

Grand Canyon Railroad Depot

Historic Structure Report

STATION TO BE BUILT AT GRAND CANYON, ARIZ.
FOR THE GRAND CANYON RAILROAD COMPANY.
FRANCIS W. WILSON. ARCHITECT
6 SHEETS - SHEET NO. 1 SCALE 1/2 INCH TO ONE FOOT
APPROVED H. S. Phillips DRAWING NO. 80-8303.
CHIEF ENGINEER. SHEET 1 OF 6.



GRAND CANYON

National Park • Arizona

November 15 2008

RECOMMENDED

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Date

APPROVED:

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Cover: Grand Canyon Railroad Depot, 1909 Construction Documents for "Station to be Built at Grand Canyon, AZ". South Elevation.

Grand Canyon Railroad Depot

Historic Structure Report

prepared for the
National Park Service

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GRAND CANYON

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0.2 FRONT MATTER	
0.2.1 COVER PAGE	i
0.2.2 TABLE OF CONTENTS	v
0.2.3 EXECUTIVE SUMMARY	viii
0.2.3.1 RESEARCH TO PREPARE THE HSR.....	viii
0.2.3.2 MAJOR RESEARCH FINDINGS	viii
0.2.3.3 MAJOR ISSUES FROM TASK ORDER	ix
0.2.3.4 RECOMMENDATIONS FOR TREATMENT AND USE	ix
0.2.4 ADMINISTRATIVE DATA.....	xi
0.2.4.1 NAMES, NUMBERS, AND LOCATION DATA	xi
0.2.4.2 LIST OF PROPERTIES ADDRESSED IN THIS HSR	xi
0.2.4.3 PURPOSE OF PROJECT AND PROPOSED TREATMENT	xiii
0.2.4.4 RELATED STUDIES	xiii
0.2.4.5 CULTURAL RESOURCE DATA.....	xiii
0.2.4.6 MATERIALS DISPOSITION RECOMMENDATION	xv
0.2.4.7 PROJECT AREA MAP.....	xvi
1.0 DEVELOPMENTAL HISTORY	1
1.1 HISTORICAL BACKGROUND AND CONTEXT.....	1
1.1.1 STATEMENT OF SIGNIFICANCE	34
1.1.2 PERIOD OF SIGNIFICANCE.....	36
1.2 CHRONOLOGY OF DEVELOPMENT AND USE	37
1.3 PHYSICAL DESCRIPTION	43
1.4 CHARACTER DEFINING FEATURES.....	52
1.5.1 CIVIL CONDITION ASSESSMENT.....	74
1.5.1.1 ASSESS MOTOR VEHICLE AND PEDESTRIAN ACCESS	74
1.5.2 SITE CONDITION ASSESSMENT	74
1.5.3 ARCHITECTURAL CONDITION ASSESSMENT	77
1.5.3.1 EXTERIOR	77
1.5.3.2 INTERIOR	86
1.5.4 STRUCTURAL CONDITION ASSESSMENT	116
1.5.4.1 GENERAL STRUCTURAL INFORMATION	116
1.5.4.2 STRUCTURAL RESULTS	117
1.5.5 MECHANICAL CONDITION ASSESSMENT.....	121
1.5.5.1.1 HISTORIC ASSESSMENT OF PLUMBING SYSTEMS	121
1.5.5.1.2 HISTORIC ASSESSMENT OF HVAC SYSTEMS.....	121
1.5.5.2.1 ASSESSMENT OF EXISTING PLUMBING SYSTEMS	122
1.5.5.2.2 ASSESSMENT OF EXISTING HVAC SYSTEMS.....	124
1.5.5.2.3 ASSESSMENT OF EXISTING FIRE SUPPRESSION SYSTEMS	124
1.5.6 ELECTRICAL CONDITION ASSESSMENT	126
1.5.6.1.1 GENERAL ELECTRICAL INFORMATION	126
1.5.6.1.2 CURRENT BUILDING ELECTRICAL CONDITIONS	126
1.5.6.2.1 ELECTRICAL ELEMENTS.....	127
1.5.6.2.2 ELECTRICAL SYSTEM CONDITIONS SUMMARY.....	128

