58: Structural Fire Management
National Fire Protection Agency 101 Life Safety

Compliance with appropriate codes must be addressed at the time of the work related to those materials.

Accessibility

Treatments that address handicapped accessibility must comply with the Americans with Disabilities Act/Architectural Barriers Act Accessibility Guidelines (2004) and the Uniform Federal Accessibility Standards (1998). Both sides of the building are required to be accessible to meet code for a public building with a public use. Accessibility to the south side of the building is currently granted through the south elevation doors. Accessibility to the north side of the building is currently granted along the constructed walkway to the west elevation door, except when this door is locked from the exterior. When the door is locked, accessible entry cannot be gained to the north side of the building. To meet code requirements and accommodate all visitors, the west elevation door should remain unlocked during business hours.

30 National Park Service, Director's Order #28: Cultural Resource Management: http://www.cr.nps.gov/history/online_books/nps28/28chap8.htm (accessed 13 September 2006).

Egress

Life Safety code requires that the Old Grand Canyon School have a secondary means of egress. Both sides of the building have secondary exits through the west elevation door. However, a copy machine in the south side of the building currently blocks this secondary means of egress. To meet code requirements, the copy machine should be relocated and the west elevation door made a secondary means of egress for the south side of the building.

Hazardous Materials

Hazardous materials must be remediated when repair or replacement of affected building materials is necessary. Given the modern preservation maintenance and rehabilitation of this building in the 1990s, the presence of hazardous materials is unlikely.

Recommendation for Further Action

The Old Grand Canyon School is not currently protected from potential fire damage. The National Park Service requires that all buildings undergoing rehabilitation or other alterations have an automatic sprinkler system and automatic smoke detection system installed. The need for such systems should be evaluated. If determined necessary, they should be installed in a manner appropriate to the building's historic character and significance, as well as public safety.

The foundation, floor, and roof systems should be evaluated by a structural engineer. The engineer should provide load calculations and determine the quantity and type of any additional support members.

Given the extensive modifications to the building in the 1990s, the presence of hazardous materials is unlikely. However, a HazMat study should be carried out with proper testing for public safety.

In light of recent theft from the public library, the need for a security and/or theft alarm system should be evaluated by park and library staff.

Because the Old Grand Canyon School is generally in good-fair condition, and adequately meets the needs of its users, recommendations are limited to those actions required to stabilize the building and extend its utility. Thus, every component listed in the *Ultimate Treatment & Use* section is required. However, alternatives exist for the treatment of accessibility to and from the building.

An accessible walkway currently provides ADA-compliant access to the north (library) side of the building through the west elevation door, a secondary entrance into the library. This constructed walkway spans a distance of 47 feet along the west elevation and is also visible on both the north and south elevations. Although it is constructed of wood, an appropriate material to the character of the building, it visually detracts from the building and site.

Because the original (north) side of the building was not plumbed, and past rehabilitation never altered this configuration, library patrons must use the single restroom in the south side of the building. Library patrons must exit the library through either the north or west doors, and re-enter the building through the south entrance to use the restroom.

Alternatives to the current problem of accessibility are presented below.

Alternative One: Access through the South Side

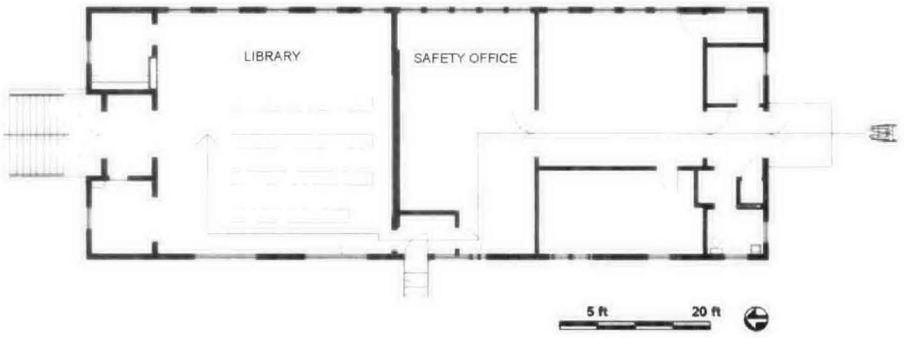


Fig. 65: Reference floor plan showing Alternative One with accessible entrance through the south doors to both the Library and Safety Office. The constructed walkway is replaced by stairs to the west door in this alternative.

Accessible access to the north side of the building could be gained through the double entrance doors on the south elevation. Wheelchair users could enter through the safety office, going through both the main office and conference room, to the vestibule. They could then pass through the safety office vestibule door and into the library. The constructed walkway could then be removed.

Although the accessible walkway mars the appearance of the building, it provides a useful and required function. Its removal would likely offend wheelchair users and other accessibility advocates. Requiring wheelchair users to pass through an entirely different office is disrespectful.

This alternative is not recommended.

Alternative Two: Switch Library and Safety Office

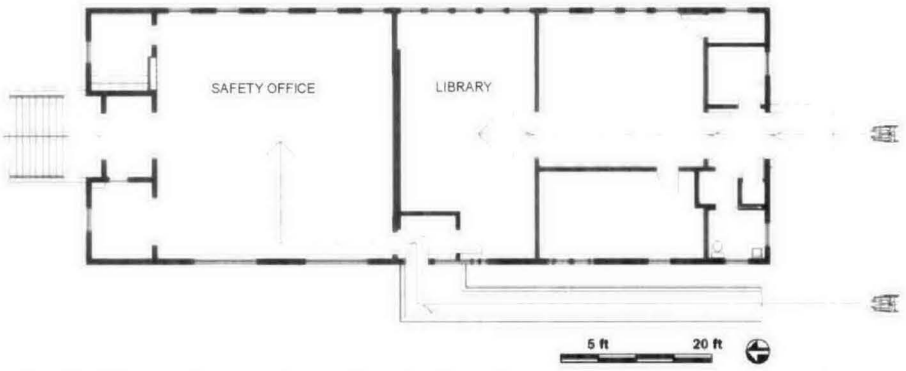


Fig. 66: Reference floor plan showing Alternative Two with accessible entrance through the south doors for the Library, and through the west door for the Safety Office.

If the library and safety offices were to switch sides of the building, all library patrons could enter through the double doors on the south elevation. This would allow ADA-compliant access through the south door, and not relegate wheelchair users to a secondary entrance. Library patrons could easily use the restroom in this side of the building.

Because the safety office currently occupying the south side of the building is a function of the federal government, ADA-compliant access would have to be provided to their office on the north side of the building. This would necessitate the retention of the accessible walkway on the west elevation.

Additionally, partition walls may have to be installed in the north side of the building to accommodate the offices and conference room required by the safety office. These partition walls would diminish the character of the north side of the building (the original schoolroom) as it currently exists.

This alternative is not recommended.

Alternative Three: West Elevation Wheelchair Lift

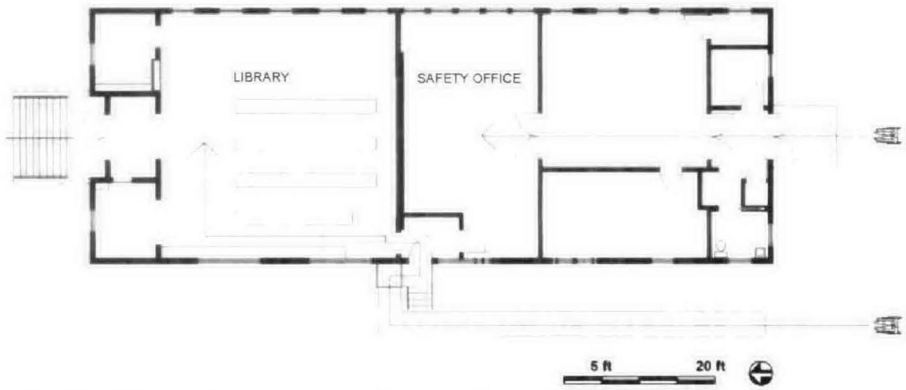


Fig. 67: Reference floor plan showing Alternative Three with accessible entrance through a wheelchair lift at the west door. The constructed walkway is replaced by poured concrete to the area of the wheelchair lift at the west door in this alternative.

If the constructed walkway were removed, a concrete pathway could be poured along the west elevation to the west door. A wheelchair lift could be installed at the location of the west door, giving access to the north side of the building.

A concrete pathway would be less visible and likely not distract as much from the character of the building. However, the grade may not comply with ADA code, and may prove difficult to traverse. Rails may have to be installed. Additionally, the wheelchair lift would distract from the character of the building and site, may be difficult to operate, and would be exposed to the harsh winter weather.

This alternative is not recommended.

Alternative Four: North Elevation Crawlspace Lift

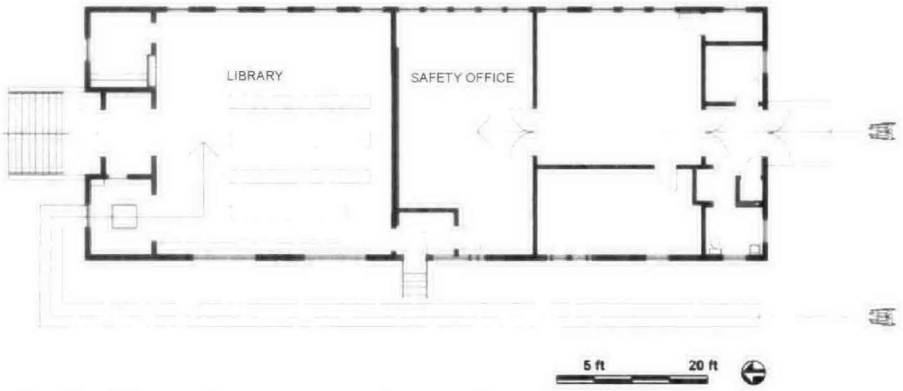


Fig. 68: Reference floor plan showing Alternative Four with accessible entrance through a wheelchair lift under the building at the north elevation. The constructed walkway is replaced by poured concrete to the wheelchair lift in this alternative.

If the constructed walkway were removed, a concrete pathway could be poured along the west elevation to the north elevation. A doorway could be cut in the skirting slabs to allow access into the crawlspace. Within the crawlspace, a wheelchair lift could raise the user through the floor and into the north side of the building.

As discussed above, a concrete pathway would be less visible and likely not distract as much from the character of the building. However, the grade may not comply with ADA code, and may prove difficult to traverse. It may be difficult to keep clear of snow and debris. Rails may have to be installed.

Requiring wheelchair users to enter the building from below is offensive and disrespectful. Installing a lift through the floor would necessitate the alteration of character-defining features.

This alternative is not recommended.

Alternative Five: Expand Constructed Walkway into Patio

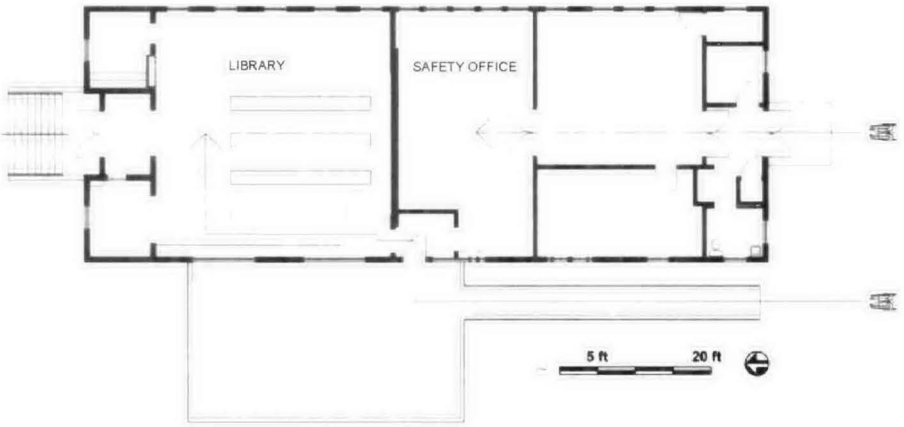


Fig. 69: Reference floor plan showing Alternative Five with accessible entrance through the west door for the Library and through the south doors for the Safety Office. A patio area is added to the west elevation in this alternative.

The constructed walkway could be expanded into a patio to provide outdoor seating for library patrons. Accessible entry could be made from the parking lot to the west entrance door via the patio, if the west entrance were to remain unlocked.

Although the patio would likely be enjoyed by library patrons, it would visually detract from the historic building and site. Given the harsh winter, it would not have year-round utility, and shoveling the patio for accessibility may prove difficult.

This is a viable alternative.

Alternative Six: Expand Library into South Side of Building

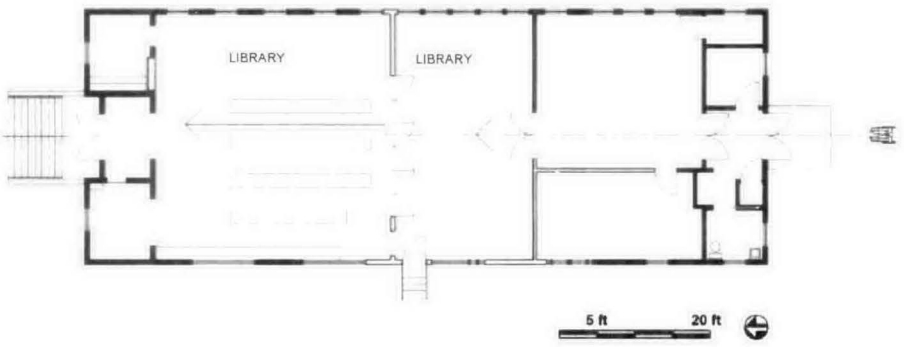


Fig. 70: Reference floor plan showing Alternative Six with accessible entrance through the south doors for the Library, which is expanded into the entire building. The constructed walkway is replaced by stairs to the west door in this alternative. The central doors can be opened between the original building and addition.

If the Safety Office were to vacate the building, the library could expand services into the south side of the building. Accessible entry could be gained through the south entrance, with the addition of an accessible door. Entrance though the south side of the building would be convenient for patrons who drive and park in the south parking lot.

The west entrance vestibule could be removed and access readily gained between the two sides of the building through the single door that separates them. The six doors that historically provided access between the rooms could be restored and made operable to further open the space.

Granting entrance through the south side of the building would permit the removal of the constructed walkway. A small stairway could be constructed at the location of the west door, and the door used as a (non-accessible) emergency exit.

Creating an entrance to the library from the south side of the building may reduce traffic to the north entrance, the original entrance to the building and a character-defining feature.

This alternative is recommended.

Recommended Solution

The library should be expanded into the south side of the building, and accessible entry gained through the south entrance. The constructed walkway, which does not have historical significance, should be removed and replaced with a staircase to the west entrance.

SOURCES CONSULTED

Sources are grouped into topics and listed in the order in which the topic appears in the text. In addition to the sources below, Grand Canyon National Park archives and planning documents were extensively consulted.

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APPENDICES

APPENDIX A
ARCHITECTURAL DRAWINGS OF HISTORIC CONDITIONS

As part of this report, drawings of the Old Grand Canyon School as it historically existed were created by the project team. The following drawings are contained in this section:

Historic Floor Plan, circa 1917-1923
Historic Elevations, circa 1917-1923
Historic Elevations, circa 1924-1948

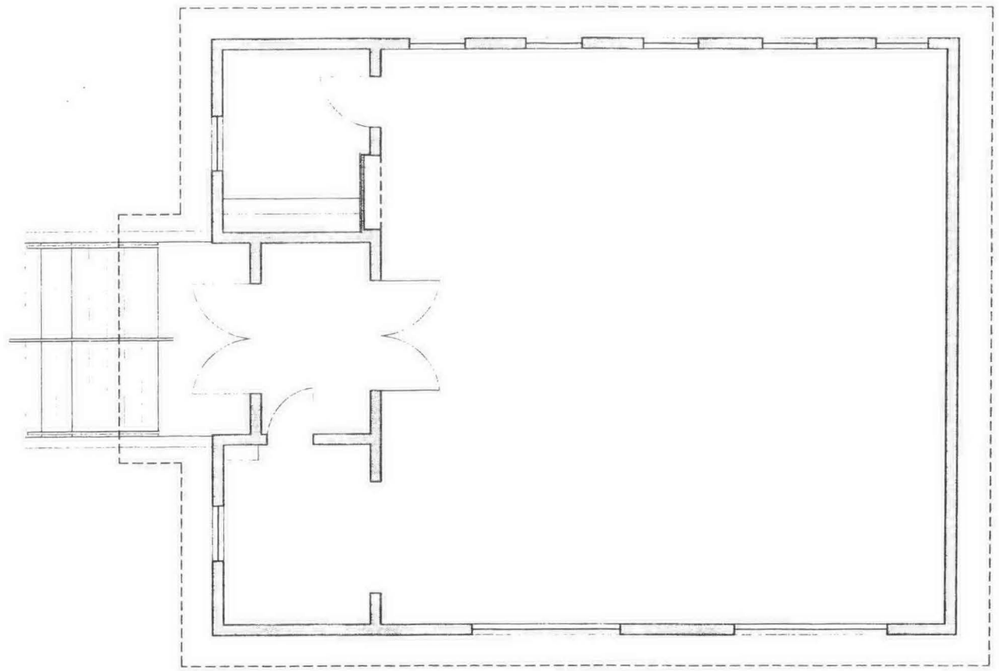
All existing drawings of the building are collected here in chronological order. The following rehabilitation drawings are contained in this section:

Floor Plan, Existing Conditions, 4/1985 (TIC: 60408)
Structural Systems, Existing Conditions, 4/1985 (TIC: 60408)
Stabilization, 7/1985 (3 pages; TIC: 60420)
- Floor Plan
- Floor Demolition & Framing
- Elevations & Details

Asbestos Removal, n/d (TIC: 60428)
Floor Plan, 1985
Rehabilitation, 3/1988
Rehabilitation, 8/1989 (8 pages; TIC: 41141-C)
- Grand Canyon National Park
- Floor Plan & Details
- Reflected Ceiling Plan
- Door, Windows & Miscellaneous Details
- Mechanical Plan, Schedule & Details
- Electrical Plan
- Electrical Schedule
- Appendix - Equipment & Material Data

Accessible Ramp, n/d (3 pages)
- Site Section
- Framing Plan & Floor Plan
- Typical Ramp Section & Detail of Asphalt Walk

Library North Stair, 8/1996
New Stoop, 7/2003



SOUTH ELEVATION WINDOW
CONFIGURATION UNKNOWN

PRESERVATION STUDIES PROGRAM
COLLEGE OF ARCHITECTURE
AND LANDSCAPE ARCHITECTURE
THE UNIVERSITY OF ARIZONA

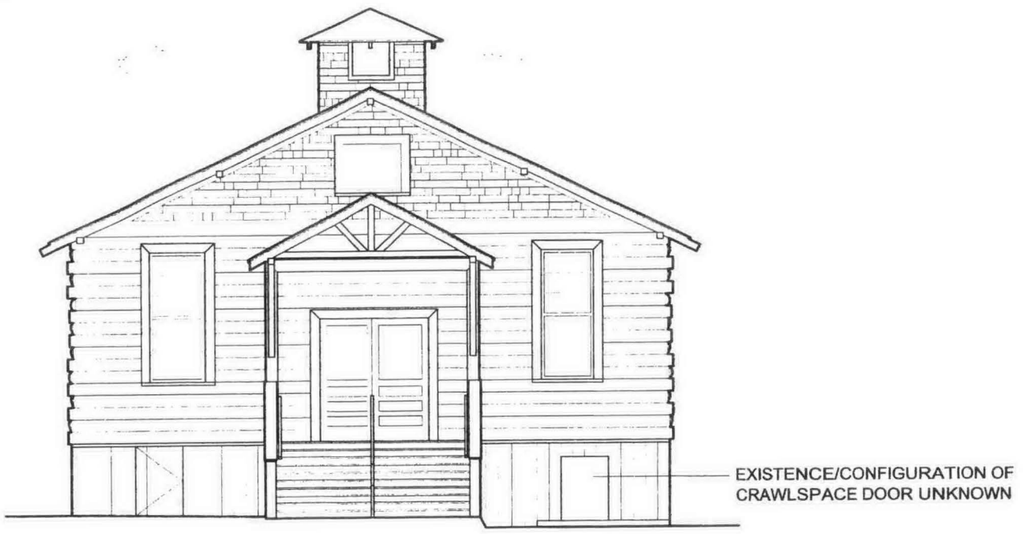
OLD GRAND CANYON SCHOOL 9/2007

GRAND CANYON NATIONAL PARK

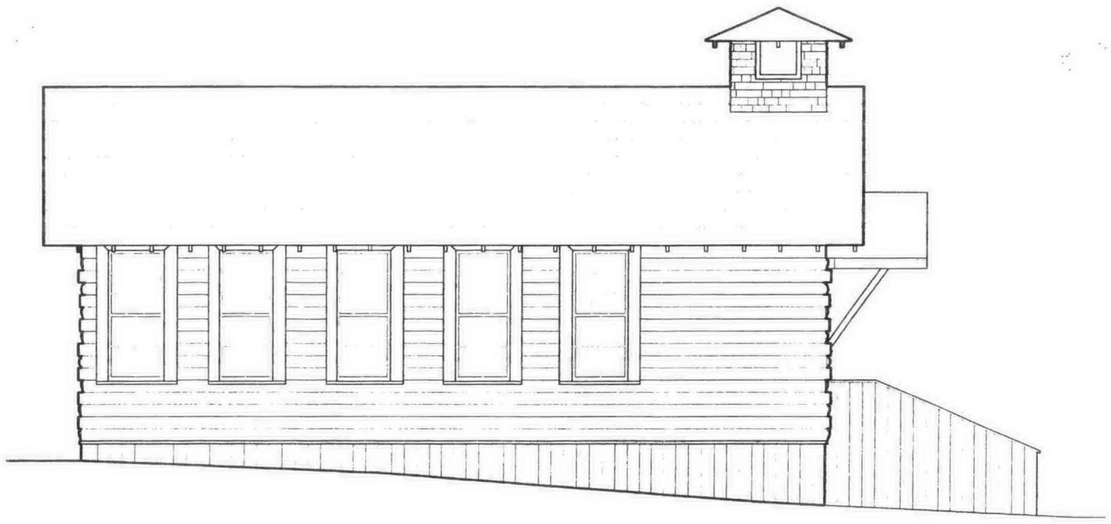
HISTORIC FLOOR PLAN

SCALE: 1/8" = 1'-0" CIRCA 1917-1923

1 ft 5 ft 10 ft 15 ft



NORTH ELEVATION



EAST ELEVATION

PRESERVATION STUDIES PROGRAM
COLLEGE OF ARCHITECTURE
AND LANDSCAPE ARCHITECTURE
THE UNIVERSITY OF ARIZONA

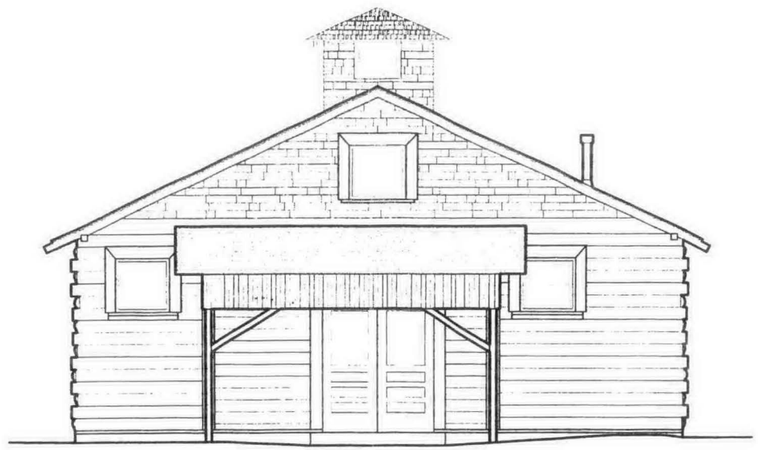
OLD GRAND CANYON SCHOOL 9/2007

GRAND CANYON NATIONAL PARK

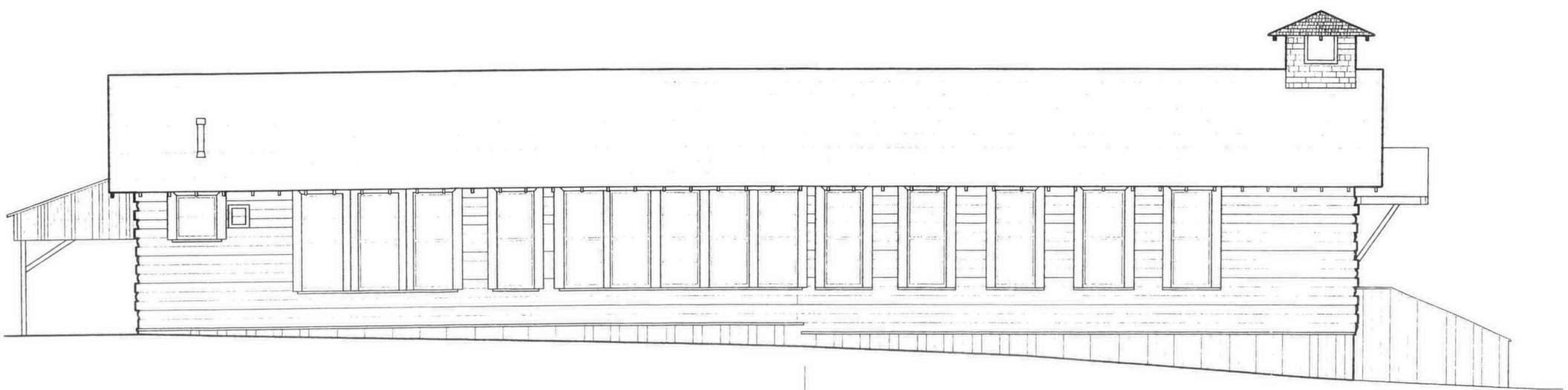
HISTORIC ELEVATIONS

SCALE: ⅛" = 1'-0" CIRCA 1917-1923

1 ft 5 ft 10 ft 15 ft



SOUTH ELEVATION



HISTORIC ADDITION | ORIGINAL BUILDING

EAST ELEVATION

PRESERVATION STUDIES PROGRAM
COLLEGE OF ARCHITECTURE
AND LANDSCAPE ARCHITECTURE
THE UNIVERSITY OF ARIZONA

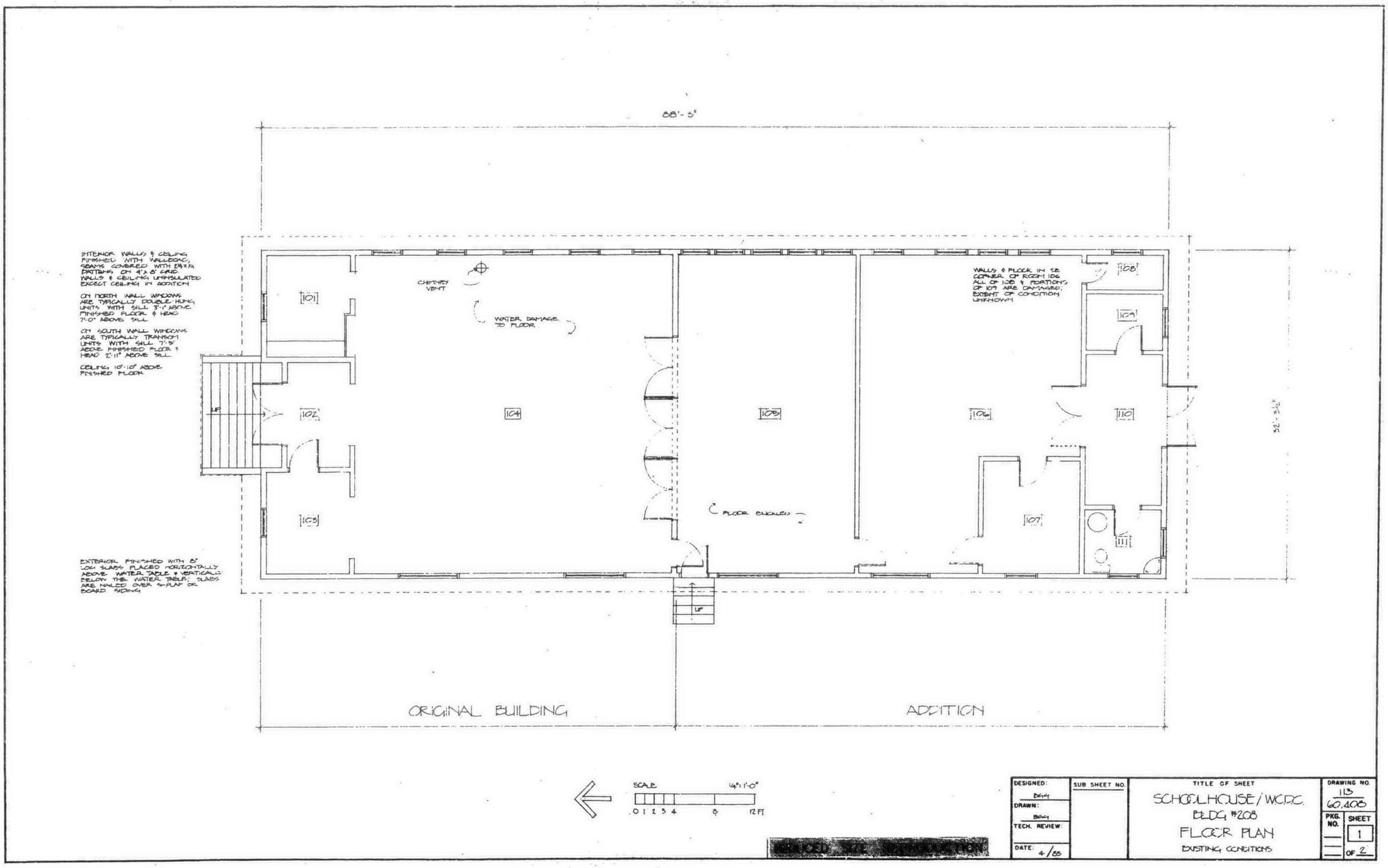
OLD GRAND CANYON SCHOOL 9/2007

GRAND CANYON NATIONAL PARK

HISTORIC ELEVATIONS

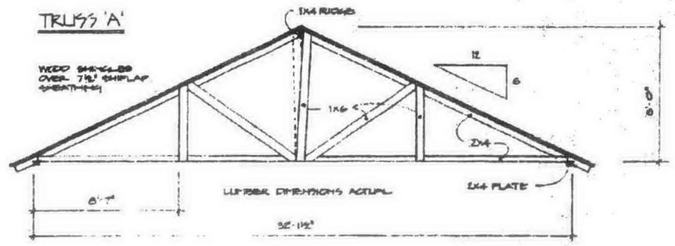
SCALE: ⅛" = 1'-0" CIRCA 1924-1948

1 ft 5 ft 10 ft 15 ft

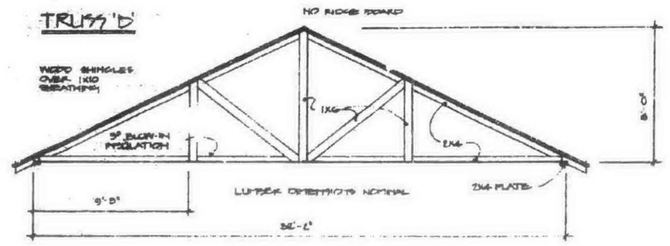


DESIGNED: BSW DRAWN: BSW TECH. REVIEW: DATE: 4/85	SUB SHEET NO.	TITLE OF SHEET SCHOOLHOUSE/WCDC BLDG #208 FLOOR PLAN EXISTING CONDITIONS	DRAWING NO. 113 60.408 PKG. NO. SHEET 1 OF 2

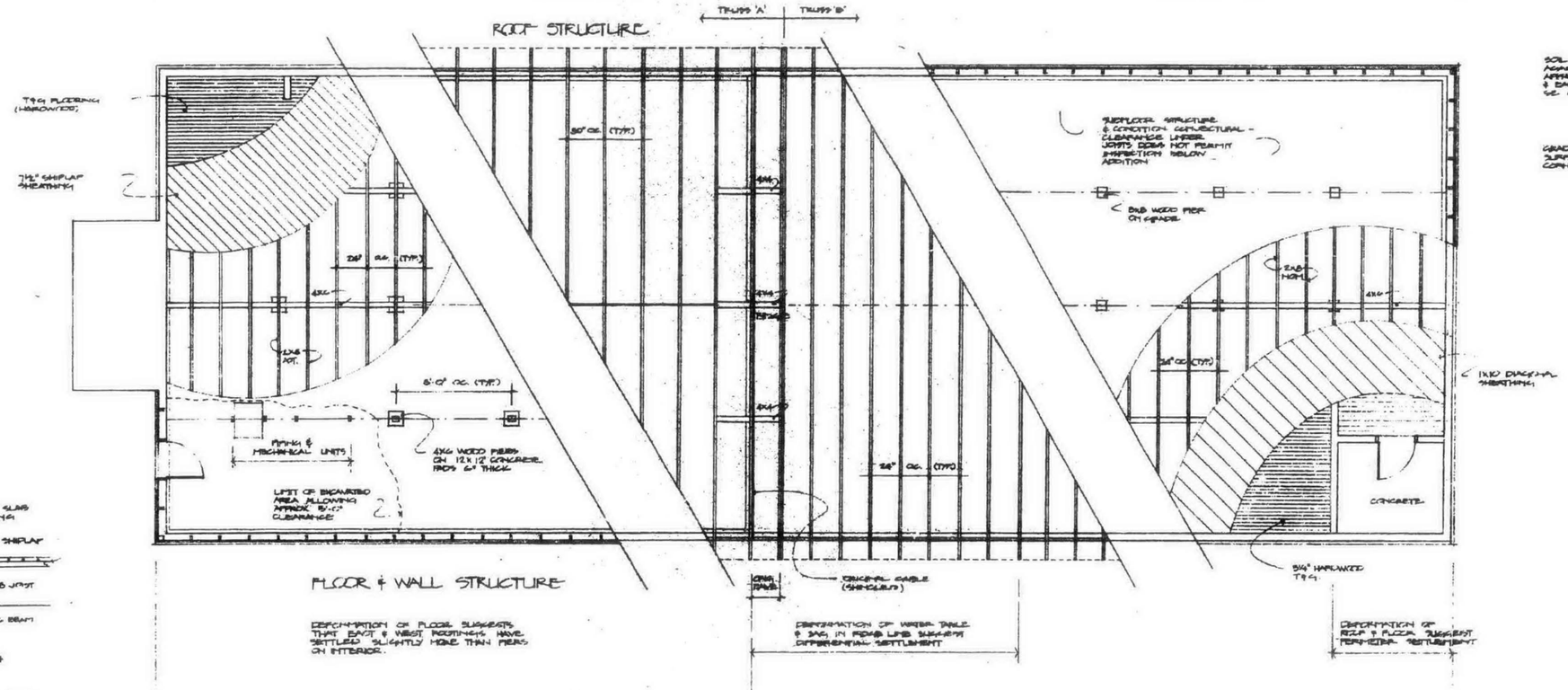
TRUSS 'A'



TRUSS 'B'



ROOF STRUCTURE



SOIL ABOVE FOOTING & AGAINST WOOD DECK; APPROX ½ OF SOUTH & EAST ELEVATIONS MUST BE CORRECTED

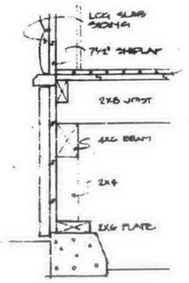
GRADE IS SLOPED TO DRAIN SURFACE WATER INTO SE CORNER

FLOOR & WALL STRUCTURE

DIFFERENTIATION OF FLOOR SUGGESTS THAT EAST & WEST FOOTINGS HAVE SETTLED SLIGHTLY MORE THAN PIERS ON INTERIOR.

ORIGINAL BUILDING

ADDITION



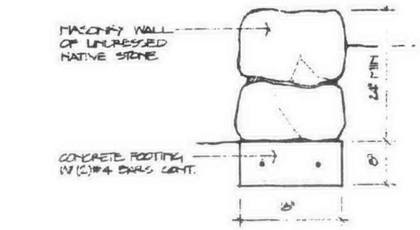
FLOOR SUPPORT AT PERIMETER OF ORIGINAL BUILDING

1" = 1'-0"

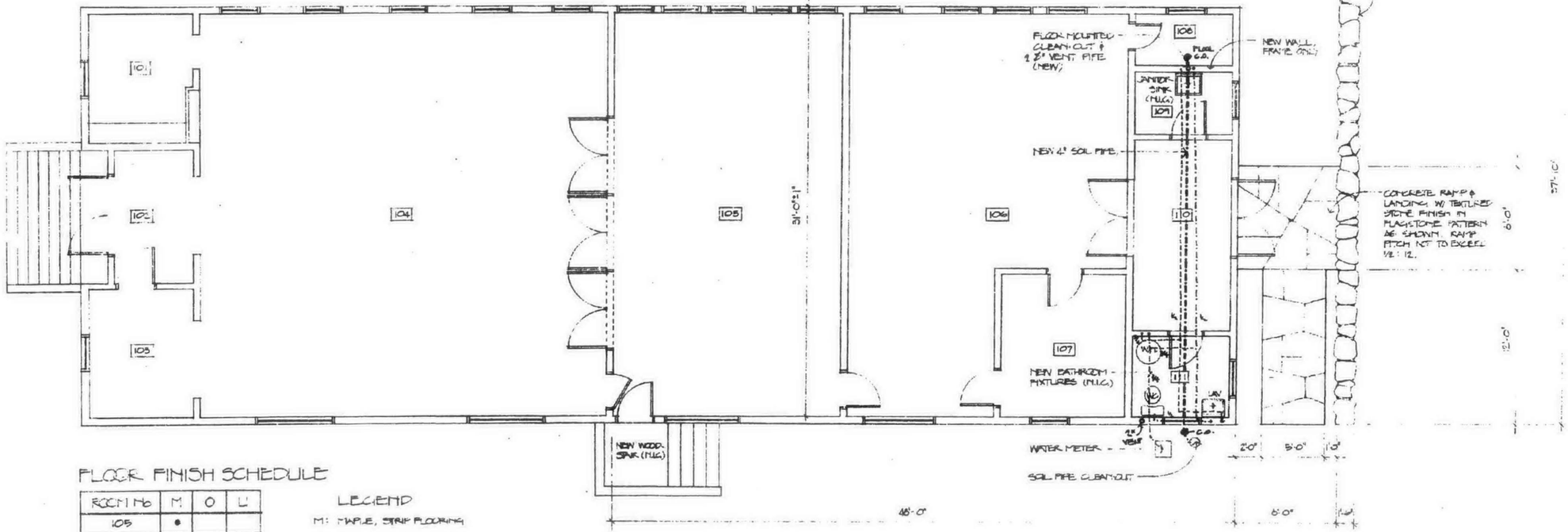
SCALE: 1/4" = 1'-0"

0 1 2 3 4 8 12 FT

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DRAWN: BCH			PKG. NO. —
TECH. REVIEW: —			SHEET 2 OF 2
DATE: 4/85			



STONE WALL - SECTION
1" = 1'-0"



FLOOR PLAN

FLOOR FINISH SCHEDULE

ROOM No	M	O	L
105	•		
106	•		
107	•		
108	•		
109			•
110		•	
111			•

LEGEND

M: MAPLE, STRIP FLOORING

O: OAK, STRIP FLOORING

L: PLYWOOD UNDERLAYMENT FOR RESILIANT FLOORING

WORK UNDER THIS CONTRACT EXTENDS UP TO THIS POINT

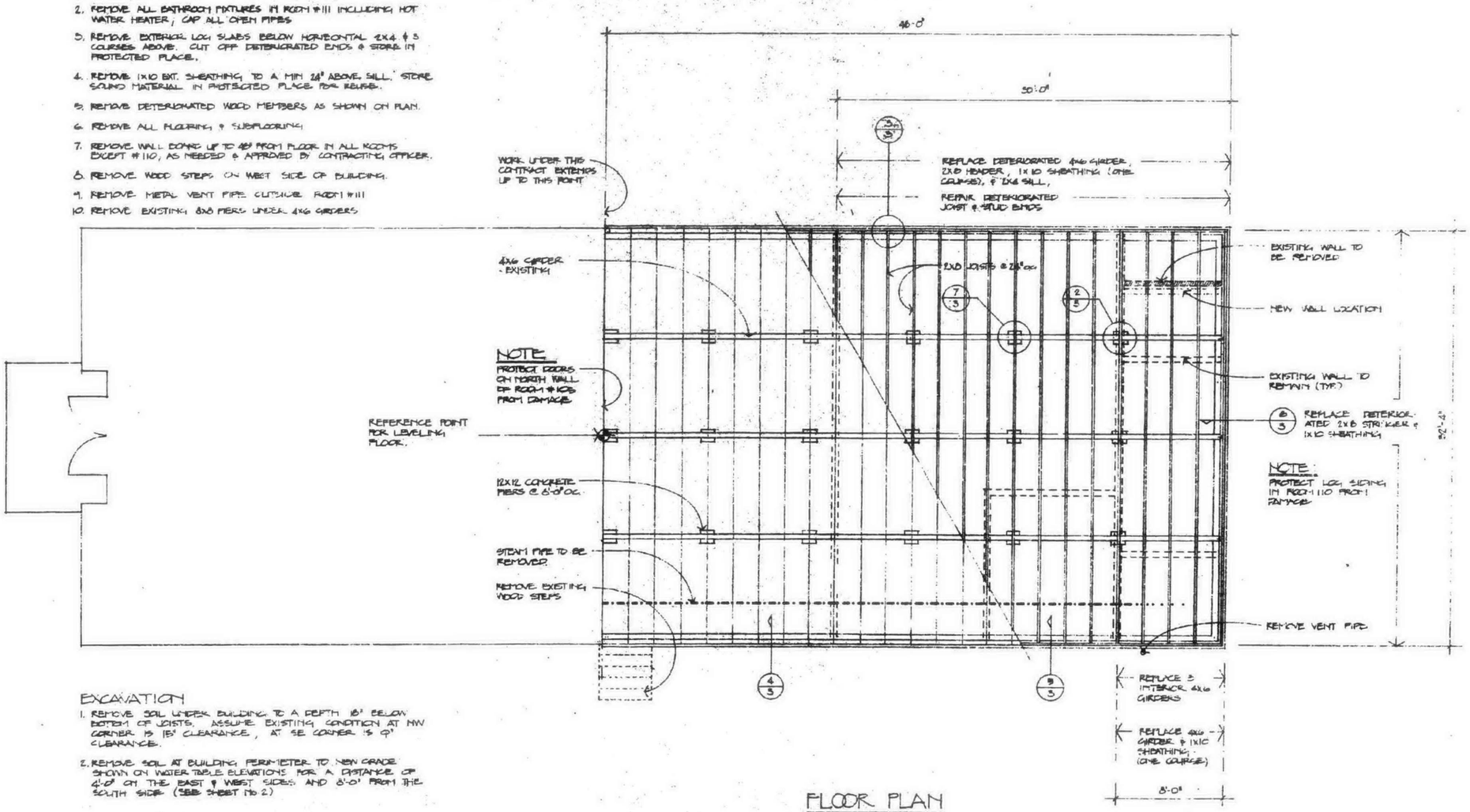
SCALE 1/4" = 1'-0"
0 1 2 3 4 8 12

[redacted]

DESIGNED: BSG	SUB SHEET NO.	TITLE OF SHEET: STABILIZATION BLDG. No. 208 - SCHOOLHOUSE FLOOR PLAN GRAND CANYON NATIONAL PARK - ARIZONA	DRAWING NO. 113 60,420
DRAWN: BSG			PKG. NO.
TECH. REVIEW:			SHEET 1 OF 3
DATE: 7/85			

DEMOLITION:

1. REMOVE EXISTING STEAM PIPE; CAP OPEN END.
2. REMOVE ALL BATHROOM FIXTURES IN ROOM #111 INCLUDING HOT WATER HEATER; CAP ALL OPEN PIPES
3. REMOVE EXTERIOR LOG SLABS BELOW HORIZONTAL 2X4 & 3 COURSES ABOVE. CUT OFF DETERIORATED ENDS & STORE IN PROTECTED PLACE.
4. REMOVE 1X10 EXT. SHEATHING TO A MIN 24" ABOVE SILL. STORE SOUND MATERIAL IN PROTECTED PLACE FOR REUSE.
5. REMOVE DETERIORATED WOOD MEMBERS AS SHOWN ON PLAN.
6. REMOVE ALL FLOORING & SUBFLOORING
7. REMOVE WALL BOARD UP TO 48" FROM FLOOR IN ALL ROOMS EXCEPT #110, AS NEEDED & APPROVED BY CONTRACTING OFFICER.
8. REMOVE WOOD STEPS ON WEST SIDE OF BUILDING.
9. REMOVE METAL VENT PIPE OUTSIDE ROOM #111
10. REMOVE EXISTING 8X8 PIERS UNDER 4X6 GIRDERS



FLOOR PLAN

EXCAVATION

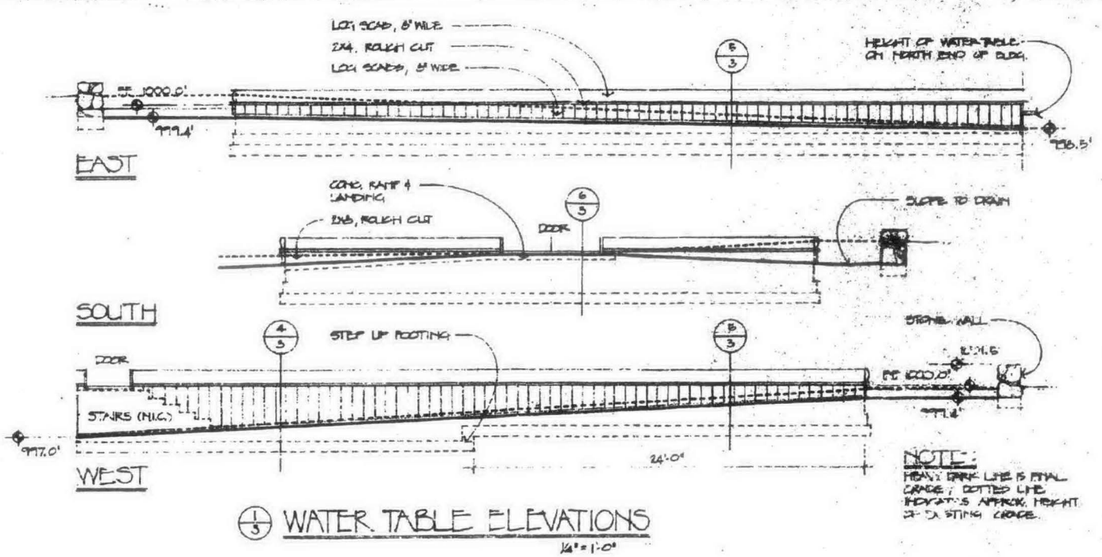
1. REMOVE SOIL UNDER BUILDING TO A DEPTH 18" BELOW BOTTOM OF JOISTS. ASSURE EXISTING CONDITION AT NW CORNER IS 18" CLEARANCE, AT SE CORNER IS 0" CLEARANCE.
2. REMOVE SOIL AT BUILDING PERIMETER TO NEW GRADE SHOWN ON WATER TABLE ELEVATIONS FOR A DISTANCE OF 4'-0" ON THE EAST & WEST SIDES AND 8'-0" FROM THE SOUTH SIDE. (SEE SHEET NO 2)

TEMPORARY SUPPORT

1. CONTRACTOR SHALL PROVIDE ALL SHORING, BRACING & OTHER SUPPORT TO MAINTAIN THE BUILDING IN A SAFE MANNER WHILE REPAIRS ARE BEING MADE.
2. GIRDERS & JOISTS ARE TO BE RAISED AT A RATE NOT TO EXCEED 1/8" IN A 48 HOUR PERIOD.

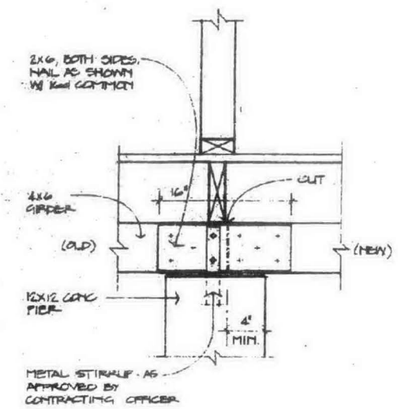
SCALE 1/4" = 1'-0"
0 1 2 3 4 0 12 FT

DESIGNED: BSG	SUB SHEET NO.	TITLE OF SHEET: STABILIZATION BLDG #208 - SCHOOLHOUSE FLOOR DEMOLITION & FRAMING GRAND CANYON NATIONAL PARK - ARIZONA	DRAWING NO. 115 60,420
DRAWN: BSG			PROG. NO. —
TECH. REVIEW:			SHEET 2 OF 3
DATE: 7/88			

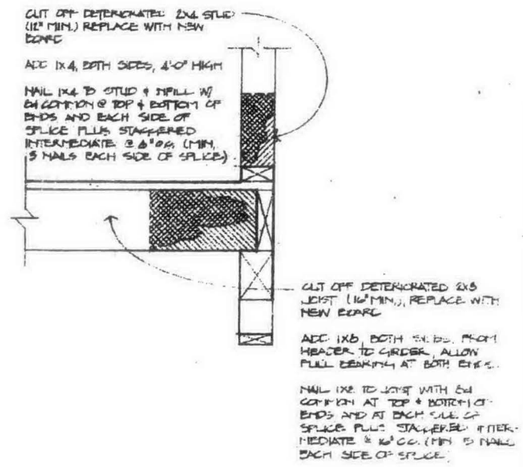


NOTE:
HEAVY DARK LINE IS FINAL GRADE; DOTTED LINE INDICATES APPROX. HEIGHT OF EXISTING GRADE.