2.0 TREATMENT AND USE.....	131
2.1.1 ULTIMATE TREATMENT AND USE	131
2.1.2 CIVIL AND SITE RECOMMENDATIONS.....	131
2.1.3 ARCHITECTURE.....	133
2.1.3.1 ARCHITECTURAL RECOMMENDATIONS	133
2.1.3.2 RECOMMENDATIONS FOR FURTHER INVESTIGATION	135
2.1.4 STRUCTURAL CONCLUSIONS AND RECOMMENDATIONS	135
2.1.5 MECHANICAL SYSTEM RECOMMENDATIONS	136
2.1.5.1 RECOMMENDED TREATMENTS FOR EXISTING PLUMBING SYSTEMS	136
2.1.5.2 RECOMMENDED TREATMENTS FOR EXISTING HVAC SYSTEMS.....	138
2.1.5.3 RECOMMENDED TREATMENTS FOR EXISTING FIRE SUPPRESSION SYSTEMS	138
2.1.6 ELECTRICAL SYSTEM RECOMMENDATIONS	138
2.1.7 SAFETY	139
2.1.7.1 FIRE SAFETY PLAN.....	139
2.2 REQUIREMENTS FOR TREATMENT	143
2.3 ALTERNATIVES FOR TREATMENT AND USE.....	148
2.4 ASSESSMENT OF EFFECT FOR RECOMMENDED TREATMENTS	151
3.0 RECORD OF TREATMENT (Place Holder)	153
4.0 APPENDIXES.....	155
4.1 BIBLIOGRAPHY	155
4.1.1 STATION AGENTS AT GRAND CANYON, ARIZONA	168
4.2 PHOTOGRAPHS	
4.2.1 HISTORIC PHOTOGRAPHS.....	169
4.2.2 2007 CONDITION EXTERIOR PHOTOGRAPHS	249
4.2.3 2007 CONDITION INTERIOR PHOTOGRAPHS	315
4.2.4 2007 CONDITION MECHANICAL PHOTOGRAPHS	385
4.2.5 2007 CONDITION ELECTRICAL PHOTOGRAPHS	395
4.3 DRAWINGS, SPECIFICATIONS AND SCHEDULES	
4.3.1 1903 PROPOSED PASSENGER DEPOT DRAWING.....	401
4.3.2 1907 PROPOSED DEPOT DRAWINGS	403
4.3.3 1909 CONSTRUCTION DRAWINGS.....	408
4.3.4 1909 CONSTRUCTION SPECIFICATIONS	422
4.3.5 1919/1949 REVISED PLANS	458
4.3.6 1925 SKETCH OF WOMEN’S RESTROOM.....	465
4.3.7 1929 DESIGN DRAWINGS FOR IRON FENCE, GATE AND COLLAPSIBLE GATE (NOT AS CONSTRUCTED)	469
4.3.8 1939/1955 TELETYPE INSTALLATION DRAWING.....	471
4.3.9 1965 MASTERPLAN	473
4.3.10 1983 PLANS BASED ON 1919 DRAWINGS	475
4.3.11 1984 BORJES HSR DRAWINGS	478
4.3.12 1986 ROOF REPAIR DRAWING.....	481

4.3.13 CIRCA 1990 DEPOT REHABILITATION DRAWINGS	483
4.3.14 1996/2002 DEPOT VICINITY MAPS	489
4.3.15 2004 SPANDREL LOG REPLACEMENT SKETCH.....	494
4.3.16 2004 FIRE PROTECTION DRAWINGS	496
4.3.17 2007 CONDITION DRAWINGS	500
4.3.18 2007 WINDOW AND DOOR CONDITION SCHEDULE	505
 4.4 HISTORIC DOCUMENTS	
4.4.1 1974 NATIONAL REGISTER OF HISTORIC PLACES NOMINATION FORM.	511
4.4.2 1987 NATIONAL LANDMARK NOMINATION FORM	519
4.4.3 2000 NATIONAL REGISTER OF HISTORIC PLACES NOMINATION FORM FOR GRAND CANYON RAILWAY	557
4.4.4 LETTER FROM CHAPPELL REGARDING SIGNAGE AT THE DEPOT.....	579
4.4.5 LCS FORMS	599
4.4.6 1987-1989 MAINTENANCE LOGS	635
 4.5 DRAINAGE REPORT	681