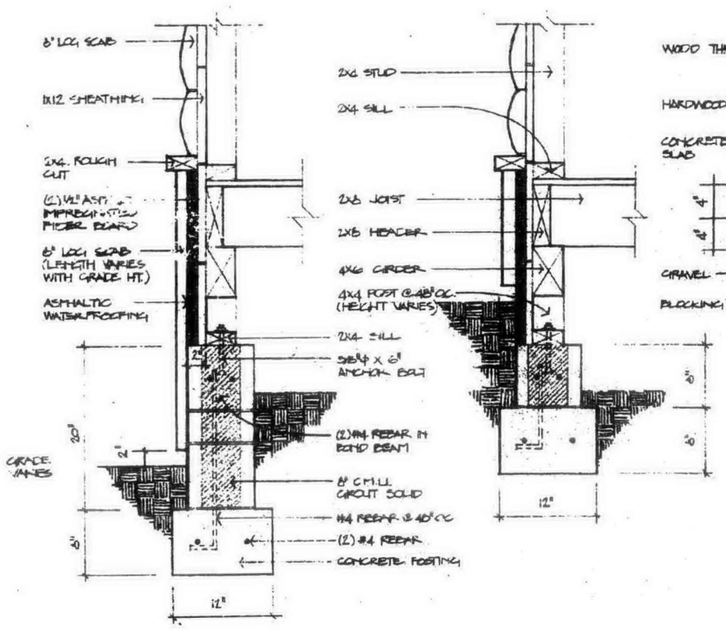
① WATER TABLE ELEVATIONS
1/4" = 1'-0"



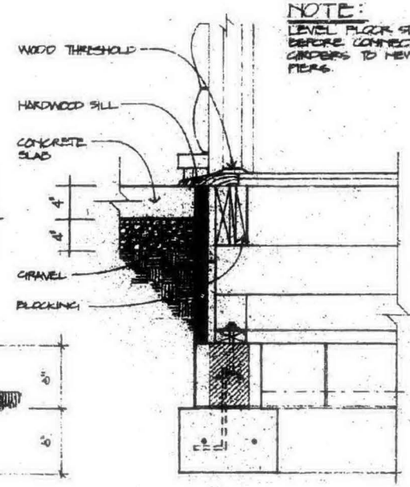
② GIRDER SPLICE
1½" = 1'-0"



③ STUD & JOIST SPLICES
1½" = 1'-0"



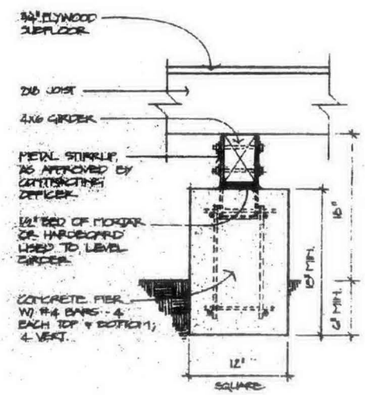
④ 28" FOOTING
1½" = 1'-0"



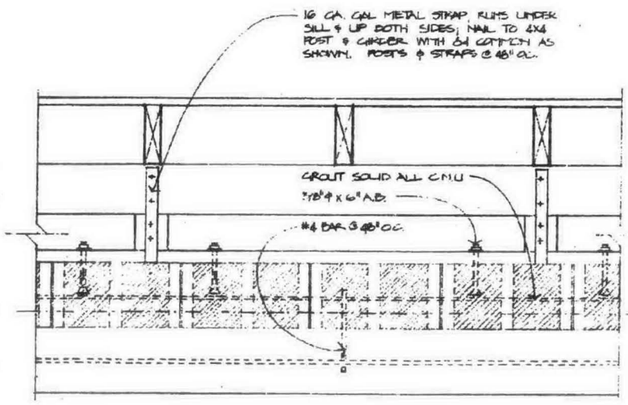
⑤ 16" FOOTING
1½" = 1'-0"

NOTE:
LEVEL FLOOR STRUCTURE BEFORE CONNECTING GIRDERS TO NEW SILL & PIERS.

⑥ THRESHOLD/SOUTH END
1½" = 1'-0"

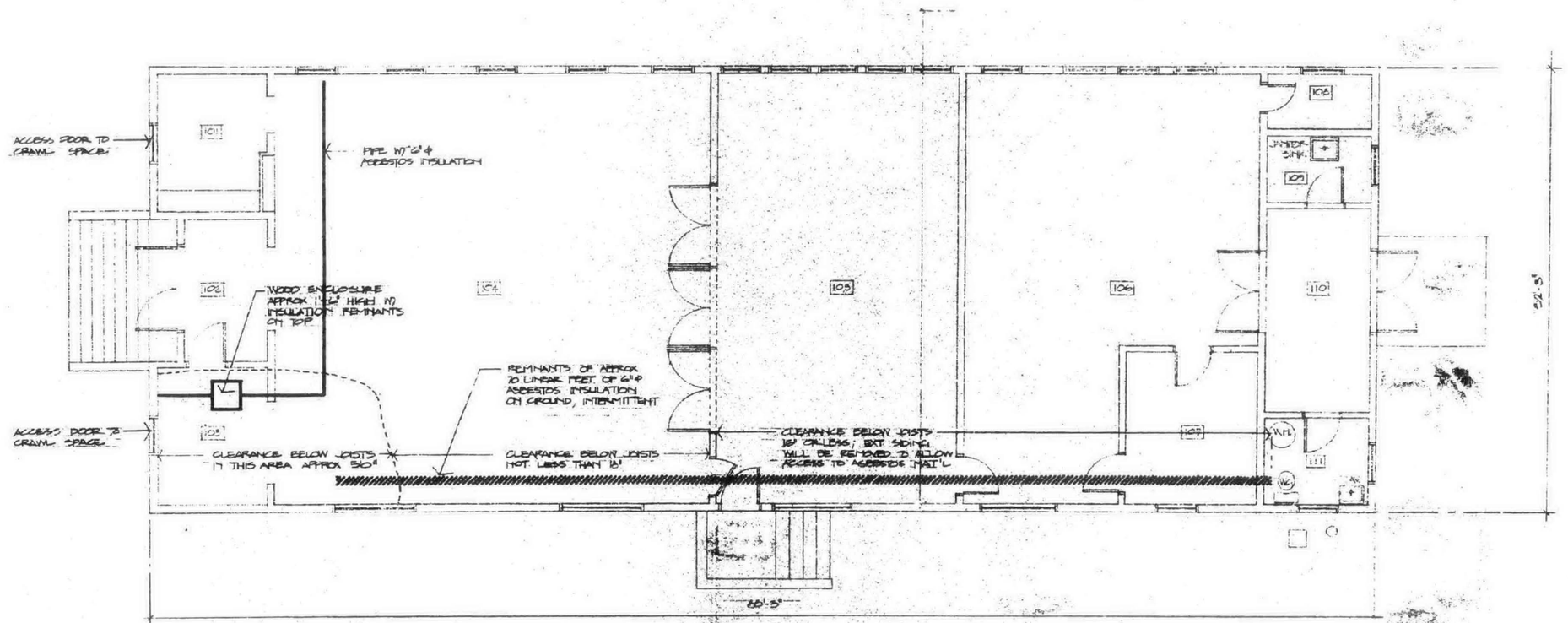


⑦ GIRDER AT PIER
1½" = 1'-0"



⑧ FOOTING ELEVATION
1½" = 1'-0"

DESIGNED: BCG	SUB SHEET NO.	TITLE OF SHEET: STABILIZATION BLDG. No 208 - SCHOOLHOUSE — ELEVATIONS & DETAILS	DRAWING NO. 115 60,420
DRAWN: BCG		GRAND CANYON NATIONAL PARK - ARIZONA	PKG. NO.
TECH. REVIEW:			SHEET 3 OF 3
DATE: 7/66			



NOTES:

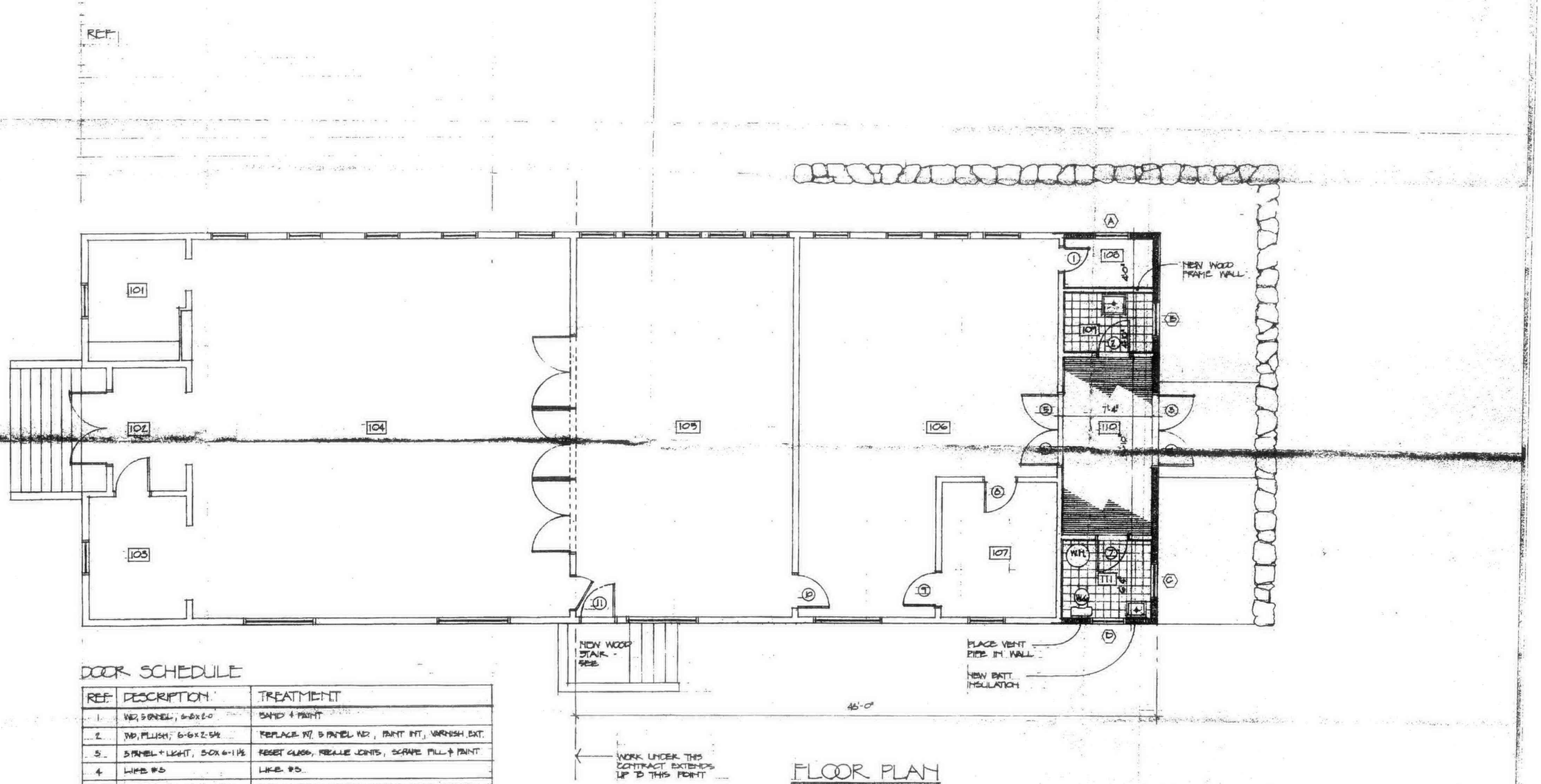
1. ALL KNOWN ASBESTOS-CONTAINING MATERIAL IS LOCATED IN THE CRAWL SPACE, AS SHOWN.
2. THE FLOOR STRUCTURE CONSISTS OF 2X8 JOISTS CARRIED BY 4X6 GIRDERS @ 8'-0" O.C. THE GIRDERS ARE SUPPORTED BY 6X8 POSTS @ 8'-0" O.C.

FLOOR PLAN

SCALE

DESIGNED	SUB SHEET NO	TITLE OF SHEET: ASBESTOS REMOVAL	DRAWING NO: 2
DRAWN			
TECH. REVIEW			
APP.			

REDUCED SIZE REPRODUCTION



DOOR SCHEDULE

REF.	DESCRIPTION	TREATMENT
1	WD, 5 PANEL, 6-8 x 2-0	SAND & PAINT
2	WD, FLUSH, 6-6 x 2-5½	REPLACE W/ 5 PANEL WD., PAINT INT., VARNISH EXT.
3	5 PANEL + LIGHT, 3-0 x 6-1½	RESET GLASS, RECAULK JOINTS, SCRAPE FILL & PAINT
4	LIKE #3	LIKE #3
5	WD, 5 PANEL, 3-0 x 6-11½	SAND & PAINT, PROTECT DOUBLE ACTING HINGES
6	MISSING	REPLACE LIKE #5,
7	WD, 5 PANEL, 6-6 x 2-5½	RECAULK JOINTS, SCRAPE & FILL, PAINT LIKE #1
8	WD, 5 PANEL, 6-8 x 2-8	SAND & PAINT
9	LIKE #8	LIKE #8
10	LIKE #8	LIKE #8
11	5 PANEL + LIGHT, 6-8 x 2-8	RESET GLASS, SAND & PAINT

FLOOR PLAN

SCALE 1/4"=1'-0"
0 1 2 3 4 6 FEET

DESIGNED: BCH	SUB SHEET NO.	TITLE OF SHEET: BLDG NR 208 - SCHOOLHOUSE	DRAWING NO. 115
DRAWN: BCH			PKG. NO.
TECH. REVIEW:		GRAND CANYON NATIONAL PARK • ARIZONA	SHEET OF
DATE: 1/65			

School House

No Dwg #

FINISH NOTES:

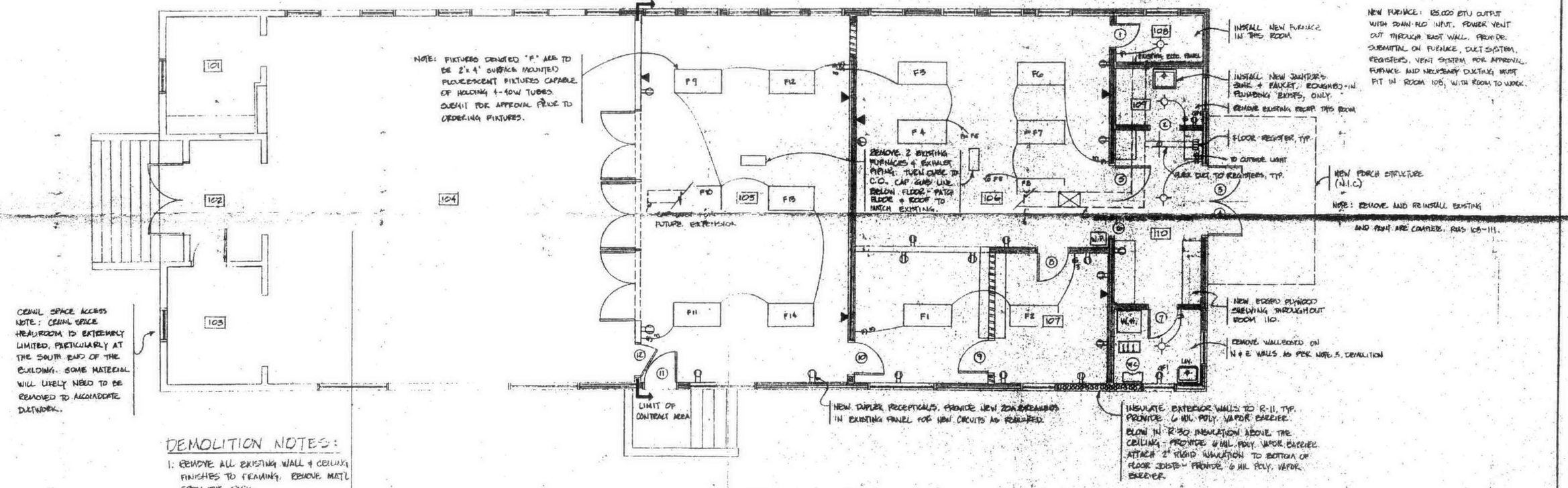
1. WALLS ARE TO RECIEVE ½" DRYWALL - WET AREAS GET WATER RESISTANT DRYWALL. CEILINGS ARE 11' HIGH.
2. CEILINGS ARE TO RECIEVE ⅝" DRYWALL.
3. NEW BASEBOARD IS TO BE PROVIDED THROUGHOUT - 1"x8" PINE, #2 OR BETTER. PRIMED BOTH SIDES PRIOR TO INSTALLATION.
4. SAND FLOORS LIGHTLY TO REMOVE STAINING, & IMPERFECTIONS. PROVIDE A FLUSH THRESHOLD BETWEEN RMS 110 & 106 OF 3" WIDE OAK OR MAPLE. AFTER SANDING, APPLY STANDARD 4 COAT FINISH OF POLYURATHANE AND BUFF.
5. ALL DOOR & WINDOW FRAMES WILL NEED TO BE EXTENDED TO RECIEVE ½" DRYWALL.
6. PAINT WALLS, CEILINGS & WOODWORK AS SPECIFIED IN SECTION 09900. COLOR SELECTION TO BE MADE BY C.O.

WINDOW NOTES:

1. RE-GLAZE ALL BROKEN WINDOW PANES.
2. REHABILITATE ALL EXISTING WINDOWS SO THEY OPERATE AS WAS ORIGINALLY INTENDED. THIS WILL INCLUDE SHIMMING, PLANING, OR REPLACING PARTS OF WINDOW FRAMES, STOPS, SILLS & SASHES. REPLACE BROKEN OR WORN ROPE TO WINDOW WEIGHTS AND PROVIDE REPLACEMENT WEIGHTS FOR THOSE THAT ARE MISSING. REPLACE MISSING OR BROKEN HARDWARE IN KIND.
3. WHEN WINDOWS ARE REHABILITATED, SCRAPED & PAINTED, APPLY APPROVED WEATHERSTRIPPING TO THE OUTSIDE OF THESE WINDOWS.
4. DESIGN AND SUBMIT DRAWINGS OF A STORM WINDOW SYSTEM FOR ALL WINDOWS INCLUDED IN THIS CONTRACT. THEY SHOULD BE SINGLE PANE, WOOD FRAME, IN CHARACTER WITH THE BUILDING AND EASILY REMOVED AND INSTALLED. PROVIDE THE APPROVED WINDOWS.
5. PROVIDE AN OPERATING POLE FOR WINDOWS OUT OF NORMAL REACH.

DOOR SCHEDULE

DOOR	DESCRIPTION	TREATMENT	REMARKS
1	WD 5 PANEL, 1⅜" x 6'-8" x 2'-0"	SAND & PAINT	REPAIR DOOR STOP
2	MISSING, 1¾" x 6'-6¾" x 2'-5½"	PROVIDE NEW SOLID CORE FLUSH DOOR, PAINT/VARNISH	HINGES FIT #1, NEW BEST LOCKSET 8SK7DSASTK6DZLA
3	WD 3 PANEL, 1 LIGHT, 1¾" x 6'-11½" x 3'-0"	REPLACE W/NEW TO MATCH EXISTING, PAINT/VARNISH	NEW DOOR FRAME, NEW BEST LOCKSET 8SK7AB6ASTK6WZ RHRD
4	WD 3 PANEL, 1 LIGHT, 1¾" x 6'-11½" x 3'-0"	REPLACE W/NEW TO MATCH EXISTING, PAINT/VARNISH	NEW THROWBOLTS T.P.B. MATCH DR. FINISH
5	WD 5 PANEL, 1¾" x 6'-11½" x 3'-0"	SAND & PAINT	NEW PUSH & KICK PLATES, REPLACE MISSING TRIM
6	MISSING, 1¾" x 6'-11½" x 3'-0"	PROVIDE NEW DOOR TO MATCH #5, PAINT	PLATES AS #5 ABOVE, NEW 2 WAY HINGES TO MATCH EXIST.
7	WD 5 PANEL, 1⅜" x 6'-6" x 2'-5½"	CLOSE UP OUTSIDE RAIL, SAND, PAINT/VARNISH	ADJUST LATCHSET & THROW BOLT AS REQ'D.
8	WD 8 PANEL, 1⅜" x 6'-7⅞" x 2'-7⅞"	FILL HOLES, SAND & PAINT	SHIM DOOR - MAKE EXIST. LATCH WORK.
9	WD 5 PANEL, 1⅜" x 6'-7⅞" x 2'-7⅞"	REMOVE, TURN OVER TO C.O.	USE HINGES FOR #2
10	WD 5 PANEL, 1⅜" x 6'-7⅞" x 2'-7⅞"	SAND & PAINT	
11	WD 3 PANEL, 1 LIGHT, 1¾" x 6'-7⅞" x 2'-8"	REPLACE W/NEW TO MATCH EXISTING, PAINT/VARNISH	NEW DOOR FRAME, NEW BEST LOCKSET AS #5 BUT RH.
12	WD 5 PANEL	FILL HOLES, SAND & PAINT, B. SIDE ONLY	



DEMOLITION NOTES:

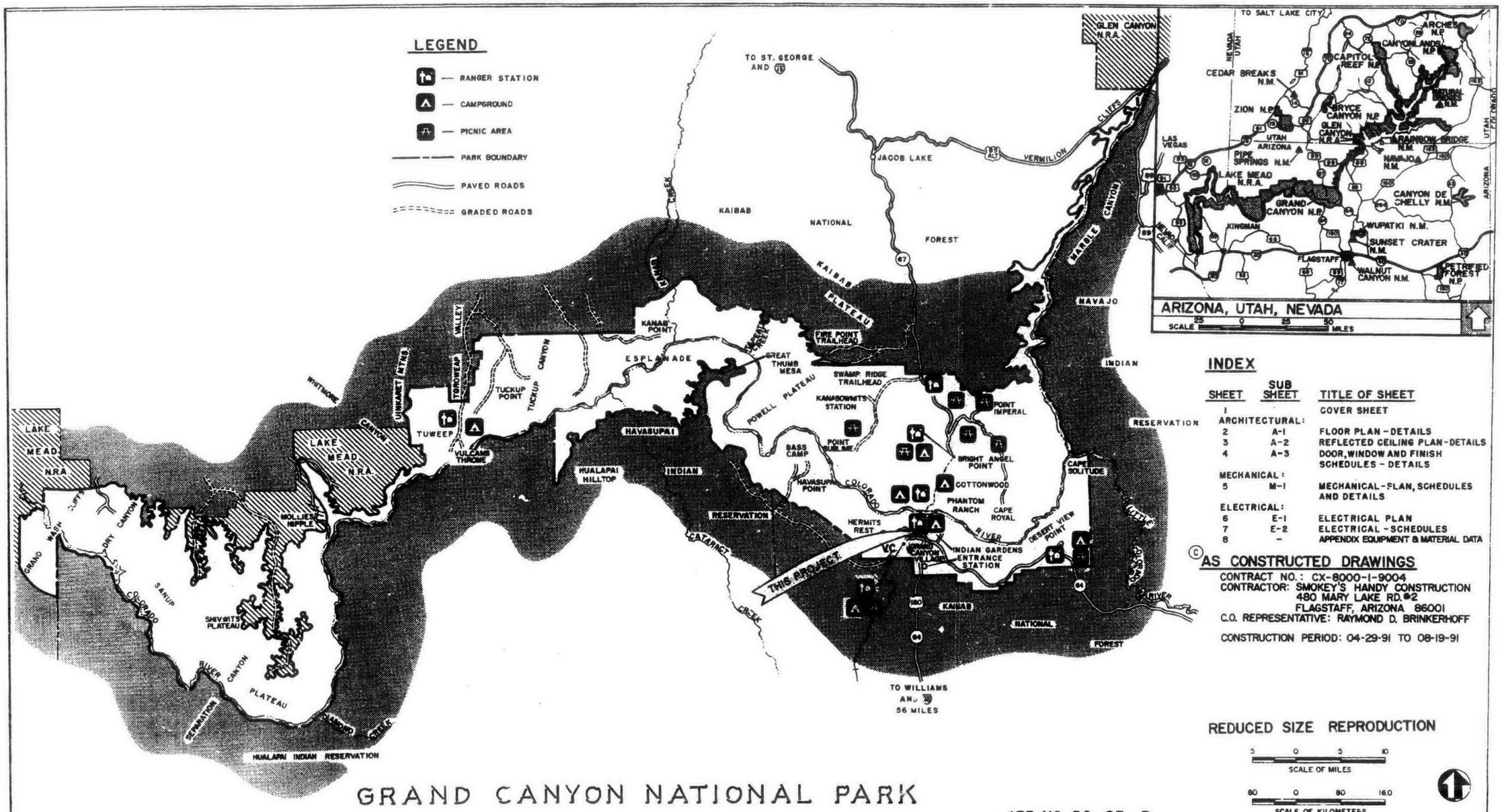
1. REMOVE ALL EXISTING WALL & CEILING FINISHES TO FRAMING. REMOVE MATL FROM THE PREM.
2. REMOVE ALL SURFACE RUN CONDUIT, CONDUCTOR & BOXES. REMOVE FROM THE PREM. SAVE & RE-USE DEVICES WHERE APPLICABLE, AND AS APPROVED.
3. ROOM 110 - CAREFULLY REMOVE WALL BOARD ON N & S WALLS. TURN OVER TO C.O., REMOVE LADDER TO ATTIC. MAINTAIN ATTIC ACCESS.
4. RELOCATE 2 DUPLEX RECEPTICALS WITH WIRING AND TELEPHONE WIRING AT LOCATION OF NEW DOORWAY.
5. REMOVE EXISTING LIGHT FIXTURES IN ROOMS 105-107 AND TURN OVER TO THE C.O.

FLOOR PLAN / REFLECTED CEILING PLAN

▼ = NEW TELEPHONE JACK (COORDINATE W/PHONE CO) N.I.C.
(T) = THERMOSTAT LOCATION.
= EXISTING WALLS TO BE DEMOLISHED
= NEW WALLS
= EXISTING WALLS TO REMAIN

SCALE: ¼" = 1'-0"
0 1 2 3 4 8 12 FT

DESIGNED: TRAVER DRAWN: TRAVER TECH. REVIEW: DATE: 3/88	SUB SHEET NO.	TITLE OF SHEET REHABILITATION SCHOOLHOUSE / WODC / DSC BLDG	DRAWING NO. — PKG. NO. — SHEET — OF —



INDEX

SHEET	SUB SHEET	TITLE OF SHEET
1		COVER SHEET
ARCHITECTURAL:		
2	A-1	FLOOR PLAN - DETAILS
3	A-2	REFLECTED CEILING PLAN - DETAILS
4	A-3	DOOR, WINDOW AND FINISH SCHEDULES - DETAILS
MECHANICAL:		
5	M-1	MECHANICAL - PLAN, SCHEDULES AND DETAILS
ELECTRICAL:		
6	E-1	ELECTRICAL PLAN
7	E-2	ELECTRICAL - SCHEDULES
8	-	APPENDIX EQUIPMENT & MATERIAL DATA

© AS CONSTRUCTED DRAWINGS

CONTRACT NO.: CX-8000-1-9004
CONTRACTOR: SMOKEY'S HANDY CONSTRUCTION
480 MARY LAKE RD.#2
FLAGSTAFF, ARIZONA 86001
C.O. REPRESENTATIVE: RAYMOND D. BRINKERHOFF

CONSTRUCTION PERIOD: 04-29-91 TO 08-19-91

REDUCED SIZE REPRODUCTION

5 0 5 10 SCALE OF MILES

80 0 80 160 SCALE OF KILOMETERS

GRAND CANYON NATIONAL PARK

IFB NO. DS-83-R

Mark	Sheet	REVISION	Date	Initial
A	ALL	REVISED	10/89	P.J.L.
B	ALL	REISSUED FOR BID	11/90	P.J.L.
C	ALL	AS CONSTRUCTED DRAWINGS	11/92	J.W.

RECOMMENDED
Planning Manager — Date
RICHARD W. MARKS, Superintendent — 6/16/88 Date
APPROVED LEW ALBERT, Director - Region (ACTING) — 9/14/89 Date

AS CONSTRUCTED DRAWINGS
UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DENVER SERVICE CENTER

DESIGNED LOPEZ
DRAWN
DRAFTING BR.
TECH REVIEW
DATE 8/89

TITLE OF DRAWING
REHABILITATION OF BUILDING 208
LOCATION WITHIN PARK
SOUTH RIM VILLAGE
NAME OF PARK
GRAND CANYON NATIONAL PARK
REGION WESTERN | COUNTY COCONINO | STATE ARIZ.

DRAWING NO. 113
41,141 C
PKG NO DS-83
SHEET 1 OF 8

BASIC DATA COVER REVISED 11/84

WINDOW NOTES

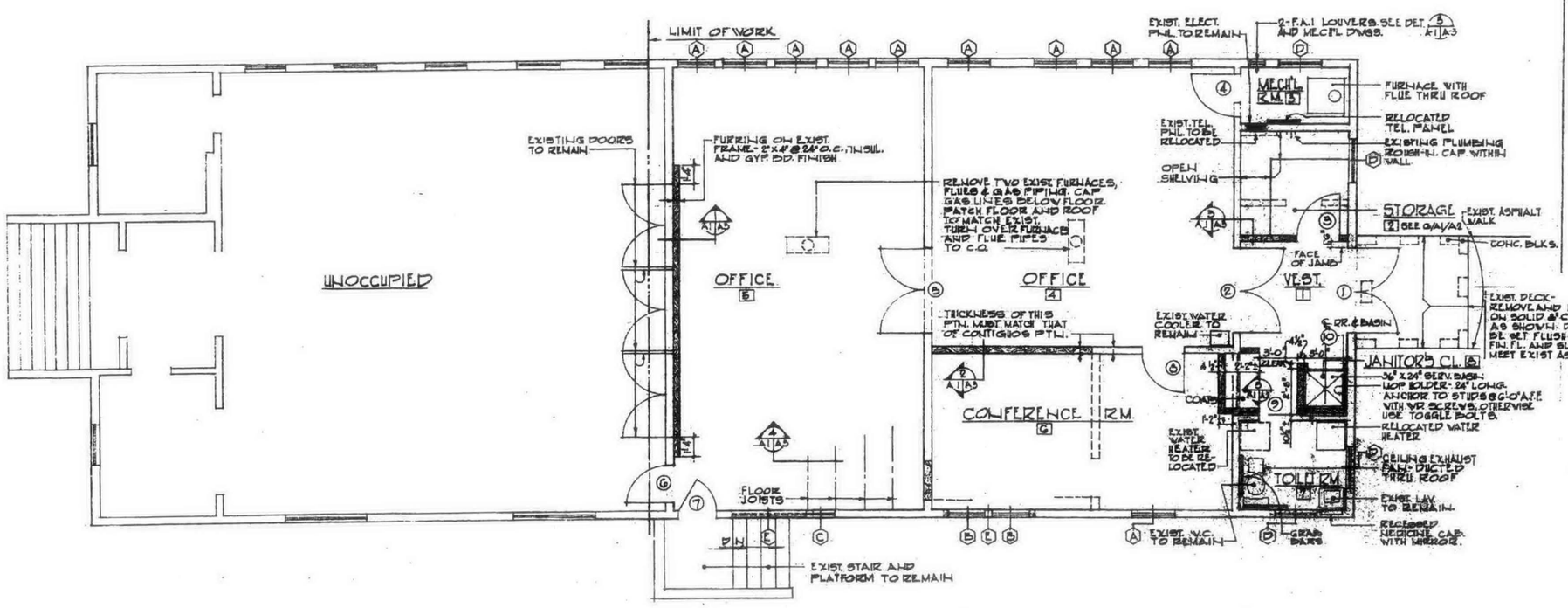
1. RE-GLAZE ALL BROKEN WINDOW PANES WITH GLASS SIMILAR TO EXISTING.
2. OVERHAUL ALL WINDOWS FOR EFFICIENT OPERATION INCLUDING, BUT NOT LIMITED TO, REPLACING ALL MISSING OR DAMAGED HARDWARE TO MATCH EXIST., SHIMMING AND PLANING AS REQ'D., REPLACING DEFECTIVE PARTS OF WINDOW FRAMES, STOPS, INTERIOR AND EXTERIOR SILLS, SASHES, ETC. SEE WINDOW SCHEDULE.
3. SELF STORING STORM SASHES- PROVIDE ALL NECESSARY HARDWARE FOR STORM SASHES TO PERMIT PIVOTING OF SASH AT HEAD AND TO HOLD OPEN IN ANY OF A NUMBER OF POSITIONS AT THE SILL. TYPICAL FOR ALL WINDOW TYPE. SASHES SHALL BE AS SHOWN IN DET. 6/A2/A2.
4. PROVIDE ONE SUITABLE 6'-0" LONG ALUM. WINDOW POLE AND HOOK TO OPEN AND CLOSE UPPER WINDOW SASHES.
5. REPLACE ALL ROPES TO WINDOW WEIGHTS WITH CHAINS IN ALL DOUBLE HUNG WINDOWS EXCEPT THOSE THAT ARE SPRING OPERATED. REPLACE WEIGHTS WHERE MISSING.
6. REMOVE AND REPLACE ALL WINDOW GLAZING COMPOUND.

DEMOLITION NOTES

1. RM. NO. 1 (VESTIBULE) - CAREFULLY REMOVE HALF LOG BOARDS FROM THE EAST PARTITION AND WEST PARTITION, REMOVE ALL NAILS, AND DELIVER TO C.O.R.
2. REMOVE ALL INT. TRIM AND APRONS FROM WINDOWS AS SHOWN ON DWGS. ALL OTHER COMPONENTS SHALL REMAIN.
3. REMOVE ALL DOORS; JAMBS, HEADS.
4. REMOVE ALL WALL AND CLG. FINISHES TO FACE OF FRAMING, INCLUDING BASEBOARDS & INSULATION.
5. U.O.N., ALL REMOVED MATERIALS AND COMPONENTS SHALL BE REPLACED WITH NEW ONES.
6. U.O.N., ALL DEMOLISHED MATERIALS AND DEBRIS SHALL BE REMOVED FROM THE PARK.
7. REMOVE ALL ELECTRICAL WORK EXCEPT THE ELECT. PANEL. TEL. PANEL SHALL BE RELOCATED. ALL TELEPHONE WIRING SHALL REMAIN.
8. REMOVE ALL FLUORESCENT CLG. LUMINAIRES AND DELIVER TO C.O.
9. REMOVE LADDER TO ATTIC.
10. REMOVE PARTITIONS AS SHOWN ON PLAN. ALL REMOVED DOORS, AND THEIR HARDWARE, SHALL BE DELIVERED TO THE C.O. ALL HARDWARE SHALL BE REMOVED FROM DOORS PRIOR TO DELIVERY.

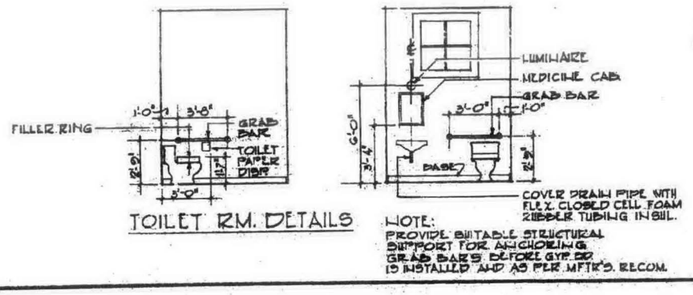
GENERAL NOTES

1. WHERE EXIST. PTNS. ARE TO BE REMOVED, PATCH FL. TO MATCH EXIST. COLOR OF WD. CSK. ALL NAILS AND FILL HOLES WITH WD. PUTTY TO MATCH COLOR OF EXIST. WD.
2. REMOVE ALL EXIST. EQUIPMENT IN ATTIC AND DELIVER TO C.O.
3. ALL WALL G.B. SHALL BE ½" THICK. ALL CLG. G.B. SHALL BE ⅝" THICK.
4. CAULK AROUND ALL EXT. TRIM OF DOORS, WINDOWS AND LOUVERS.
5. U.O.N. ALL MATERIALS AND COMPONENTS SHALL BE NEW.
6. CRAWL SPACE. HEADROOM IS EXTREMELY LIMITED AT THE SOUTH END OF THE BLDG. CONTRACTOR SHALL SURVEY CONDITIONS TO DETERMINE METHOD FOR INSTALLING FLOOR INSULATION AND PLUMBING FOR NEW SLOP SINK.
7. INSULATION - EXTERIOR WALLS AND NORTH WALL OF RM. NO. 5 (OFFICE): R11 BLANKET INSULATION WITH AL. FOIL; CEILING: R 30 BATT INSULATION WITH AL. FOIL VAPOR BARRIER, FLOOR: R-19 BATT INSULATION WITH ALUM. FOIL VAPOR BARRIER.
8. EXIST. FRAMING (STUDS, JOISTS, ETC.) ARE NOT ACTUAL SIZES AS PER TODAY'S STANDARDS; VOS.
9. ALL NEW DOORS SHALL MATCH DESIGN, MATERIAL AND CONSTRUCTION OF EXIST. ONES.
10. FOR LOCATION OF CLG. ACCESS DOOR; SEE DWG. A-2.



ABBREVIATIONS

AL	ALUMINUM
CO	CONTRACTING OFFICER
CSK	COUNTERSINK
DR	DOOR
EQ	EQUAL
EXIST	EXISTING
GB	GYPSUM BOARD
OC	ON CENTER
P	PAINT OR PAINTED
PTN	PARTITION
RHRB	RIGHT HAND REVERSE BEVEL
RH	RIGHT HAND
RUB	RUBBER
SMS	SHEET METAL SCREW
SF	SEAL AND FINISH
UON	UNLESS OTHERWISE NOTED
V	VINYL
VAT	VINYL ASBESTOS TILE
VOS	VERIFY ON SITE
VP	WOOD
WH	WRIGHT HAND
TYP	TYPICAL
D/H -	DOUBLE HUNG
PROJ	PROJECTED
NTS	NOT TO SCALE
SV	STAIN AND VARNISH
HF	HALF LOG BOARDS



TOILET RM. DETAILS

NOTE:
PROVIDE SUITABLE STRUCTURAL SUPPORT FOR ANCHORING GRAB BARS BEFORE GYP. BD. IS INSTALLED AND AS PER MFR'S. RECOM.

LEGEND

- NEW WORK
- WORK TO BE REMOVED
- WOOD
- PLYWOOD
- INSULATION
- METAL

4 0 4 8
SCALE OF FEET

DESIGNED: P.J. LOPEZ DRAWN: P.J. LOPEZ TECH. REVIEW: A. Campion DATE: 6/89	SUB SHEET NO. A-1	TITLE OF SHEET: FLOOR PLAN & DETAILS	DRAWING NO. 113 / 41141 C PKG. NO. 7883 SHEET 2 OF 8

EXIST. SIDING TO REMAIN
½" GYP. BD.
REPLACE 1"X5" TRIM
REPLACE STOPS AT HEAD AND JAMB. PROFILE TO MATCH EXIST. WIDTH AS REQUIRED.
BLINDS ON ALL DOUBLE HUNG WINDOWS
SELF STORING STORM SASH - TYPICAL FOR ALL WINDOWS
FLOAT FIN. DOUBLE STRENGTH GLASS. (⅛" THICK MIN.)
2" MIN.
HEAD

½" GYP. BD.
REPLACE 1"X5" TRIM
REPLACE - SEE NOTE ABOVE
2" MIN.
JAMB

3" MIN.
REPLACE 1"X5" APRON
½" GYP. BD.
SILL

TYP. D.H. WINDOW DETAILS (8 A2/A2)

NOTE: UNLESS OTHERWISE NOTED ALL OTHER COMPONENTS SHALL REMAIN.
TRIMS, STOPS AND APRONS SHALL ALSO BE REPLACED IN ALL PROJECTED WINDOWS.

SCALE (A)

STL. ASTRAGAL - PEMKO NO 357-BP
1½" x ⅝ DOOR STOP
1"x1"x⅛"x3" LONG AL. ∠
⅜" PLYWD. DOORS
CAM LOCK
DETAIL (7 A2/A2)
SCALE (B)

1"x1" AL. ∠ ALLOWED TO SHELF
DOOR CAM LOCK
1½" x ⅝" DR. STOP
¾" PLYWD. DOORS
1"x 4" CLEAT
¾" PLYWD SHELVES AND FLOOR
2" x 4"
SECTION (6 A2/A2)
SCALE (B)

7'-5" VOS
1"x4" CLEATS
NUCLEAR GAGE CABINET
8'-0"
2"x4" FLAT
¾" PLYWD SIDE PANEL
¾" SHELVING PANELS
2"x4"
3'-0"
GYP. BD.
2"x4"
2'-0"
1"x4" CLEATS
1'-6"
7'-5" VOS
NOTES:
1. ALL CLEATS SHALL BE ANCHORED TO STUDS. ALL END CLEATS SHALL BE ANCHORED TO A MIN. OF TWO STUDS.
2. ALL EXPOSED EDGES OF PLYWD. SHELVES AND CABINET DOORS SHALL BE FINISHED AS PER DETAIL 2/A2/A2.
STORAGE RM. 2
PLAN (6 A1/A2)
SCALE (C)

2'-0" PARTITION
¾" PLYWD SHELVES ON 1"x6" CLEATS AT 3 SIDES.
FUR. CLG.
1½"Φ WD. POLE SUPPORTED ON WD. SOCKETS
WD. BASE
FUR. FL.
SECTION (1 A2/A2)
SCALE (C)
ELEVATION (5 A1/A2)
SCALE (E)

HARDWOOD EDGE BAND
¾" PLYWOOD
CLEAT
TYPICAL SHELF EDGING (2 A2/A2)
SCALE (D)

F FLUORESCENT SURF. MTD. LUMINAIRE
SUPPLY DIFFUSER
RETURN GRILLE
INCANDESCENT SURF. MTD LUMINAIRE
PADDLE BLADE CLG. FAN
EF EXHAUST FAN-THRU ROOF

LIMIT OF WORK
℄ OF RM. OR BAY BETWEEN TRUSSES, & FAN
℄ OF RM. OR BAY BETWEEN TRUSSES, LUM. & FAN
4'-0" 4'-0"
7'-0" 7'-0"
OFFICE NO 4
OFFICE NO 5
MECH'L. RM.
STORAGE
VESTIBULE
BATH
CONFERENCE RM.
℄ RM. & LUM.
℄ RM. & FAN
TYPICAL 2'x4' LUMINAIRE SUPPORT ABOVE CLG.
WD SCREW (TYP.)
WD 8
ATTIC ACCESS DOOR
REFLECTED CEILING PLAN
SCALE (E)

TOIL. RM. 10'2"± VEST.
½" GYP. BD.
AS REQD. BY DR. HDWR. MFTR.
EXIST. FRAMING TO REMAIN. MODIFY AS REQD.
2"X4" FILLER
1"x5" CASING (TYP.)
¾" FRAME
DOOR
ROUGH OPNG. AS REQD BY DR. HDWR. MFTR.
6'-8" FIN. PR. OPNG.
H-5 (HEAD-DOOR # 9)
SCALE (B)
AS REQD BY HDWR. MFTR.
VEST.
3'-0" FIN. DR. OPNG.
1"x5" CASING (TYP.)
¾" DOOR FRAME
DOOR
FIXED PROJECTION
EXIST. FRAMING TO REMAIN. MODIFY AS REQD.
ROUGH OPNG. AS REQD. BY DR. HDWR. MFTR.
TOILET RM.
J-5 (JAMB-DOOR # 9)
SCALE: (B)
2"x4" @ 24" O.C.
RELOCATED HALF LOG BOARDS
RELOCATED 1"x10" TRIM
½" GYP. BD.
PLYD. FILLER
TRIM
RM. NO 1
RM. NO 2
H-6 SCALE (A)
J-6 SCALE (A)

SECTION (4 A2/A2)
SCALE (D)
ELEVATION (3 A2/A2)
SCALE (D)
ELEVATION (5 A2/A2)
SCALE (D)
¾" PLYWD SHELVING - TYP.
2"x4" TYP.
1"x4" CLEATS TYP.
¾" PLYWD CABINET DOORS
LOCK
HINGES
2"x4" BASE
¾" PLYWD SIDE PANEL
¾" PLYWD CABINET FL.
BASE FILL FL.
1"x4" CLEATS TYP.
2"x4" TYP.
¾" PLYWD SHELVING - TYP.

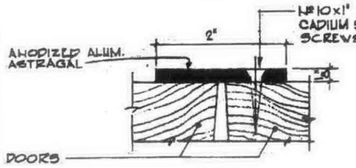
SCALE OF INCHES (A) 0 3 6
SCALE OF INCHES (B) 0 6 12
SCALE OF FEET (C) 0 1 2 3
SCALE OF FEET (D) 0 2 4
SCALE OF FEET (E) 0 4 8

DESIGNED: F.J. LOPEZ DRAWN: F.J. LOPEZ TECH. REVIEW: R. Campos DATE: 6/89	SUB SHEET NO: A-2	TITLE OF SHEET: REFLECTED CEILING PLAN - MISCELLANEOUS DETAILS	DRAWING NO. 113 / 41141 C PKG. NO. D563 SHEET 5 OF 8

FINISH SCHEDULE

RM. Nº	ROOM FUNCTION	FLOOR MAT.	FLOOR FIN.	BASE MAT.	BASE FIN.	BASE HGT.	WALL MAT.	WALL FIN.	CEILING MAT.	CEILING FIN.	CEILING HGT.	REMARKS
1	VESTIBULE	VD	SV	VD	SF		GB	P	GB	P	10'-5"	SEE DEMOLITION NOTE Nº 2
2	STORAGE			RBR	–		GB					
3	MECHANICAL RM.			↓	–							
4	OFFICE Nº 1			VD	SF							
5	OFFICE Nº 2											
6	CONFERENCE RM.											
7	TOILET RM.	VAT	–	RBR	–	4"						
8	JANITOR'S CLOSET	–	–	–	–	–						

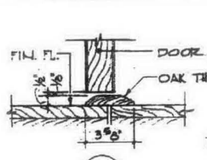
NOTE: ALL FIN. FL'S ARE EXIST. VD FL'S SHALL BE SANDED, SEALED AND FINISHED.
VAT FL. SHALL BE CLEANED (STRIPPED) AND WAXED. SEE SPECS.



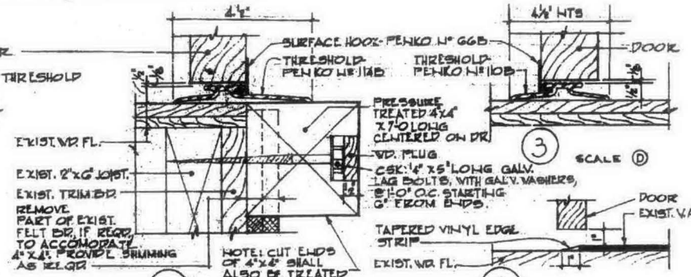
DET. OF ASTRAGAL
SCALE C

DOOR SCHEDULE

Nº	LOCATION FROM (ELEV. SIDE)	LOCATION TO	DOOR SIZE QTY.	TYP	HT	W	MATERIAL	FINISH	WALL OVER ALL THICK.	FRAME MATERIAL	FRAME HEAD & JAMB	FRAME SILL	THRESHOLD TYP	THRESHOLD MAT	WEATHER SET Nº	REMARKS
1	EXTERIOR	VESTIBULE	2	GP	7'-0"	2'-8"	WD	SV	4½"	GB	H-1	H-1	SV	2	AL	1	5'-0" WIDE RHRB ACTIVE LEAF
2	VESTIBULE	OFF. Nº 4	2	GP	7'-0"	2'-8"	WD	SV	4½"	GB	H-1	H-1	SV	1	WP	2	RHRB; ACTIVE LEAF
3	VESTIBULE	STORAGE	1*	P	7'-0"	2'-8"	WD	SV	4"	GB	H-2	H-2	SV	—	—	3	
4	OFF. Nº 2	MECH. RM.	1	P	7'-0"	2'-8"	WD	SV	4½"	GB	H-1	H-1	SV	—	—	4	
5	OFF. Nº 4	OFF. Nº 5	2	GP	7'-0"	2'-8"	WD	SV/LH	4½"	GB	H-1	H-1	SV	—	—	2	RH ACTIVE LEAF
6	OFF. Nº 5	CLOSET	1	P	7'-0"	2'-8"	WD	SV	4½"	GB	H-1	H-1	SV	—	—	4	
7	EXTERIOR	OFF. Nº 5	1	P	7'-0"	2'-8"	WD	SV	4½"	GB	H-1	H-1	SV	3	AL	*5	*WOS
8	OFF. Nº 4	CLOSET	1	P	7'-0"	2'-8"	WD	SV	4½"	GB	H-1	H-1	SV	—	—	6	
9	VESTIBULE	TOIL. RM.	1	P	7'-0"	3'-0"	WD	SV	—	HOLLOW	GB	H-3	H-3	SV	4	V	7	SLIDING DR. WITH 1" UNDERCUT
10	VESTIBULE	JAN. CL.	1	P	7'-0"	2'-8"	WD	SV	—	4½"	GB	H-4	H-4	SV	—	—	3	1" UNDERCUT



1 SCALE A

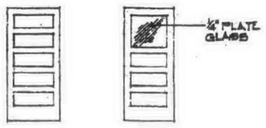


2 SCALE D

3 SCALE D

4 SCALE A

THRESHOLD TYPE

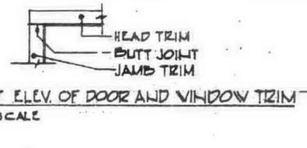


DOOR TYPE
SCALE E

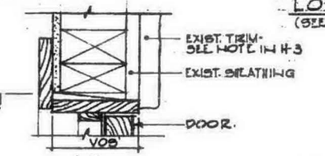
WINDOW SCHEDULE

CODE	TYPE	FRAME MAT.	SIZE	QTY.	REMARKS
A	D.H.	WD.	3'-0" X 7'-0"	10	
B	D.H.		2'-2" X 4'-6"	2	
C	D.H.		2'-0" X 2'-9"	1	
D	PROJ.		3'-0" X 3'-6"	4	HIGH WINDOWS
E	PROJ.		6'-0" x 2'-0"	2	HIGH WINDOWS
F	PROJ.		3'-0" x 3'-0"	2	IN ATTIC. TO BE REPLACED W/ LOUVERS

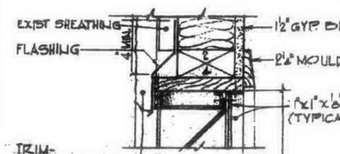
NOTE: ALL WINDOWS ARE EXISTING



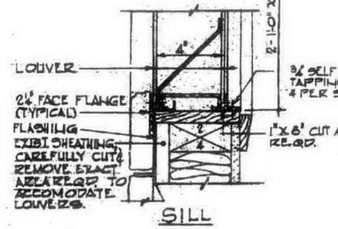
PART ELEV. OF DOOR AND WINDOW TRIM
NO SCALE



J-3

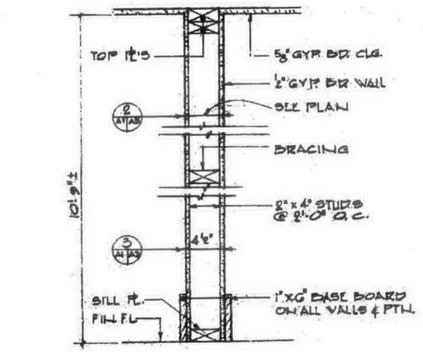


HEAD (JAMB SIMILAR)

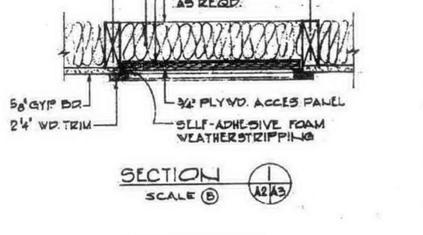


SILL

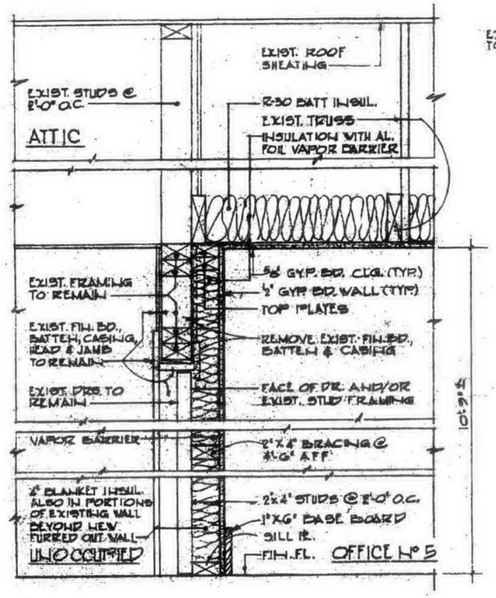
LOUVER DETAIL (SEE MECH'L DWG.) 5 A1 A3
SCALE A



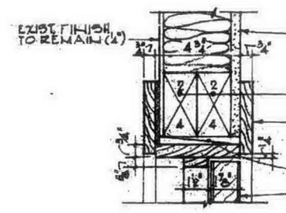
SECTION 3 A1 A3 2 A1 A3
SCALE B



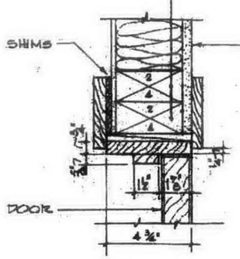
SECTION 1 A2 A3
SCALE B



SECTION 1 A1 A3
SCALE B

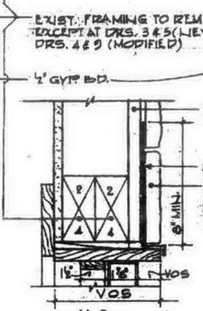


H-2

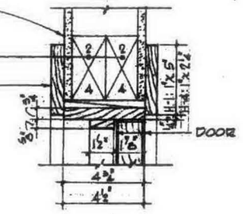


J-2

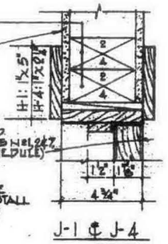
DOOR DETAILS
SCALE A
NOTE: FOR HEAD H-5 AND H-6; JAMB J-5 AND J-6, SEE SHEET A-2.