0.2.3 EXECUTIVE SUMMARY

This Historic Structure Report on the Grand Canyon Depot is intended to edit, augment, and revise existing documents as well as provide additional information. The report will provide a thorough description of the background, physical development, and significance of the structure and its environs in order to assist in scheduling and affecting the most appropriate use of this historic building. Two periods of significance are proposed. The main period of significance for the Depot and its surrounding site is 1927-1934. This period corresponds to the major fulfillment of the Village plan with its community attributes and significant landscape features. To restore the site to the period prior to 1927 would require the removal of significant historic fabric. The second period of significance from 1929 to 1968 is recommended for the Depot building alone. This period represents the period when the full extent of the structure was completed and remained functionally intact during the period of uninterrupted passenger service. Rehabilitation should be based upon these dates.

0.2.3.1 RESEARCH TO PREPARE THE HSR

Research completed to produce this HSR involved accessing numerous resources, which included: archival research, review of written materials, and on-site investigations.

Archival research was undertaken at the Grand Canyon Museum Collection to find both written documents and historic photographs. Recent maintenance records for the Depot were also reviewed as were archives at the Technical Information Center (TIC), Denver Service Center, National Park Service in Denver, Colorado.

The review of written materials included government documents, including previous General Master Plans, pertaining to the history and architectural data for the Depot; internet sites providing information on the recent history of the Depot and rail service to the Grand Canyon; additional historic images; and miscellaneous newspapers, magazines, aerial photographs and maps.

Team members, including the historical architects, and structural, mechanical, electrical and civil engineers, completed on-site investigations in October 2007. The purpose of this visit was to gather information on the building's existing condition, to record dimensions, to take photographs, and to research historical information. This extensive field visit took place from October 2 through October 5, 2007. Further on-site research was undertaken on May 1 and 2, 2008

0.2.3.2 MAJOR RESEARCH FINDINGS

The Grand Canyon Depot is a major arrival point for thousands of visitors each year. Historically it was one of the "front doors" to the park, and has served since its completion in 1909 not only as an arrival and departure point, but as a gathering place. The Depot building was listed as a National Historic Landmark (NHL) in 1987. The Depot and grounds were temporarily abandoned between 1968 and 1989, during which the building and yard fell into

disrepair. In the early 90's the park used the second floor as offices for engineering and resource staff. Minor rehabilitation/preservation treatments have been done to the building and platform in recent years, but the building continues to be threatened by effects of weather and structural failure. The railroad yard and associated features in the environs of the Depot are listed contributing features in the National Historic Landmark District and thus are a necessary element of this project.

0.2.3.3 MAJOR ISSUES FROM TASK ORDER

This project will rehabilitate the Grand Canyon Depot, a National Historic Landmark which is seriously threatened by physical deterioration. Designed by Francis Wilson and constructed in 1909-10, this is the only remaining structural log railroad depot in the country. Built for the Atchison, Topeka and Santa Fe Railroad, it helped establish the rustic sense of place for the Grand Canyon by being the first building the railway passengers encountered upon arriving. The Depot is symbolic of the "destination resort" that the railroad developed Grand Canyon into and it is one of only a handful of rustic depots constructed. This building was listed as an individual NHL under Criterion 4 for architecture on May 28, 1987. Completion of a Historic Structures Report (originally drafted in 1984), preparation of a condition assessment report and recommendations for preservation treatment will preface the rehabilitation and will be the basis for it. The initial draft HSR, which is 21 years old, will be updated, and facility conditions assessments will be revised to reflect current conditions. This resulting HSR is a critically necessary and valuable tool for future planning, management and maintenance. The Depot, one of the major entry points for visitors to Grand Canyon, was completed in 1909 and still serves as the only railway terminus for the park. The 2005 PMIS project statement states that the project will be focused on the Depot itself and surrounding railroad yard (also listed on the National Register), an area encompassing approximately 7 acres. The PMIS also included the demolition of a small, non-historic utility building (#548). Demolition of Building 548 was completed in the summer of 2003. Interpretation of the history of the railroad at Grand Canyon and other National Parks could be incorporated as part of the preservation treatment of the facility. All work will be accomplished through contract.