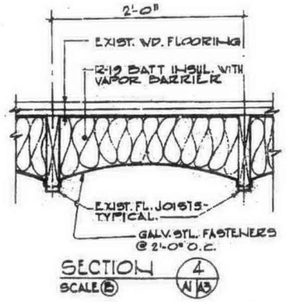
H-3



H-1 & H-4



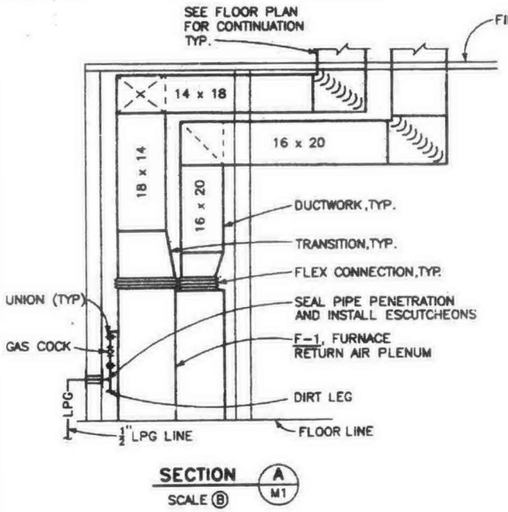
J-1 & J-4



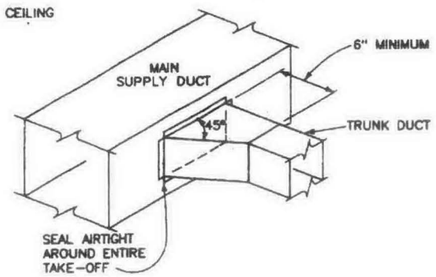
SECTION 4 A1 A3
SCALE B

SCALE E 4 0 4 8 SCALE OF FEET
SCALE D 2 0 2 4 SCALE OF INCHES
SCALE C 1 0 1 2 SCALE OF FEET
SCALE B 12 6 0 12 SCALE OF INCHES
SCALE A 4 3 0 6 SCALE OF INCHES

DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
M J. LOPEZ	A-3	DOOR, WINDOW AND MISCELLANEOUS DETAILS - SCHEDULES	113 4114Tc
DRAWN: M J. LOPEZ			PKG. NO. D363
TECH. REVIEW: M C-p			SHEET 4 OF 8
DATE: 6/89			



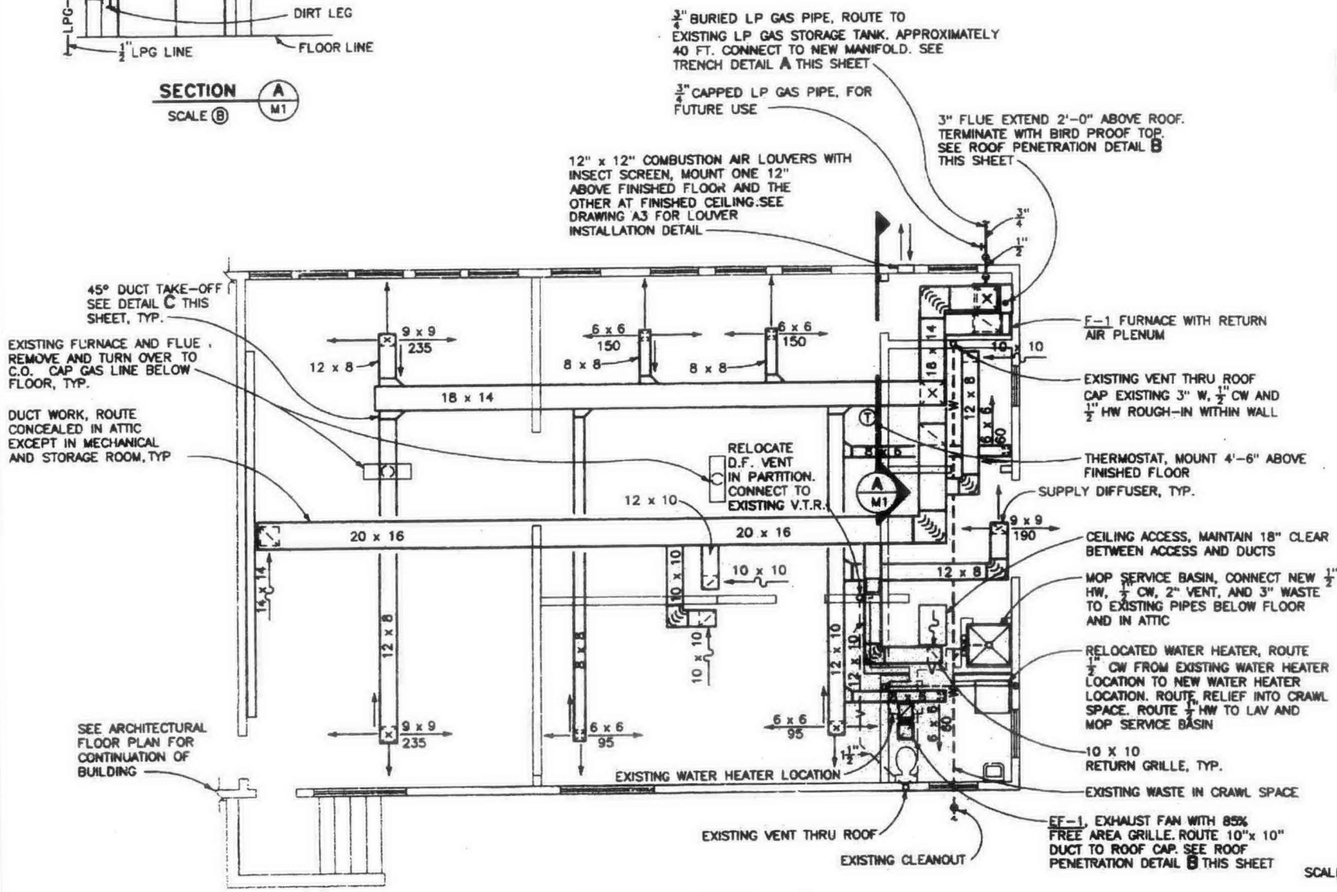
SECTION (A / M1)
SCALE (B)



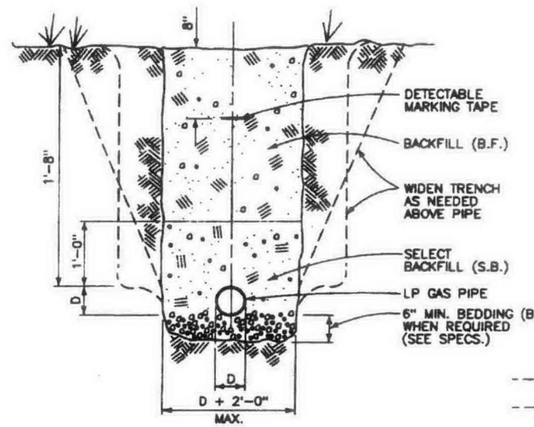
45° DUCT TAKE-OFF DETAIL (C / M1)
NO SCALE

SYMBOL	LOCATION	BTUH INPUT	BTUH OUTPUT	EFFICIENCY %	CFM	STATIC PRESSURE	BLOWER HP.	LENNOX MODEL NO.	REMARKS
F-1	MECHANICAL ROOM	100,000	80,000	80	1270	.8"	1/2	G16Q3/4-100	STATIC PRESSURE AND INPUT AT SEA LEVEL

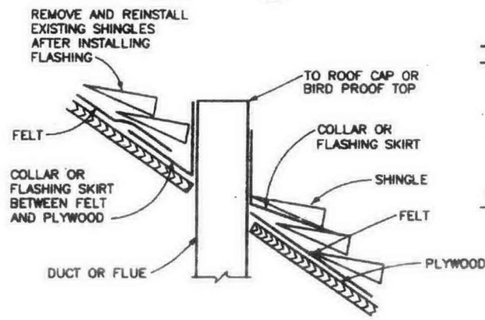
SYMBOL	LOCATION	CFM	STATIC PRESSURE	SONES	WATTS	PENN MODEL NUMBER	REMARKS
EF-1	BATHROOM	95	.1"	1.3	50	Z-6 RA	CONTROL BY TIME DELAY SWITCH INTERLOCKED WITH LIGHT. PROVIDE ROOF CAP



MECHANICAL PLAN (A)
SCALE (A)



TRENCH DETAIL (A / M1)
NO SCALE



ROOF PENETRATION DETAIL (B / M1)
NO SCALE

GENERAL NOTE

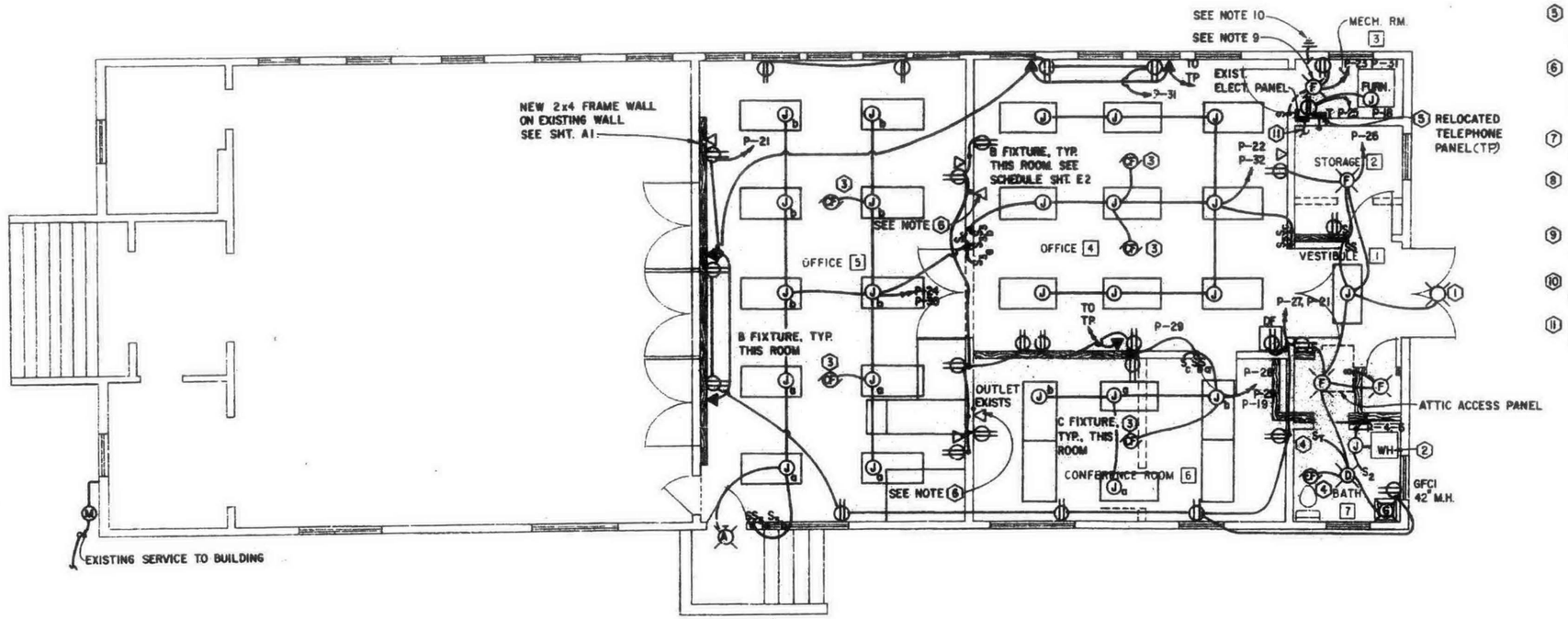
1. FOR EXACT LOCATION OF SUPPLY DIFFUSERS AND RETURN GRILLES, SEE DRAWING A2
2. INSULATE NEW AND EXISTING HOT AND COLD WATER PIPE. INSTALL HEAT TAPE BETWEEN PIPE AND INSULATION ON APPROXIMATELY 25 FEET OF 1" PIPE EXPOSED IN THE CRAWL SPACE.

LEGEND

----W----	WASTE LINE
---V---	VENT
⊕	CLEAN OUT
	TURNING VANES SHOWN IN ELBOW
12 x 10	DUCT SIZES ARE OUTSIDE SHEET METAL DIMENSIONS, FIRST NO. IS SIZE OF SURFACE SHOWN
6" x 6" 95	SUPPLY DIFFUSER. TOP NUMBER IS NECK SIZE. BOTTOM NUMBER IS CFM. ARROWS INDICATE DIRECTIONS OF THROW
10 x 10	RETURN GRILLE. TOP NUMBER IS NECK SIZE
T	THERMOSTAT
VTR	VENT THRU ROOF
HW	HOT WATER
C.O.	CONTRACTING OFFICER
TYP.	TYPICAL
W	WASTE
CW	COLD WATER
DF	DRINKING FOUNTAIN

SCALE (B) 2 0 2 4 SCALE OF FEET
SCALE (A) 4 0 4 8 SCALE OF FEET

DESIGNED: T. MICHAEL	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO. 113 41,141C
DRAWN: DJS	M1	MECHANICAL-PLAN, SCHEDULES AND DETAILS	PKG. NO. DS83
TECH. REVIEW: SODERBERG			SHEET 5 OF 8
DATE: 8/89			

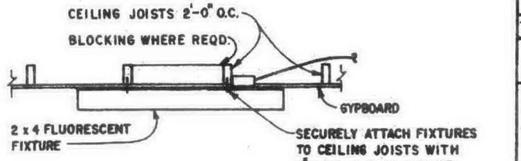


NOTES

1. EXISTING LIGHTING FIXTURE AT FRONT ENTRANCE TO BE REUSED. CONTROL BY EXISTING PHOTOCELL AND INTERIOR SWITCH. SWITCH TO BE RELOCATED AS REQUIRED.
2. EXISTING ELECTRIC WATER HEATER TO BE RELOCATED. RUN NEW FEED (3-#12) $\frac{3}{4}$"C. FROM PANEL, CKT. #P-4, -6 TO SWITCH.
3. CIRCULATING FAN. CONTROL BY SEPARATE 3 SPEED SWITCH.
4. SWITCH FOR EXHAUST FAN AND LIGHT TO BE CONNECTED BY ELECTRICAL CONTRACTOR, SUPPLIED BY MECHANICAL.
5. EXISTING TELEPHONE PANEL TO BE RELOCATED FROM OPPOSITE SIDE OF WALL IN STORAGE ROOM 2. RECONNECT EXISTING PHONES AND CONNECT NEW PHONES AS SHOWN.
6. WIRES FOR THESE EXISTING TWO TELEPHONE OUTLETS ARE EXPOSED AND FEED UP FROM CRAWL SPACE IN FRONT OF PARTITION. UPON REMOVING FINISH, DRILL SMALL HOLE THROUGH PLATE AND BRING UP WIRES IN WALL TO FEED EXISTING OUTLET.
7. FOR EXACT LOCATION OF LIGHT FIXTURES AND CIRCULATING FANS SEE DRAWING A3.
8. NOT USED.
9. LOCATE LIGHT FIXTURE AND ASSOCIATED CONDUIT TO AVOID CONFLICT WITH AIR DUCTS.
10. INSTALL GROUND ROD AT EAST WALL. RUN GROUND WIRE TO BREAKER PANEL TO COMPLY WITH NEC.
11. INSTALL $\frac{1}{2}$"C (3-#12) TO CRAWL SPACE PIPE HEATER FROM BREAKER PANEL. SEE SHEET M1 FOR COORDINATION.

SCALE OF FEET 4 0 4 8

DESIGNED: N. MULLAN DRAWN: J DRAFTING BR. TECH. REVIEW: DATE: 8/89	SUB SHEET NO. E1	TITLE OF SHEET: ELECTRICAL PLAN	DRAWING NO. 113 41,141 C PKG. NO. DS83 SHEET 6 OF 8

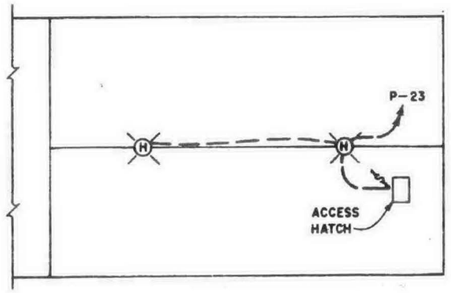


FIXTURE MOUNTING DETAIL

NOT TO SCALE

FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER CATALOG NO.
A	INCANDESCENT, WALL BRACKET, EXTERIOR 120 V. CLEAR MARINE GLASS GLOBE. 60W. LAMP	PROGRESS #P5948-31
B	FLUORESCENT, SURFACE MOUNT, 2'x4'. 120 V. 4 LAMP F40T12 CLASS P BALLAST, WHITE SYNTHETIC BAKED ENAMEL FINISH, ACRYLIC PRISMATIC LENS	LPI #887003
C	FLUORESCENT SURFACE MOUNT, 2'x 4' 120 V. 3 LAMP CLASS P BALLAST. WHITE SYNTHETIC BAKED ENAMEL FINISH ACRYLIC PRISMATIC LENS	LPI #887006
D	INCANDESCENT, CEILING MOUNT. WHITE CANOPY (2)-60W. 120 V. LAMPS 12" ROUND GLOBE	PROGRESS #P3528
F	INCANDESCENT CEILING MOUNT. WHITE CANOPY 1-60 W. LAMP, 8" ROUND GLASS GLOBE	PROGRESS #P3524
G	FLUORESCENT, 2' LENGTH 120V. 2 LAMP 20W T-12. UP AND DOWN LIGHT.	MOLDCAST #A91400
H	INCANDESCENT, PORCELAIN LAMPHOLDER, KEYLESS, FOR 3¼" OR 4" BOX 100 W. LAMP	LEVITON #9875



CIRCULATING FAN

CF	CIRCULATING FAN. 4 BLADE. 52" DIAMETER. ANTIQUE WHITE WITH REVERSING SWITCH. 3 SPEED MOTOR, 1895 SERIES. 12" HANGER PIPE IN ANTIQUE WHITE.	MANUFACTURER CATALOG NO. EMERSON #CF4052W

ATTIC LIGHTS

8 0 8 16

SCALE OF FEET

EXISTING PANELBOARD ___ SCHEDULE

120/240 VOLTS, 1 ϕ, 3 W, N/A A. BUS, 70 A. MAIN C.B., N/A MOUNT SYM. A.I.R. (MAIN C.B. N/A, BRANCH C.B. N/A), N/A NEUTRAL BUS, PROVIDE GROUND BUS N/A BRANCH C.B., NEMA N/A ENCLOSURE, MANUFACTURER AND CAT. NO. G.E. LOAD CENTER, CLASS CTL NO. CL 4G3255

LOAD VA	DESCRIPTION			DESCRIPTION	LOAD VA	BUS LOAD (VA) L1	BUS LOAD (VA) L2
	SPACE	1	2	SPACE			
		3	4 20	WATER HEATER	2000		1000
		5	6			1000	
		7	8	SPACE			
		9	10				
		11	12				
		13	14	SPARE			
		15	16	SPARE			
		17	18	RM. 3 REC.			
120	CIRC. FAN RM 6	20 19	20 20	CRAWL SPACE PIPE HEATING	120		120
540	RECS RM 5 NORTH	20 21	22 20	CIRC FANS RM 4	240	780	
500	ATTIC & RM 3 LTS & REC	20 23	24 20	CIRC FANS RM 5	240		740
250	FURNACE	20 25	26 20	RM 1,2,3,7 & EXT. LTS.	1040	1290	
1260	RM 5 & 6 W, 6S, 7S, 4W RECS	20 27	28 20	RM 6 FLUOR LTS.	720		1980
1800	RM 4 N & W, 5S, 6E RECS	20 29	30 20	RM 5 FLUOR LTS.	1600	3400	
1260	RM 4 E RECS	20 31	32 20	RM 4 FLUOR LTS.	1440		2700
		33	34				
		35	36				
				BUS LOAD TOTALS (KVA)		6470	6540
				TOTAL LOAD (KVA)		13,010	
				ESTIMATED MAXIMUM DEMAND (KVA)		9,000	

ABBREVIATIONS

A	AMPS
AFF	ABOVE FINISHED FLOOR
BLDG	BUILDING
DF	DRINKING FOUNTAIN
E	EXISTING
F	FURNACE
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
MH.	MOUNTING HEIGHT
MECH	MECHANICAL
NP	NATIONAL PARK
OC	ON CENTER
RM	ROOM
S	SWITCH, TOGGLE, SINGLE POLE
S_3	SWITCH, TOGGLE 3 WAY
S_T	FAN SWITCH, TIMER
UON	UNLESS OTHERWISE NOTED
V	VOLTS
TP	TELEPHONE PANEL

LEGEND

- △ TELEPHONE OUTLET, EXISTING.
- ▲ TELEPHONE OUTLET, MOUNTING HEIGHT TO MATCH EXISTING.
- (*) LIGHT FIXTURE, INCANDESCENT, SEE SCHEDULE.
- (A) LIGHT FIXTURE, INCANDESCENT, WALL BRACKET, SEE SCHEDULE.
- LIGHT FIXTURE, FLUORESCENT, SURFACE MOUNT, SEE SCHEDULE.
- CONDUIT, EXPOSED, IN MECH. ROOM.
- CONDUIT, CONCEALED, RUN IN WALLS, ATTIC, OR CRAWL SPACE.
- EXISTING CIRCUIT BREAKER PANEL, RECESSED.
- TELEPHONE PANEL, SURFACE, RELOCATE FROM OPPOSITE SIDE OF WALL.
- DUPLEX RECEPTACLE, IVORY. 120 V. 20 A. M.H. 18" AFF.
- $\ominus_{C.B}$ CLOCK RECEPTACLE, IVORY. 120 V. 15 A. M.H. 8' AFF.
- $\ominus_{GFCI}$ DUPLEX RECEPTACLE, GROUND FAULT CIRCUIT INTERRUPTER.
- S SWITCH, TOGGLE, 120 V. 1 POLE.
- Sa SWITCH, TOGGLE, FOR LIGHTS MARKED a.
- Sb SWITCH, TOGGLE, FOR LIGHTS MARKED b.
- S_2 SWITCH, TOGGLE, 240 V. 2 POLE.
- S_3 SWITCH, TOGGLE, 120 V. 3 WAY.
- Sc SWITCH, CIRCULATING FAN, 120 V. 3 SPEED WITH OFF.
- S_F SWITCH, FURNACE, 120 V. 1 POLE 15 A.
- S_T SWITCH TIMER, WEATHERPROOF, 120V., EXHAUST FAN & LIGHT BY OTHERS.
- (CF) CIRCULATING FAN, 120 V., SINGLE PHASE, 3 SPEED REVERSIBLE.
- (EF) EXHAUST FAN, 120 V., CONNECTION BY ELEC. CONTRACTOR.
- NEW WALL TO BE BUILT.
- EXISTING WALL TO BE REMOVED.

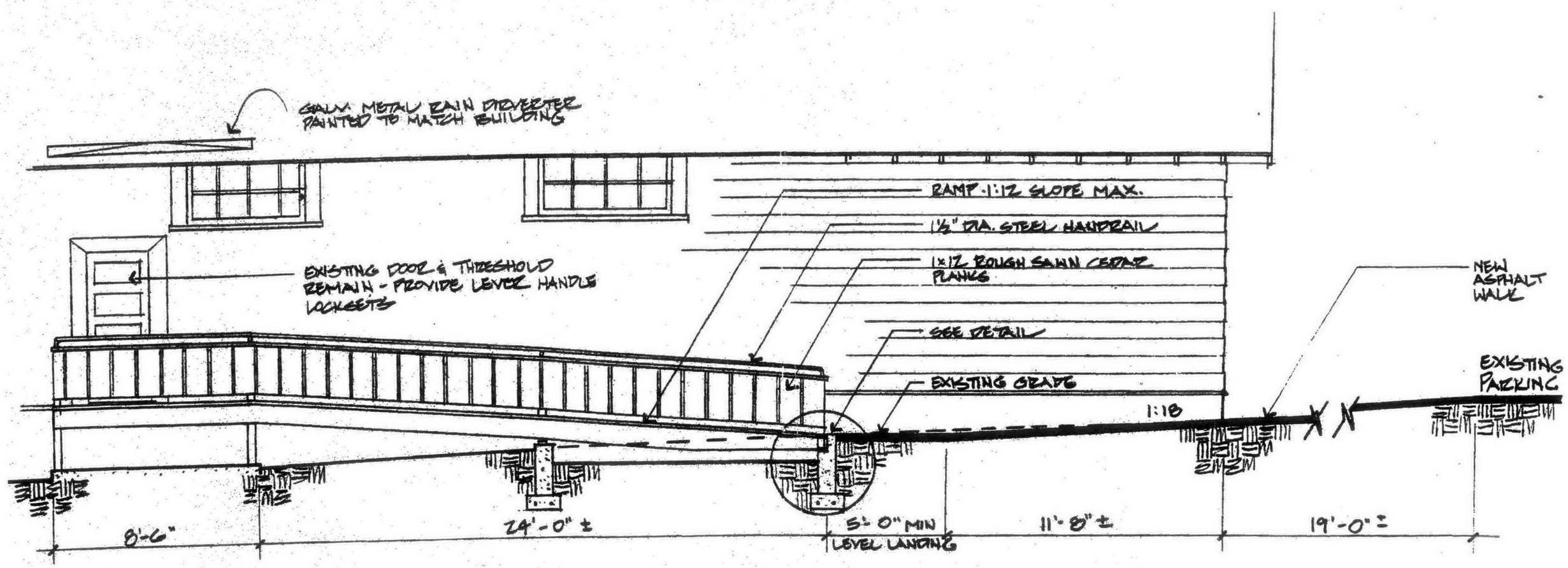
DESIGNED: MULLAN DRAWN: B. Gram TECH. REVIEW: DATE: 8/89	SUB SHEET NO. E2	TITLE OF SHEET: ELECTRICAL - SCHEDULES	DRAWING NO. 113 41,141 C PKG NO. DS83 SHEET 7 OF 8

APPENDIX

SECTION/ITEM	MANUFACTURER	MODEL/TYPE NO.	REMARKS
SECTION 08210			
WOOD DOORS	BUFFELEN WOODWORKING CO. TAYLOR WAY AT LINCOLN AVE. P.O. BOX 1383 TACOMA, WA. 98401	F-55 & F-118	
SECTION 08710			
FINISH HARDWARE			
HINGES	HAGER	BB1279	
LOCKSETS	BEST	8K SERIES	
MORTISE LOCKSETS	"	30H SERIES	
CABINET LOCK	"	5E SERIES	
STRIKES	"	8KS2	
HANDLES	"	ROSS 15H-SERIES 35H	
CABINET HINGES	"	1586	
POCKET DOOR HDWR.	STANLEY	73540-3925R	
SLIDING DOOR LOCK	QUALITY HDWR. MFTRNG. CO.	101	
SECTION 09650			
VINYL COMPOSITION FLOOR TILE	KENTILE	1450 WHEAT	1/8" THICK
VINYL WALL BASE	KENTILE	KC-24-BEIGE	
SECTION 09900			
PAINTING	SINCLAIR	259	EXT. GALV. MET. INT. & EXT. MISC. MET., EXT. ALUM., EXT. PAINTED WD.
	"	1829	INT. WD. & SHEET MET., INT. GYP. BOARD
	"	3350	INT. STAIN DOOR & TRIM. INT. VARNISHED DOOR & TRIM
WAX	HILLARD INDUSTRIES 302 N. 4TH. ST. ST. JOSEPH, MO. 64502	GOLD MEDALLIST WOOD SEAL	ON WOOD FLOOR
FINISH	"	PRO-LINE TUF SEAL	ON WOOD BASE
SECTION 15400			
PLUMBING SYSTEMS			
MOP SERVICE BASIN	E.L. MUSTEE & SONS, INC. 5431 W. 164TH. ST. CLEVELAND, OH. 44142	65P	
HOSE AND HOSE BRACKET	"	65.700	4 FEET LONG
SERVICE FAUCET	"	63.600A	
BUMPER GUARD	"	65.4003	
SECTION 15565			
LP GAS FURNACE	LENNOX	G20 Q 34-100	
SECTION 15860			
EXHAUST FAN	PENN ZEPHYR	Z6	
CEILING PADDLE FAN	LEGEND	CF4052W	
3 SPEED CLG. FAN SWITCH	BROAN	4X445	
SECTION 15911			
DIFFUSERS, GRILLES AND LOUVERS			
DIFFUSERS	TITUS PRODUCTS RICHARDSON, TX.	A4	FRESH AIR SUPPLY
GRILLES	"	PAS	RETURN AIR
LOUVERS	PENN VENTILATOR CO., INC. PHILADELPHIA, PA. AIRSTREAM PROD. DIV.	C	45 DEGREE BLADES
SECTION 16510			
LIGHTING			
LUMINAIRES:			
TYPE "A"	SEA GULL CORP.	8550-12	
TYPE "B"	KEYSTONE LIGHTING BRISTOL, PA.	2SM440 SKYLARK	SURFACE MOUNT
TYPE "C"	"	2SM340 SKYLARK	"
TYPE "D"	"	7612-33	
TYPE "F"	"	7608-33	
TYPE "G"	KEYSTONE LIGHTING BRISTOL, PA.	W220	WALL MOUNTED
TYPE "H"	LEVITON	9875-2	

DESIGNED: MULLAN DRAWN: J. WILSON TECH. REVIEW: DATE: 11/92	SUB SHEET NO.	TITLE OF SHEET APPENDIX EQUIPMENT & MATERIAL DATA	DRAWING NO. 113 41,141C PKG. NO. DS83 — SHEET 8 — OF 8

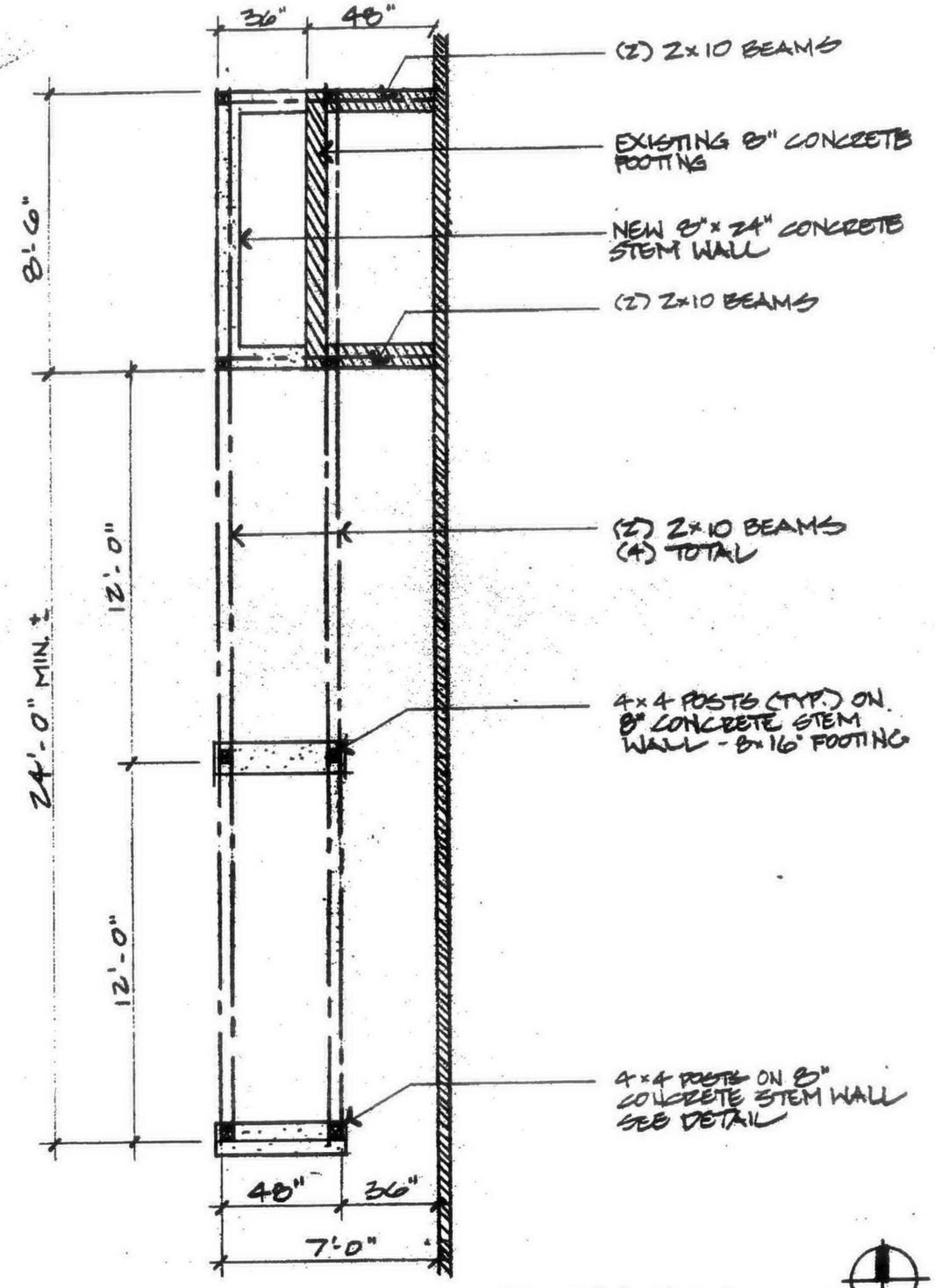
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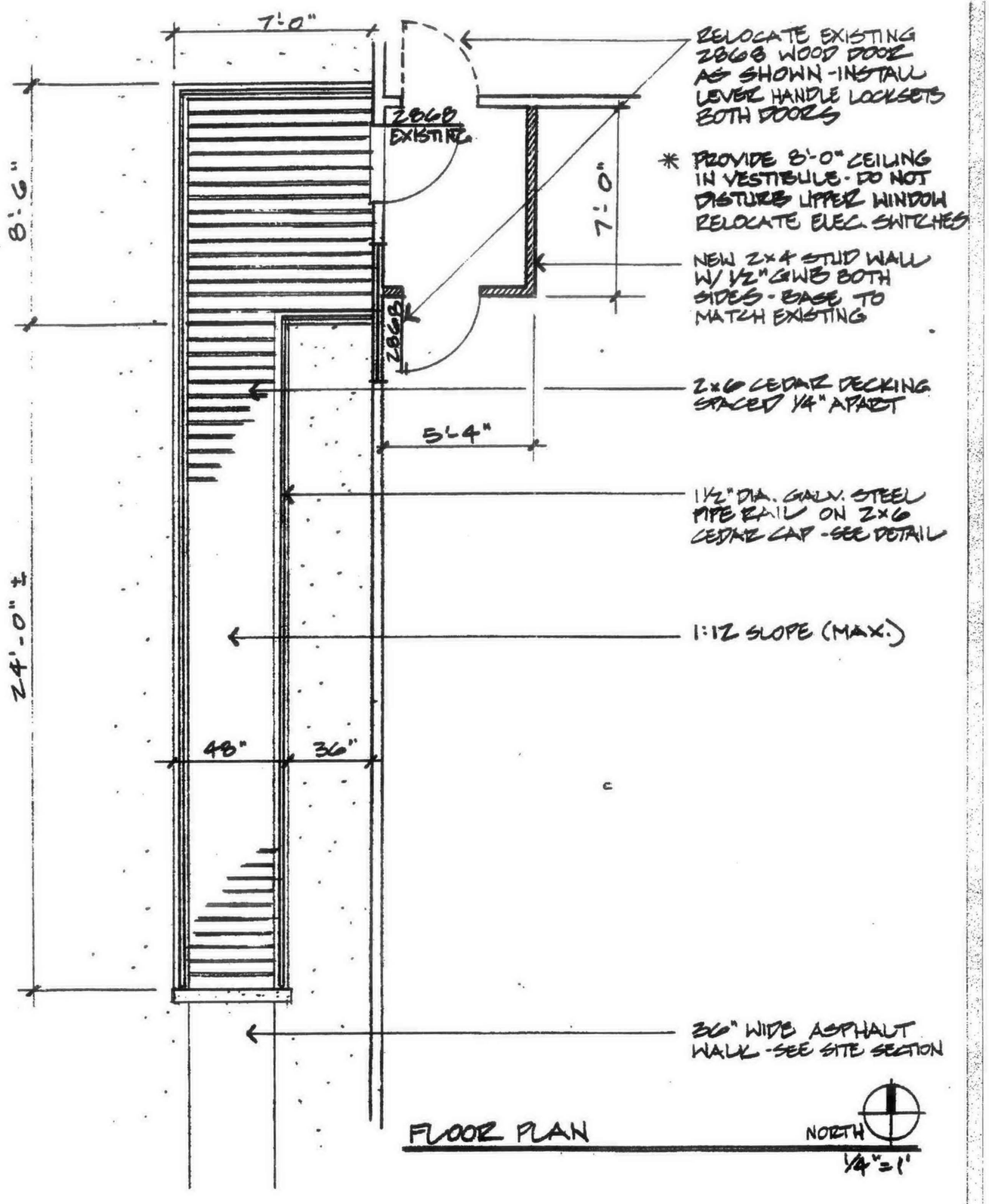
SITE SECTION

1/4" = 1'-0"

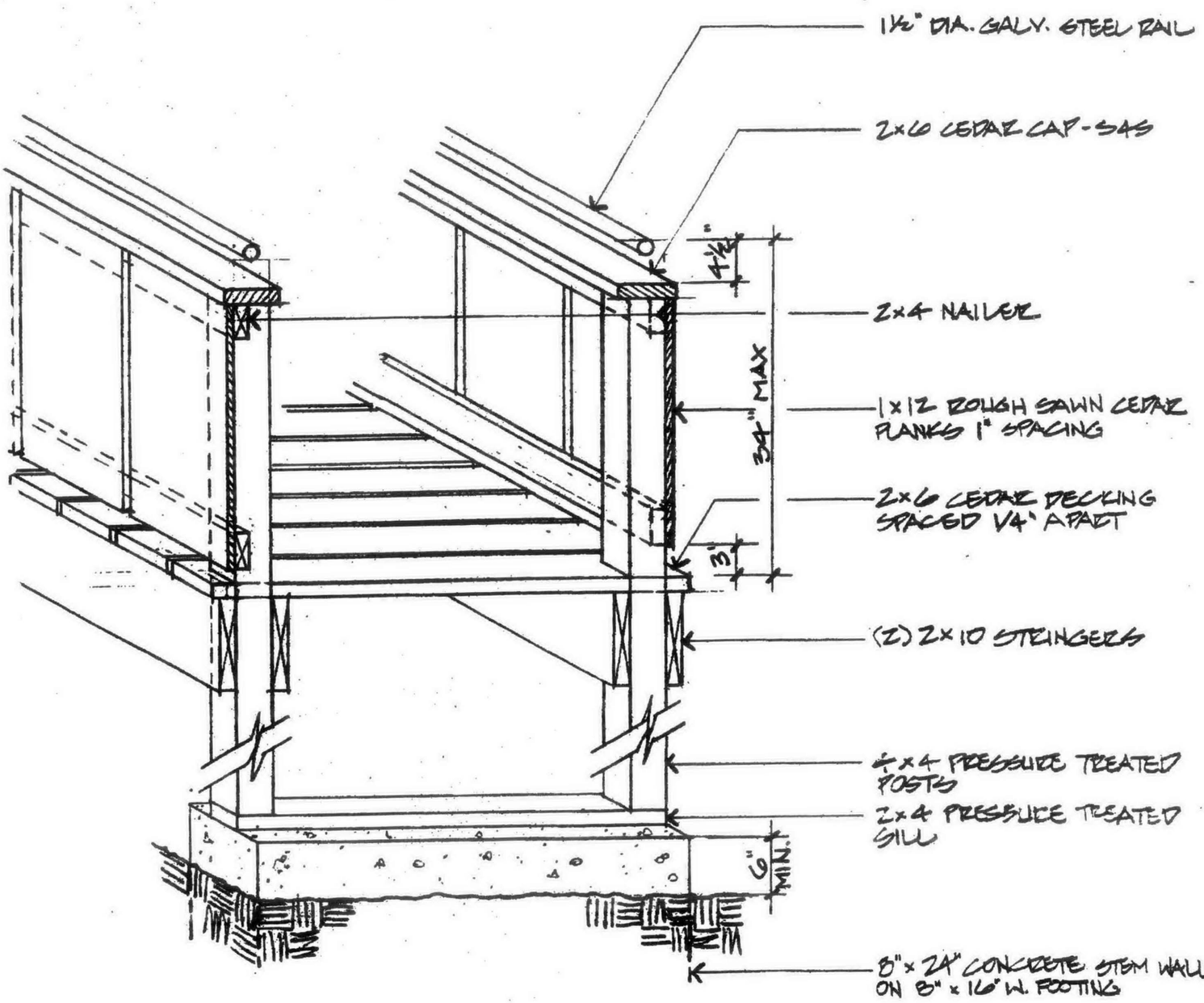
Safety + Comm Library



FRAMING PLAN NORTH 1/4"=1'

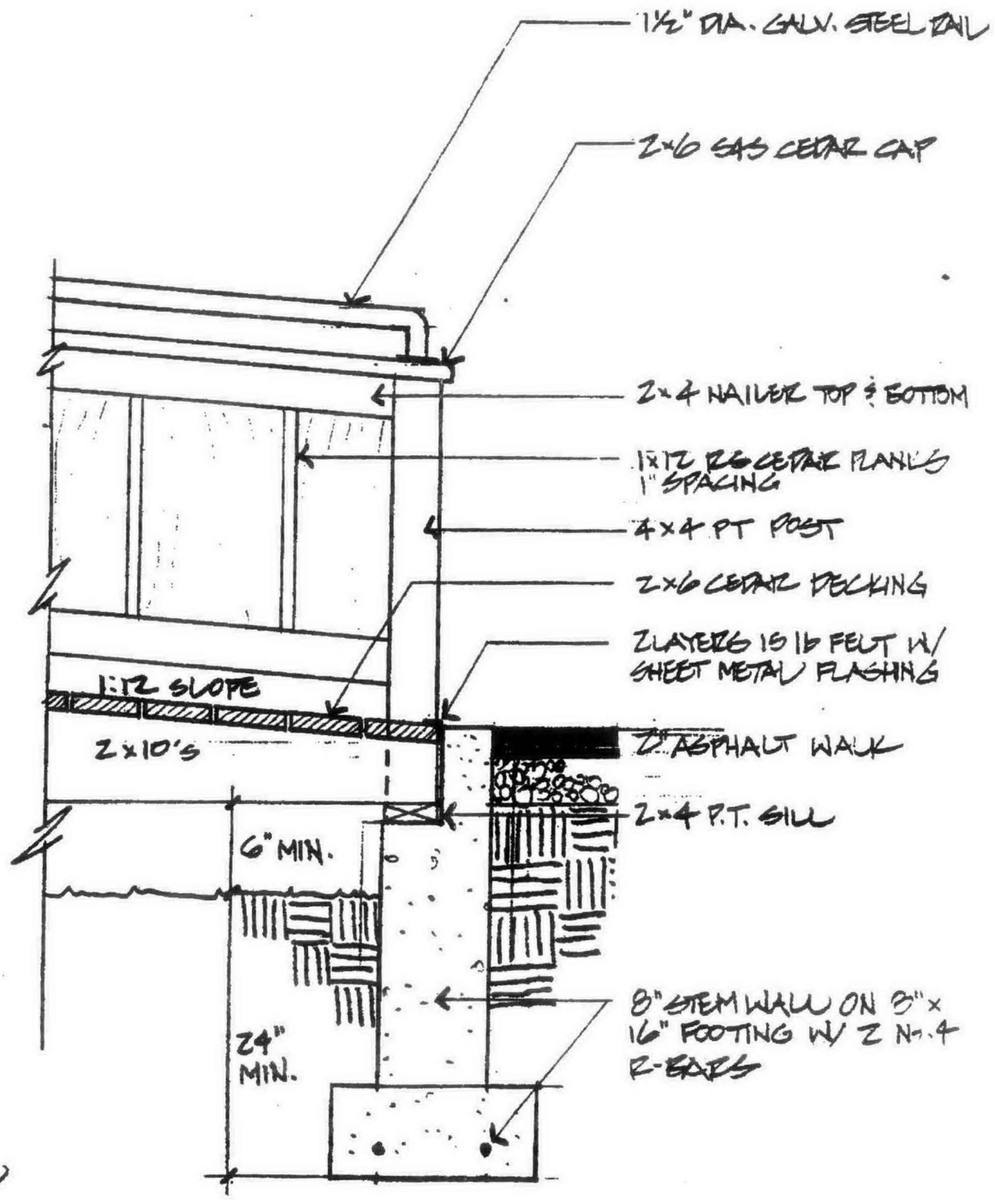


FLOOR PLAN NORTH 1/4"=1'



TYPICAL RAMP SECTION

1" = 1'-0"



DETAIL @ ASPHALT WALK

1" = 1'-0"

7 TREADS @ 11" = 6'-5"

5'-0" LANDING

12"

1½" ϕ BLACK IRON PIPE HANDRAIL

MIGHT WANT TO ADD EXTRA VERTICAL SUPPORT SO PEOPLE ARE GETTING IMPINGED ON HANDRAIL EXTENSIONS.

8x6.5

48"

12"

NOSING

2x12 STRINGER

1" 11"

6½"

2x8 TREAD, RIP BACK ONE TO WIDTH

2x8 FACE BOARD

1" RADIUS

2-2x12 BEAMS

3x12" STRINGER

3x3" PLANKING

6x6 METAL PLATE

SIMPSON VARIABLE PITCH CONNECTOR

6x6 POST

34"

34"

3" METAL SLEEVE

½" AG SPACE

SIMPSON STRONGTIE-CC

3" CLEAR

12"

3'-0"

CONCRETE FOOTING

4" GRAVEL BED

LIMIT OF PAD?

CENTER HANDRAIL SECTION

SCALE : 1"= 1'-0"

1½" ϕ BLACK IRON PIPE HANDRAIL

LOG SLAB SIDING

NICE TOUCH!

GALVANIZED ⅛" HARDWIRE - SPRAY PAINT BLACK

FINISH GRADE

2"

TERMINATE RAILING

RECESSED ENTRY

BUILDING OVERHANG

LANDING

END SECTION

NEED DEMOLITION NOTES

NOTES:

I WOULD RECOMMEND HAVING IT TREATED AS WELL.

1. ALL WOOD IS #2 OR BETTER DOUGLAS FIR
2. ALL HARDWARE IS HOT DIPPED GALVANIZED?
3. STAIN ALL WOOD TO MATCH EXISTING BUILDING.

10'-6"

5'-3"

5'-3"

EQUAL EQUAL EQUAL

EXISTING STEPS

5' LANDING

2-2x12 STRINGERS - TYP.

SAFETY STRIPE ON TREADS - TYP. PER (THIN STRIPS AT TOP OF LANDING, ALSO)

TERMINATE RAILING

DON'T BELIEVE THIS IS DRAWN ACCURATELY.

HIGH DOES LOG RAILING TERMINATE BOARDWALK?

SEE EG EG EG

MIGHT WANT TO NOTE PATCHING SIDEWALK DUE FOUNDATION ISSUES

RAIL WILL EXTEND OUT BEHIND SIDEWALLS

STAIR PLAN VIEW

SCALE : ½"= 1'-0"

SIZE OF CAP?

OVERHANG?

NEED MORE INFO

1½"

1½"

SIZE OF FACING MATERIAL

34" TO TOP EDGE OF TREAD NOSING

ATTACH INTO STUDS

LOG SLAB SIDING (SIZE?) OR MATCH HISTORIC

SIDE HANDRAIL DETAIL

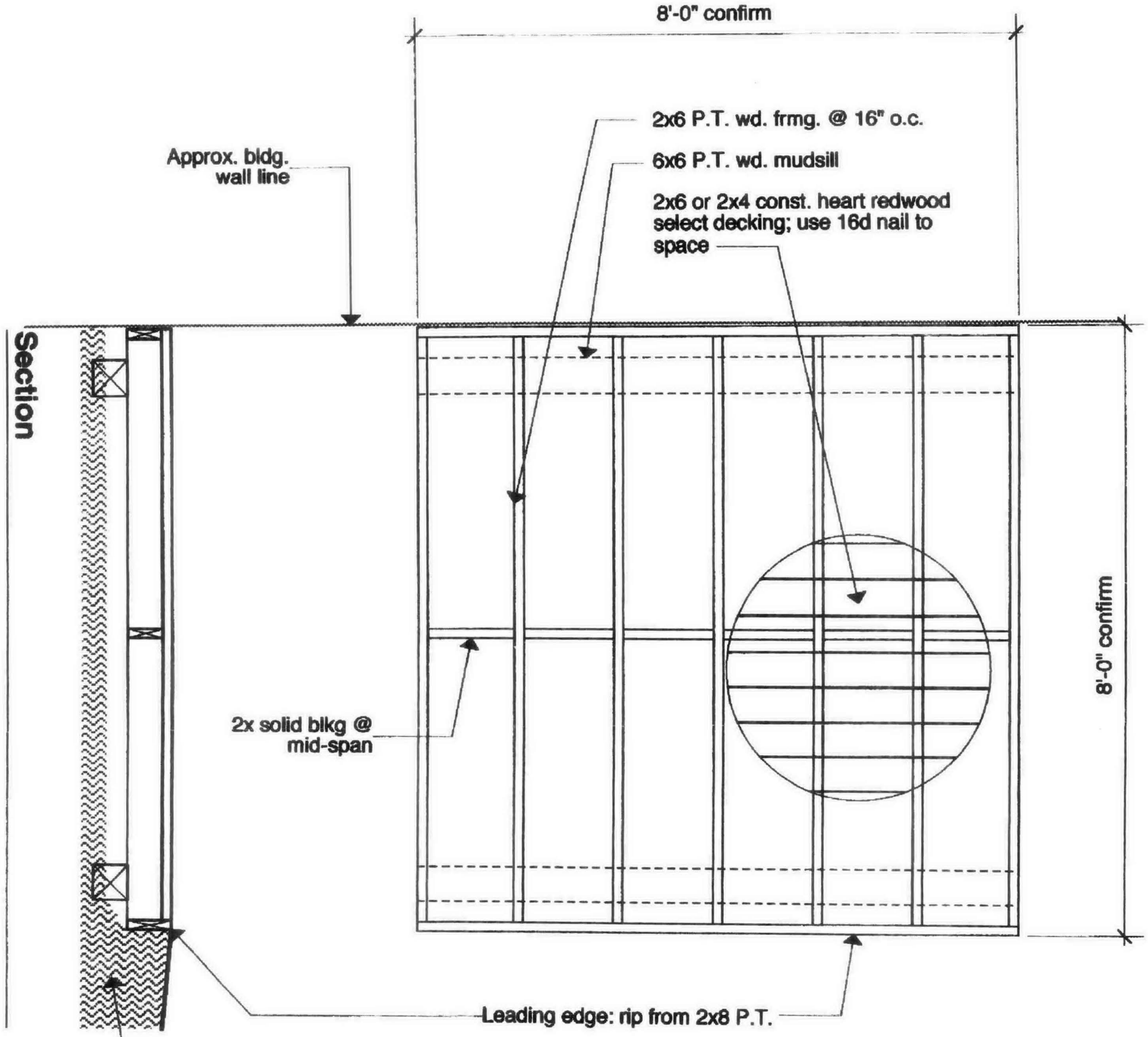
SCALE: 1"=1'-0"

70°

3 CONNECTIONS PER SIDE

DESIGNED: MED	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
DRAWN: MED		**LIBRARY NORTH STAIR**	
TECH. REVIEW:		**GRAND CANYON NATIONAL PARK**	PKG. NO. / SHEET / OF
DATE: 8/96			

Library - North Stair Rail Detail
on Dwg #



Plan

New Stoop for Building # 208
GRCA Community Library
Grand Canyon National Park

14July03 rap

APPENDIX B
ARCHITECTURAL DRAWINGS & PHOTOGRAPHIC DOCUMENTATION OF EXISTING CONDITIONS

Drawings of the Old Grand Canyon School as it currently exists were created by the project team based on field measurements. The following drawings are contained in this section:

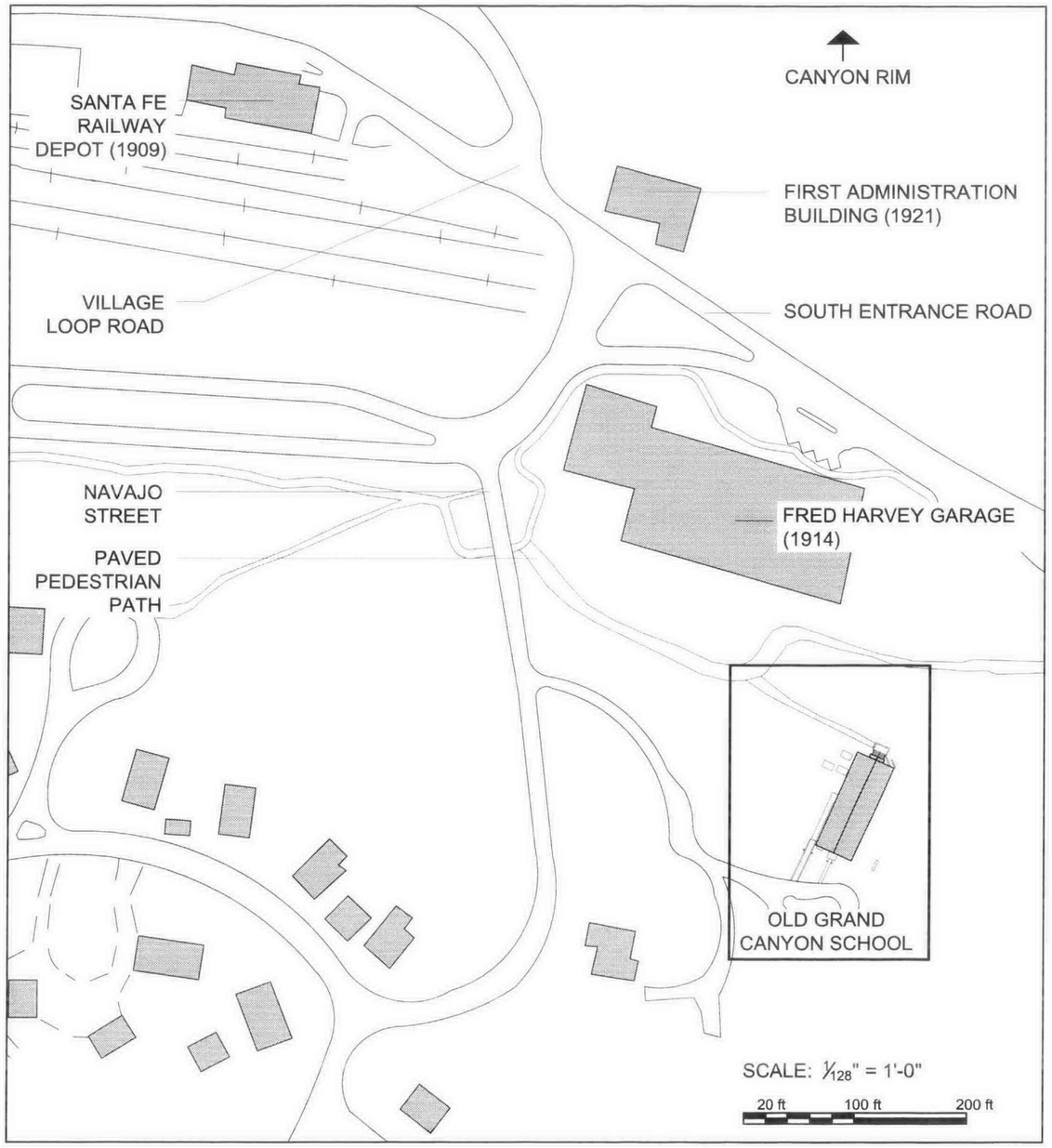
Site Plan
Roof Plan
Floor Plan
North & South Elevations
West Elevation
East Elevation

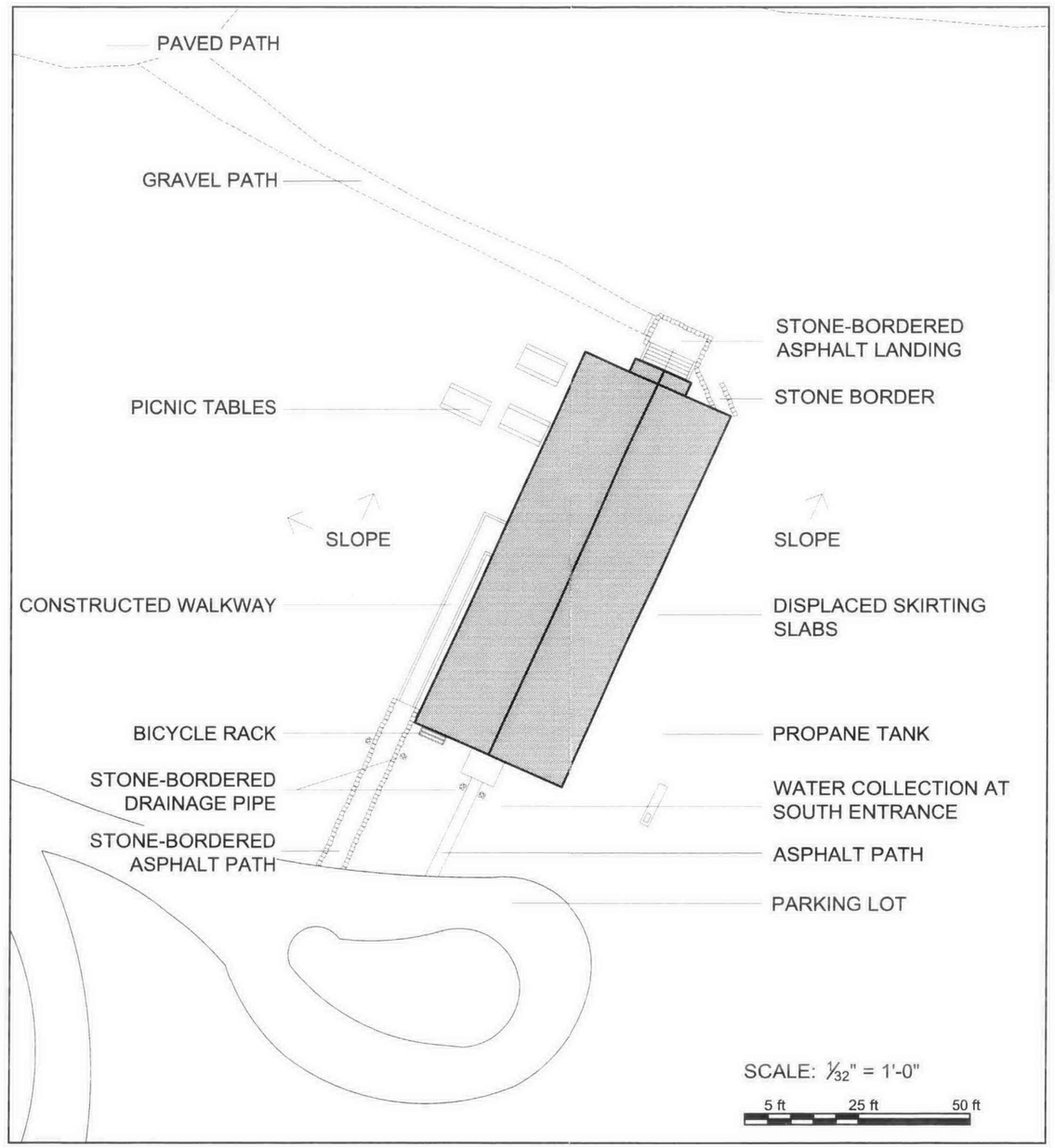
Additionally, the following condition assessment drawings are marked with deficiencies:

North Elevation
South Elevation
West Elevation
East Elevation

A disk containing photographic documentation of the Old Grand Canyon School was provided to Grand Canyon National Park with this report. Photographs were taken by the University of Arizona project team between May and October 2006. They show both character-defining features and deficiencies.

As part of this report, historic photographs of the Old Grand Canyon School accessioned into Grand Canyon National Park's museum collection were scanned and saved to disk. This disk was provided to Grand Canyon National Park with this report.





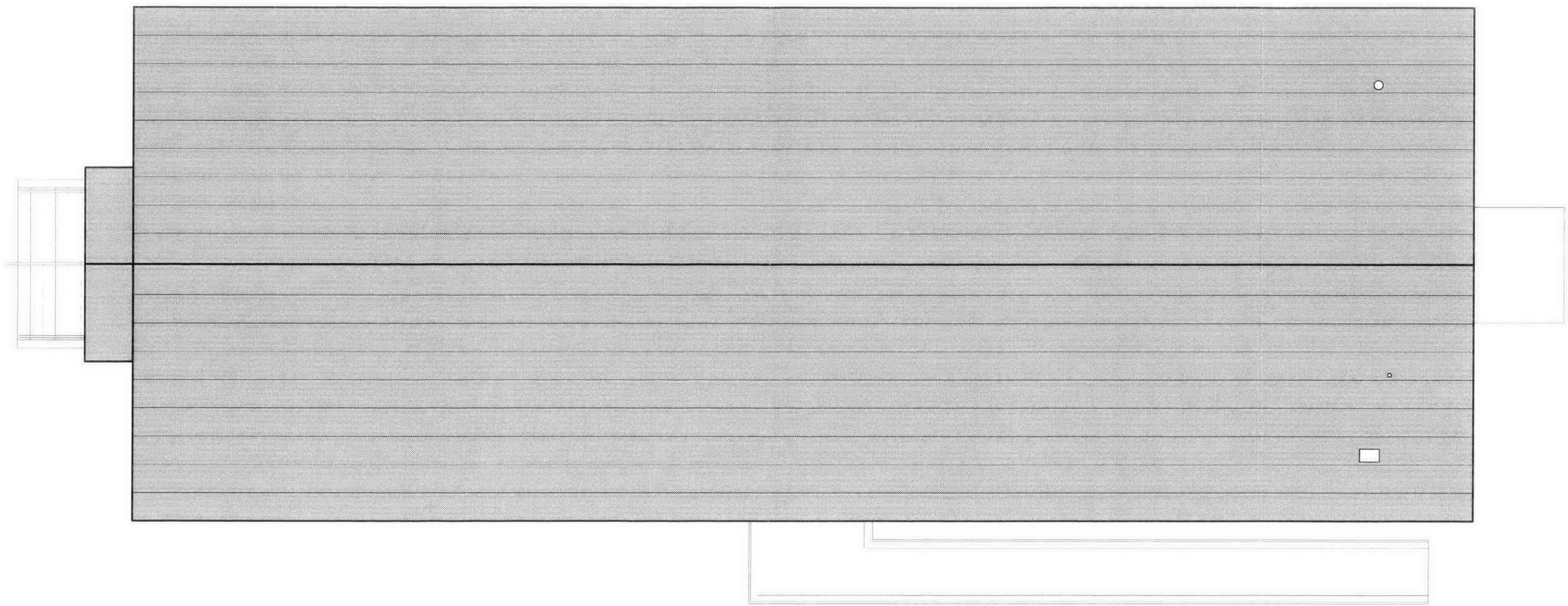
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AND LANDSCAPE ARCHITECTURE
THE UNIVERSITY OF ARIZONA

OLD GRAND CANYON SCHOOL 9/2007

GRAND CANYON NATIONAL PARK

SITE PLAN

ORIGINAL BUILDING | HISTORIC ADDITION



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THE UNIVERSITY OF ARIZONA

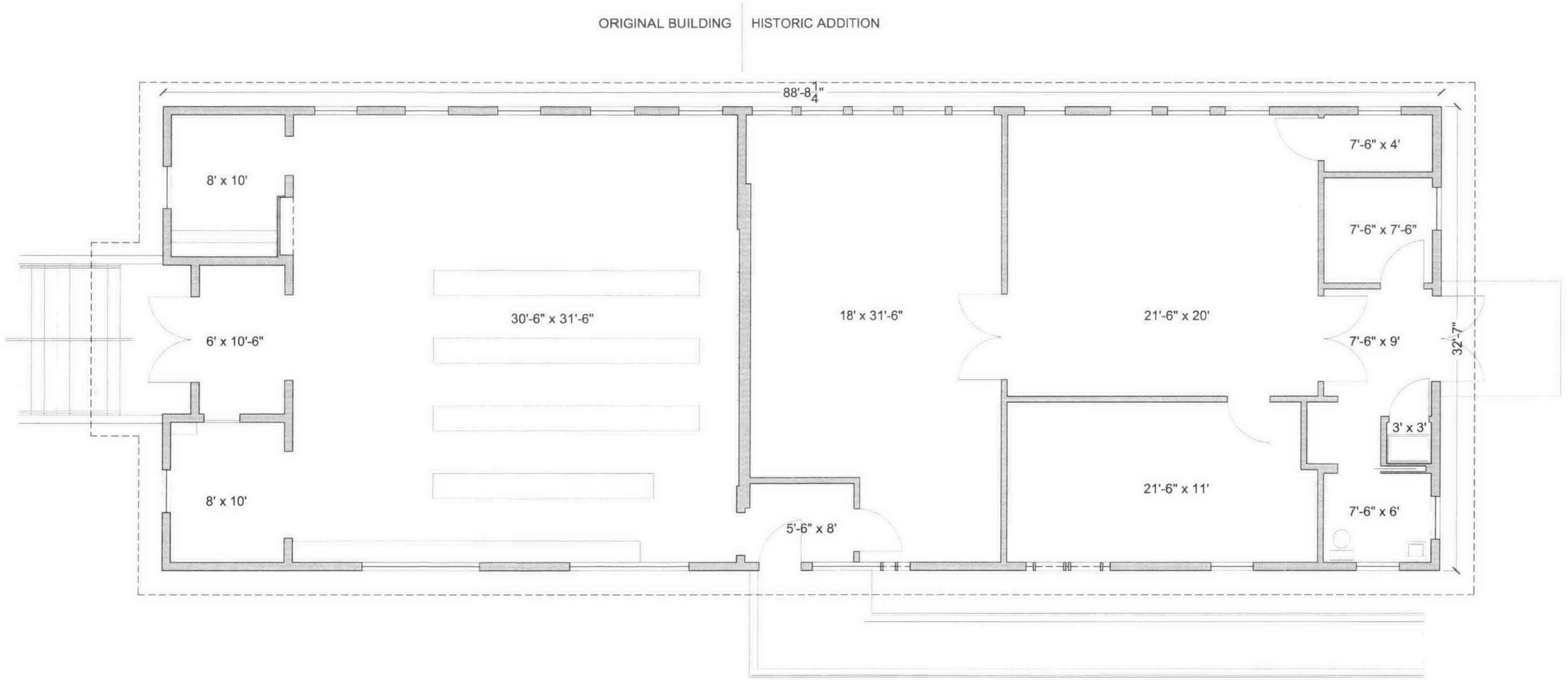
OLD GRAND CANYON SCHOOL 9/2007

GRAND CANYON NATIONAL PARK

ROOF PLAN

SCALE: 1/8" = 1'-0"

1 ft 5 ft 10 ft 15 ft



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OLD GRAND CANYON SCHOOL 9/2007

GRAND CANYON NATIONAL PARK

FLOOR PLAN

SCALE: 1/8" = 1'-0"

1 ft 5 ft 10 ft 15 ft



NORTH ELEVATION



SOUTH ELEVATION

SKIRTING	VERTICAL LOG SLAB, 8" WIDE
WALLS	HORIZONTAL LOG SLAB, 8" WIDE
ROOF	CEDAR SHINGLES

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OLD GRAND CANYON SCHOOL 9/2007

GRAND CANYON NATIONAL PARK

NORTH & SOUTH ELEVATIONS

SCALE: 1/8" = 1'-0"

1 ft 5 ft 10 ft 15 ft



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OLD GRAND CANYON SCHOOL 9/2007

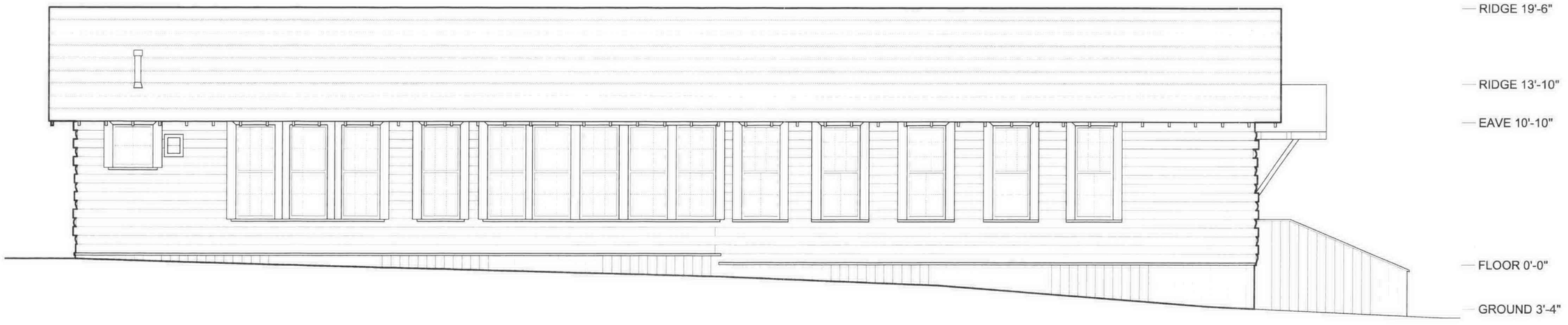
GRAND CANYON NATIONAL PARK

WEST ELEVATION

SCALE: 1/8" = 1'-0"

1 ft 5 ft 10 ft 15 ft

HISTORIC ADDITION | ORIGINAL BUILDING



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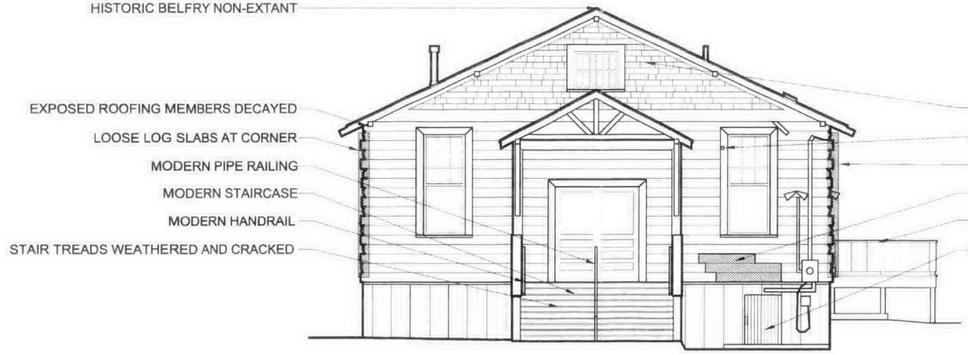
OLD GRAND CANYON SCHOOL 9/2007

GRAND CANYON NATIONAL PARK

EAST ELEVATION

SCALE: 1/8" = 1'-0"

1 ft 5 ft 10 ft 15 ft



PAINT PEELING THROUGHOUT

MODERN SCREENS ATTACHED WITH MODERN HINGES

DECAYED LOG SLAB SKIRTING THROUGHOUT

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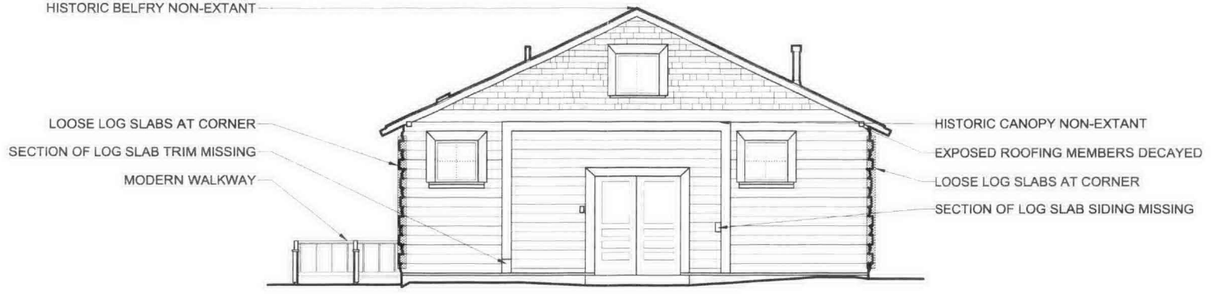
OLD GRAND CANYON SCHOOL 9/2007

GRAND CANYON NATIONAL PARK

NORTH ELEVATION CONDITION ASSESSMENT

SCALE: $\frac{3}{32}$" = 1'-0"

1 ft 5 ft 10 ft 15 ft



PAINT PEELING THROUGHOUT

MODERN SCREENS ATTACHED WITH MODERN HINGES

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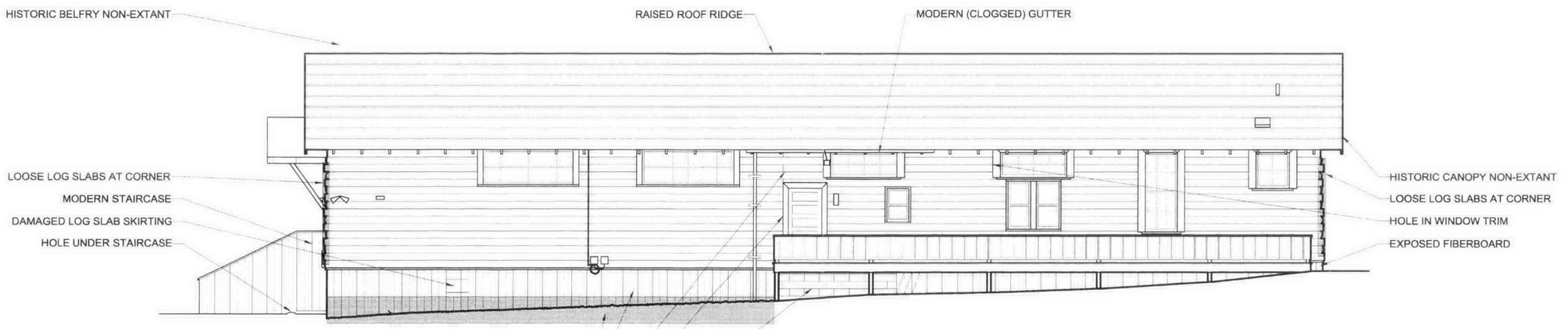
OLD GRAND CANYON SCHOOL 9/2007

GRAND CANYON NATIONAL PARK

SOUTH ELEVATION CONDITION ASSESSMENT

SCALE: 3/32" = 1'-0"

1 ft 5 ft 10 ft 15 ft



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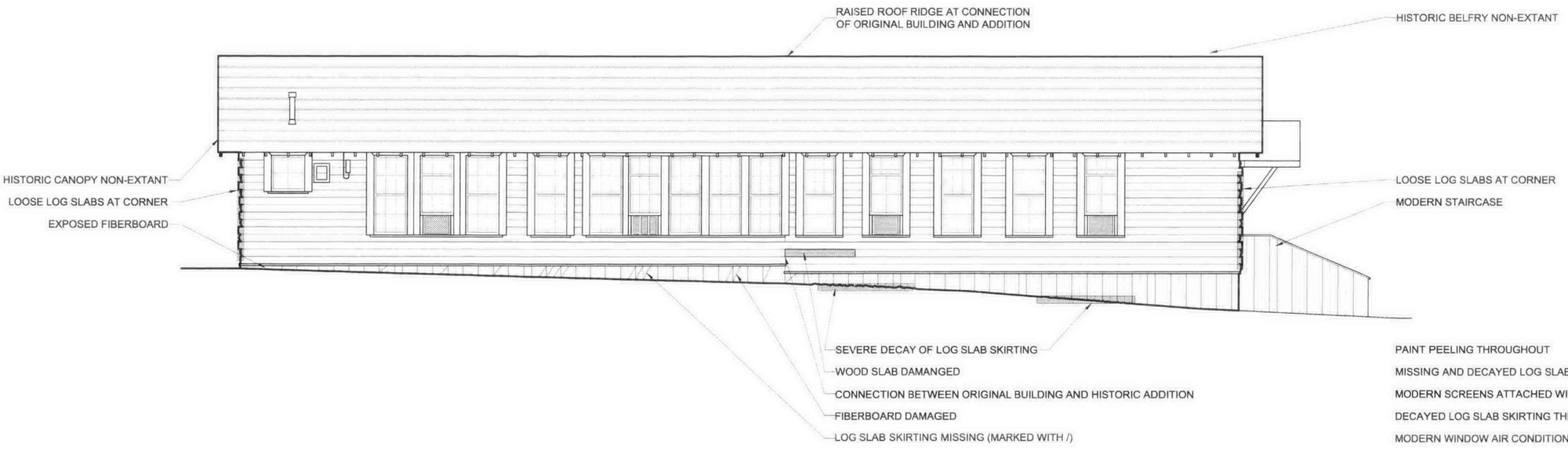
OLD GRAND CANYON SCHOOL 9/2007

GRAND CANYON NATIONAL PARK

WEST ELEVATION CONDITION ASSESSMENT

SCALE: $\frac{3}{32}$" = 1'-0"

1 ft 5 ft 10 ft 15 ft



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AND LANDSCAPE ARCHITECTURE
THE UNIVERSITY OF ARIZONA

OLD GRAND CANYON SCHOOL 9/2007

GRAND CANYON NATIONAL PARK

EAST ELEVATION CONDITION ASSESSMENT

SCALE: $\frac{3}{32}$" = 1'-0"

1 ft 5 ft 10 ft 15 ft

APPENDIX C
COST ESTIMATE FOR RECOMMENDED TREATMENT

Compusult

Construction Cost Consulting
5923 East Pima Street
Tucson, Arizona 85712
520•882•4044 voice
520•323•0544 fax

Statement of Probable Cost

Historic Structure Report
Old Grand Canyon School

Grand Canyon, Arizona

by Compusult

September 10, 2007

Compusult applies diligence and judgment in locating and using reliable sources of information. This Statement of Probable Cost is made on Compusult's knowledge of the project and experience. Compusult has no control over the costs of labor, equipment or materials or over the contractor's method of pricing. Compusult makes no warranty expressed or implied as to the accuracy of such opinions as compared to the bid or actual costs.

Harold H. McGrath III, CPE
Compusult

Project: Historic Structure Report Old Grand Canyon School
Park: Grand Canyon National Park
Package: Historic Structure Report

Basis of Estimate

Date of Estimate: September 10, 2007

Estimated By: Trip McGrath, CPE
Compusult
5923 East Pima Street
Tucson, Arizona 85712
(520)-882-4044

Supporting Material: Historic Structure Report
Old Grand Canyon School
by Preservation Studies Program, College of Architecture & Landscape Architecture
University of Arizona
September 1, 2007

Cost Data: Square Foot Cost Data.
Unit Prices based on 2007 Cost data

Mark-ups and Add-ons:
Published Location Factor: RS Means (Flagstaff, Arizona).
Project Remoteness: Site is 85 miles from nearest published commercial center.
Federal Wage Rate Factor: 8 Percent on 60% of total (assumed labor is 60% of total).
Design Contingency: Limited Detail in Structural Report. Limited areas and quantities of defined work available at this level. 25% is appropriate for this level of estimate.
Taxes: 6.725 Percent Sales Tax included in Unit Costs
Standard General Conditions: Within Normal Range 15 Percent.
Government General Conditions: 10 Percent within NPS Guidance Recommendations.
Bonds and Permits: 1.5 percent bond included in General Conditions. No permit costs.
Historic Preservation Factor: Based on other historical projects 15 Percent.
Overhead: Small Job, Limited sub-contractors. 15 Percent
Profit: 10 Percent
Inflation Escalation: Assume start of construction to be October, 2008. Escalation based on ENR Building Cost Index.

Comments:

Compusult - Class C Estimate

Project: Historic Structure Report Old Grand Canyon School
Park: Grand Canyon National Park
Package: Historic Structure Report
Item: Component One

Estimate By: HHM
Date: 9/10/2007
Reviewed By: WJW
Date: 9/10/2007

Estimate is based on 2007 Costs

Item No.	Description	Qty.	Unit	Cost/Unit	Net Cost
1	Regrading w/ Perimeter Drain	1	EA	$ 3,600.00	$ 3,600
2	Redirect Gutter on West	1	EA	$ 1,100.00	$ 1,100
3	Thin or Trim Trees	1	EA	$ 700.00	$ 700
4	Demo Rock Border	1	EA	$ 130.00	$ 130
5	Screen Propane Tank	1	EA	$ 900.00	$ 900
6					$ -
	Subtotal Direct Construction Costs				**$ 6,430**
	Park Location Factor -15%				$ (1,000)
	Remoteness Factor 85 miles				$ 1,600
	Federal Wage Rate Factor 8%				$ 300
	Design Contingency 25%				$ 2,000
	Total Direct Construction Costs				**$ 9,000**
	Standard General Conditions 15%				$ 1,400
	Government General Conditions 10%				$ 900
	Historic Preservation Factor 15%				$ 1,400
	Subtotal Construction Costs				**$ 13,000**
	Profit 10%				$ 1,300
	Overhead 15%				$ 2,100
	Escalation to September 2008 3.6%				$ 500
	TOTAL Estimated Cost of Construction				**$ 17,000**

Compusult - Class C Estimate

Project: Historic Structure Report Old Grand Canyon School
Park: Grand Canyon National Park
Package: Historic Structure Report
Item: Component Two

Estimate By: HHM
Date: 9/10/2007
Reviewed By: WJW
Date: 9/10/2007

Estimate is based on 2007 Costs

Item No.	Description	Qty.	Unit	Cost/Unit	Net Cost
1	Rework Existing Piers	1	EA	$ 8,400.00	$ 8,400
2	Replace Decayed Floor Joists, Repair Foundation Wall & Insulation at Floor	1	EA	$ 15,000	$ 15,000
3	Repair Ridge Rafter(s)	1	EA	$ 2,400.00	$ 2,400
4	Sheath, Cedar Shingles, Copper Flashing & Screen Vents	3,500	SF	$ 7.50	$ 26,250
5	New North GWB Ceiling with Battens	1,120	SF	$ 8.50	$ 9,520
6					$ -
	Subtotal Direct Construction Costs				**$ 61,570**
	Park Location Factor -15%				$ (9,200)
	Remoteness Factor 85 miles				$ 15,400
	Federal Wage Rate Factor 8%				$ 3,000
	Design Contingency 25%				$ 15,000
	Total Direct Construction Costs				**$ 86,000**
	Standard General Conditions 15%				$ 12,900
	Government General Conditions 10%				$ 8,600
	Historic Preservation Factor 15%				$ 12,900
	Subtotal Construction Costs				**$ 120,000**
	Profit 10%				$ 12,000
	Overhead 15%				$ 19,800
	Escalation to September 2008 3.6%				$ 4,300
	TOTAL Estimated Cost of Construction *				**$ 156,000**

* Total cost does not include structural engineering assessment recommended as part of Component Two.

Compusult - Class C Estimate

Project: Historic Structure Report Old Grand Canyon School
Park: Grand Canyon National Park
Package: Historic Structure Report
Item: Component Three

Estimate By: HHM
Date: 9/10/2007

Reviewed By: WJW
Date: 9/10/2007

Estimate is based on 2007 Costs

Item No.	Description	Qty.	Unit	Cost/Unit	Net Cost
1	Remove/Repair Log Slab Siding (Paint in #5 Below)	1	EA	$ 4,000.00	$ 4,000
2	Replace/Repair Skirting Over New Hardy Board (Paint in #5 Below)	1	EA	$ 5,500.00	$ 5,500
3	Replace Beadboard Door	1	EA	$ 1,200.00	$ 1,200
4	Patch Holes at Exterior Trim	1	EA	$ 500.00	$ 500
5	Paint Exterior	3,600	SF	$ 0.95	$ 3,420
6	Clean Gutters	1	EA	$ 260.00	$ 260
7	Seal to Prevent Rodents	1	EA	$ 1,500.00	$ 1,500
8	New HVAC System	1	EA	$ 32,000	$ 32,000
9					$ -
	Subtotal Direct Construction Costs				**$ 48,380**
	Park Location Factor -15%				$ (7,300)
	Remoteness Factor 85 miles				$ 12,100
	Federal Wage Rate Factor 8%				$ 2,300
	Design Contingency 25%				$ 12,000
	Total Direct Construction Costs				**$ 67,000**
	Standard General Conditions 15%				$ 10,100
	Government General Conditions 10%				$ 6,700
	Historic Preservation Factor 15%				$ 10,100
	Subtotal Construction Costs				**$ 94,000**
	Profit 10%				$ 9,400
	Overhead 15%				$ 15,500
	Escalation to September 2008 3.6%				$ 3,400
	TOTAL Estimated Cost of Construction				**$ 122,000**

Compusult - Class C Estimate

Project: Historic Structure Report Old Grand Canyon School
Park: Grand Canyon National Park
Package: Historic Structure Report
Item: Component Four

Estimate By: HHM
Date: 9/10/2007

Reviewed By: WJW
Date: 9/10/2007

Estimate is based on 2007 Costs

Item No.	Description	Qty.	Unit	Cost/Unit	Net Cost
1	New Exterior Signage	1	EA	$ 4,500.00	$ 4,500
2	Relocate Copier	1	EA	$ 65.00	$ 65
3	Provide Intercom Between West Door & Librarian for Access	1	EA	$ 2,200.00	$ 2,200
4					$ -
	Subtotal Direct Construction Costs				**$ 6,765**
	Park Location Factor -15%				$ (1,000)
	Remoteness Factor 85 miles				$ 1,700
	Federal Wage Rate Factor 8%				$ 300
	Design Contingency 25%				$ 2,000
	Total Direct Construction Costs				**$ 10,000**
	Standard General Conditions 15%				$ 1,500
	Government General Conditions 10%				$ 1,000
	Historic Preservation Factor 15%				$ 1,500
	Subtotal Construction Costs				**$ 14,000**
	Profit 10%				$ 1,400
	Overhead 15%				$ 2,300
	Escalation to September 2008 3.6%				$ 500
	TOTAL Estimated Cost of Construction				**$ 18,000**

Total Estimated Cost of Construction for Component 1, 2, 3 & 4 *				**$ 313,000**

* Total cost does not include structural engineering assessment recommended as part of Component Two and accessibility alternatives recommended as part of Component Four.

Compusult - Class C Estimate

Project: Historic Structure Report Old Grand Canyon School
Park: Grand Canyon National Park
Package: Historic Structure Report
Item: Component Four, Alternative One: Access Through South Side

Estimate By: HHM
Date: 9/10/2007
Reviewed By: WJW
Date: 9/10/2007

Estimate is based on 2007 Costs

Item No.	Description	Qty.	Unit	Cost/Unit	Net Cost
1	Demo West Ramp	1	EA	$ 2,080.00	$ 2,080
2	New Steps to West Door	1	EA	$ 1,500.00	$ 1,500
3					$ -
	Subtotal Direct Construction Costs				**$ 3,580**
	Park Location Factor -15%				$ (500)
	Remoteness Factor 85 miles				$ 900
	Federal Wage Rate Factor 8%				$ 200
	Design Contingency 25%				$ 1,000
	Total Direct Construction Costs				**$ 5,000**
	Standard General Conditions 15%				$ 800
	Government General Conditions 10%				$ 500
	Historic Preservation Factor 15%				$ 800
	Subtotal Construction Costs				**$ 7,000**
	Profit 10%				$ 700
	Overhead 15%				$ 1,200
	Escalation to September 2008 3.6%				$ 300
	TOTAL Estimated Cost of Construction				**$ 9,000**

Compusult - Class C Estimate

Project: Historic Structure Report Old Grand Canyon School
Park: Grand Canyon National Park
Package: Historic Structure Report
Item: Component Four, Alternative Two: Switch Library and Safety Office

Estimate By: HHM
Date: 9/10/2007
Reviewed By: WJW
Date: 9/10/2007

Estimate is based on 2007 Costs

Item No.	Description	Qty.	Unit	Cost/Unit	Net Cost
1	Reconfigure Partitions for North Offices	1	EA	$ 3,500.00	$ 3,500
2					$ -
	Subtotal Direct Construction Costs				**$ 3,500**
	Park Location Factor -15%				$ (500)
	Remoteness Factor 85 miles				$ 900
	Federal Wage Rate Factor 8%				$ 200
	Design Contingency 25%				$ 1,000
	Total Direct Construction Costs				**$ 5,000**
	Standard General Conditions 15%				$ 800
	Government General Conditions 10%				$ 500
	Historic Preservation Factor 15%				$ 800
	Subtotal Construction Costs				**$ 7,000**
	Profit 10%				$ 700
	Overhead 15%				$ 1,200
	Escalation to September 2008 3.6%				$ 300
	TOTAL Estimated Cost of Construction				**$ 9,000**

Compusult - Class C Estimate

Project: Historic Structure Report Old Grand Canyon School
Park: Grand Canyon National Park
Package: Historic Structure Report
Item: Component Four, Alternative Three: West Elevation Wheelchair Lift

Estimate By: HHM
Date: 9/10/2007
Reviewed By: WJW
Date: 9/10/2007

Estimate is based on 2007 Costs

Item No.	Description	Qty.	Unit	Cost/Unit	Net Cost
1	Demo West Ramp	1	EA	$ 2,080.00	$ 2,080
2	New Steps to West Door	1	EA	$ 1,500.00	$ 1,500
3	New Concrete Walkway	1	EA	$ 2,400	$ 2,400
4	New Exterior Wheelchair Lift	1	EA	$ 25,000	$ 25,000
5					$ -
	Subtotal Direct Construction Costs				**$ 30,980**
	Park Location Factor -15%				$ (4,600)
	Remoteness Factor 85 miles				$ 7,700
	Federal Wage Rate Factor 8%				$ 1,500
	Design Contingency 25%				$ 8,000
	Total Direct Construction Costs				**$ 44,000**
	Standard General Conditions 15%				$ 6,600
	Government General Conditions 10%				$ 4,400
	Historic Preservation Factor 15%				$ 6,600
	Subtotal Construction Costs				**$ 62,000**
	Profit 10%				$ 6,200
	Overhead 15%				$ 10,200
	Escalation to September 2008 3.6%				$ 2,200
	TOTAL Estimated Cost of Construction				**$ 81,000**

Compusult - Class C Estimate

Project: Historic Structure Report Old Grand Canyon School
Park: Grand Canyon National Park
Package: Historic Structure Report
Item: Component Four, Alternative Four: North Elevation Crawlspace Lift

Estimate By: HHM
Date: 9/10/2007
Reviewed By: WJW
Date: 9/10/2007

Estimate is based on 2007 Costs

Item No.	Description	Qty.	Unit	Cost/Unit	Net Cost
1	Demo West Ramp	1	EA	$ 2,080.00	$ 2,080
2	New Steps to West Door	1	EA	$ 1,500.00	$ 1,500
3	New Concrete Walkway	1	EA	$ 4,800	$ 4,800
4	Reconfigure North Skirting & Floor	1	EA	$ 10,000	$ 10,000
5	New Wheelchair Lift	1	EA	$ 25,000	$ 25,000
6					$ -
	Subtotal Direct Construction Costs				**$ 43,380**
	Park Location Factor -15%				$ (6,500)
	Remoteness Factor 85 miles				$ 10,800
	Federal Wage Rate Factor 8%				$ 2,100
	Design Contingency 25%				$ 11,000
	Total Direct Construction Costs				**$ 61,000**
	Standard General Conditions 15%				$ 9,200
	Government General Conditions 10%				$ 6,100
	Historic Preservation Factor 15%				$ 9,200
	Subtotal Construction Costs				**$ 86,000**
	Profit 10%				$ 8,600
	Overhead 15%				$ 14,200
	Escalation to September 2008 3.6%				$ 3,100
	TOTAL Estimated Cost of Construction				**$ 112,000**

Compusult - Class C Estimate

Project: Historic Structure Report Old Grand Canyon School
Park: Grand Canyon National Park
Package: Historic Structure Report
Item: Component Four, Alternative Five: Expand Constructed Walkway into Patio

Estimate By: HHM
Date: 9/10/2007
Reviewed By: WJW
Date: 9/10/2007

Estimate is based on 2007 Costs

Item No.	Description	Qty.	Unit	Cost/Unit	Net Cost
1	Demo West Ramp Landing	1	EA	$ 500.00	$ 500
2	New Patio	760	SF	$ 25.00	$ 19,000
3					$ -
	Subtotal Direct Construction Costs				**$ 19,500**
	Park Location Factor -15%				$ (2,900)
	Remoteness Factor 85 miles				$ 4,900
	Federal Wage Rate Factor 8%				$ 900
	Design Contingency 25%				$ 5,000
	Total Direct Construction Costs				**$ 27,000**
	Standard General Conditions 15%				$ 4,100
	Government General Conditions 10%				$ 2,700
	Historic Preservation Factor 15%				$ 4,100
	Subtotal Construction Costs				**$ 38,000**
	Profit 10%				$ 3,800
	Overhead 15%				$ 6,300
	Escalation to September 2008 3.6%				$ 1,400
	TOTAL Estimated Cost of Construction				**$ 50,000**

Compusult - Class C Estimate

Project: Historic Structure Report Old Grand Canyon School
Park: Grand Canyon National Park
Package: Historic Structure Report
Item: Component Four, Alternative Six: Expand Library into South Side of Building

Estimate By: HHM
Date: 9/10/2007
Reviewed By: WJW
Date: 9/10/2007

Estimate is based on 2007 Costs

Item No.	Description	Qty.	Unit	Cost/Unit	Net Cost
1	Demo West Ramp	1	EA	$ 2,080.00	$ 2,080
2	New Steps to West Door	1	EA	$ 1,500.00	$ 1,500
3	Remodel Partitions Between South and North Sides.	1	EA	$ 4,500.00	$ 4,500
4					$ -
	Subtotal Direct Construction Costs				**$ 8,080**
	Park Location Factor -15%				$ (1,200)
	Remoteness Factor 85 miles				$ 2,000
	Federal Wage Rate Factor 8%				$ 400
	Design Contingency 25%				$ 2,000
	Total Direct Construction Costs				**$ 11,000**
	Standard General Conditions 15%				$ 1,700
	Government General Conditions 10%				$ 1,100
	Historic Preservation Factor 15%				$ 1,700
	Subtotal Construction Costs				**$ 16,000**
	Profit 10%				$ 1,600
	Overhead 15%				$ 2,600
	Escalation to September 2008 3.6%				$ 600
	TOTAL Estimated Cost of Construction				**$ 21,000**

APPENDIX D

THE SECRETARY OF THE INTERIOR'S STANDARDS FOR PRESERVATION

(copied from the National Park Service website:
http://www.cr.nps.gov/hps/tps/standguide/preserve/preserve_standards.htm)

Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment; however, the limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project.

1. A property will be used as it was historically, or be given a new use that maximizes the retention of distinctive materials, features, spaces, and spatial relationships. Where a treatment and use have not been identified, a property will be protected and, if necessary, stabilized until additional work may be undertaken.

2. The historic character of a property will be retained and preserved. The replacement of intact or repairable historic materials or alteration of features, spaces, and spatial relationships that characterize a property will be avoided.

3. Each property will be recognized as a physical record of its time, place, and use. Work needed to stabilize, consolidate, and conserve existing historic materials and features will be physically and visually compatible, identifiable upon close inspection, and properly documented for future research.

4. Changes to a property that have acquired historic significance in their own right will be retained and preserved.

5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.

6. The existing condition of historic features will be evaluated to determine the appropriate level of intervention needed. Where the severity of deterioration requires repair or limited replacement of a distinctive feature, the new material will match the old in composition, design, color, and texture.

7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.

8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures will be undertaken.

APPENDIX E
GUIDELINES FOR PRESERVING HISTORIC BUILDINGS

(copied from the National Park Service, website:
http://www.cr.nps.gov/hps/tps/standguide/preserve/preserve_approach.htm)

Choosing Preservation as a Treatment

In Preservation, the options for replacement are less extensive than in the treatment, Rehabilitation. This is because it is assumed at the outset that building materials and character-defining features are essentially intact, i.e, that more historic fabric has survived, unchanged over time. The expressed goal of the **Standards for Preservation and Guidelines for Preserving Historic Buildings** is retention of the building's existing form, features and detailing. This may be as simple as basic maintenance of existing materials and features or may involve preparing a historic structure report, undertaking laboratory testing such as paint and mortar analysis, and hiring conservators to perform sensitive work such as reconstituting interior finishes. Protection, maintenance, and repair are emphasized while replacement is minimized.

Identify, Retain, and Preserve Historic Materials and Features

The guidance for the treatment **Preservation** begins with recommendations to identify the form and detailing of those architectural materials and features that are important in defining the building's historic character and which must be retained in order to preserve that character. Therefore, guidance on ***identifying, retaining, and preserving*** character-defining features is always given first. The character of a historic building may be defined by the form and detailing of exterior materials, such as masonry, wood, and metal; exterior features, such as roofs, porches, and windows; interior materials, such as plaster and paint; and interior features, such as moldings and stairways, room configuration and spatial relationships, as well as structural and mechanical systems; and the building's site and setting.

Stabilize Deteriorated Historic Materials and Features as a Preliminary Measure

Deteriorated portions of a historic building may need to be protected thorough preliminary stabilization measures until additional work can be undertaken. ***Stabilizing*** may include structural reinforcement, weatherization, or correcting unsafe conditions. Temporary stabilization should always be carried out in such a manner that it detracts as little as possible from the historic building's appearance. Although it may not be necessary in every preservation project, stabilization is nonetheless an integral part of the treatment Preservation; it is equally applicable, if circumstances warrant, for the other treatments.

Protect and Maintain Historic Materials and Features

After identifying those materials and features that are important and must be retained in the process of **Preservation** work, then ***protecting and maintaining*** them are addressed. Protection generally involves the least degree of

intervention and is preparatory to other work. For example, protection includes the maintenance of historic materials through treatments such as rust removal, caulking, limited paint removal, and re-application of protective coatings; the cyclical cleaning of roof gutter systems; or installation of fencing, alarm systems and other temporary protective measures. Although a historic building will usually require more extensive work, an overall evaluation of its physical condition should always begin at this level.

Repair (Stabilize, Consolidate, and Conserve) Historic Materials and Features

Next, when the physical condition of character-defining materials and features requires additional work, ***repairing*** by ***stabilizing, consolidating, and conserving*** is recommended. **Preservation** strives to retain existing materials and features while employing as little new material as possible. Consequently, guidance for repairing a historic material, such as masonry, again begins with the least degree of intervention possible such as strengthening fragile materials through consolidation, when appropriate, and repointing with mortar of an appropriate strength. Repairing masonry as well as wood and architectural metal features may also include patching, splicing, or otherwise reinforcing them using recognized preservation methods. Similarly, within the treatment **Preservation**, portions of a historic structural system could be reinforced using contemporary materials such as steel rods. All work should be physically and visually compatible, identifiable upon close inspection and documented for future research.

Limited Replacement In Kind of Extensively Deteriorated Portions of Historic Features

If repair by stabilization, consolidation, and conservation proves inadequate, the next level of intervention involves the ***limited replacement in kind*** of extensively deteriorated or missing parts of features when there are surviving prototypes (for example, brackets, dentils, steps, plaster, or portions of slate or tile roofing). The replacement material needs to match the old both physically and visually, i.e., wood with wood, etc. Thus, with the exception of hidden structural reinforcement and new mechanical system components, substitute materials are not appropriate in the treatment **Preservation**. Again, it is important that all new material be identified and properly documented for future research. If prominent features are missing, such as an interior staircase, exterior cornice, or a roof dormer, then a Rehabilitation or Restoration treatment may be more appropriate.

Energy Efficiency/Accessibility Considerations/Health and Safety Code Considerations

These sections of the **Preservation** guidance address work done to meet accessibility requirements and health and safety code requirements; or limited retrofitting measures to improve energy efficiency. Although this work is quite often an important aspect of preservation projects, it is usually not part of the overall process of protecting, stabilizing, conserving, or repairing character-defining features; rather, such work is assessed for its potential negative impact on the building's historic character. For this reason, particular care must be taken not to obscure, damage, or destroy character-defining materials or features in the process of undertaking work to meet code and energy requirements.