0.2.3.4 RECOMMENDATIONS FOR TREATMENT AND USE

The ultimate treatment for the Grand Canyon Depot as set forth in the List of Classified Structures (LCS) is rehabilitation. The management category is "must be preserved and maintained." The goal is to rehabilitate the Depot to the period of significance of the historic fabric of the building and site while bringing the building up to modern codes, making necessary structural repairs and providing more modern and efficient HVAC, plumbing and lighting. The proposed building treatments include repair and replacement of deteriorated, damaged, or missing building materials and components. The first floor should continue to be used as support space for railroad operations. The recommended use for the upper floor is general office. The building was evaluated for human safety, fire protection, energy conservation, abatement of hazardous materials and accessibility for the disabled. Recommended treatments are included for conservation of historic fabric and for removal of intrusions that erode the historic integrity. All recommendations are based on the assumption that the building is a structure listed on the National Register of Historic Places and, therefore,

should follow the dictates of Section 106 of the National Historic Preservation Act and the Secretary of the Interiors' Standards for the Treatment of Historic Properties.

There are three salient design requirements that will need to be evaluated and studied because of their potential impact on this historic structure and site. They are: a) Alterations to the cultural landscape on the immediate north side of the structure to accommodate site drainage improvements and foundation stabilization. This could result in realignment of the stone retaining wall, regarding the site beyond, and elimination of the divided vehicular drive. b) Modification of the site and building entries to meet ABAAS, due to two conditions: bus and passenger drop-off locations that could mean addition of non-historic circulation, ramps and walks, illumination, sign, etc., and; exterior access to the Men's Toilet. c) Correction to interior furnishings, millwork, and details to accommodate accessible circulation and communications.

The recommendations of the Grand Canyon General Management Plan and the Grand Canyon Village National Historical Landmark District Cultural Landscape Report should be followed in any proposed treatment of the Depot and its surrounding area. The relevant recommendations from the Cultural Landscape Report include retaining all contributing character-defining spaces, retaining all contributing vegetation, and retaining and maintaining all contributing circulation features, including the railroad tracks and asphalt parking near the Depot.

0.2.4 ADMINISTRATIVE DATA

0.2.4.1 NAMES, NUMBERS, AND LOCATION DATA

The Grand Canyon Depot is located at the South Rim of the Grand Canyon National Park just to the south of the El Tovar Hotel and at the terminus of the Grand Canyon Railway lines. The numbers assigned to this building are NR #549, LCSID 055483 and CB108. In the National Register the building is called the “Grand Canyon Railroad Station.” Other names listed in the LCS for this structure include “Railroad Depot” and “Village Loop Santa Fe Depot.”

0.2.4.2 LIST OF PROPERTIES ADDRESSED IN THIS HSR

Grand Canyon Depot (bldg #549, LCSID 055483)

Designed by Francis Wilson and constructed in 1909-10, this is the only remaining structural log railroad depot in the country. Built for the Atchison, Topeka and Santa Fe Railroad, it helped establish the rustic sense of place for the Grand Canyon by being the first building the railway passengers encountered upon arriving. Symbolic of the "destination resort" that the railroad developed Grand Canyon into, it is one of the handful of rustic depots constructed. This building was listed as an individual NHL under Criterion 4 for architecture on May 28, 1987.

Grand Canyon Depot Metal Fence and Gate (national register contributing structure number L-26, LCSID 055911)

Part of Grand Canyon Depot NHL. The original fence and gate tie into Depot. 5' iron picket fence extends approximately 150' in U-shape around parking lot west of the Depot. Physical Description: Vertical rails 6" o.c. Pickets cut off above upper rail (1940s). 16' wide gate hinged on 8" iron post 8' high with sphere at top. Top rail & pickets arch upward to post.

Grand Canyon Depot Stone Retaining Wall & Stair (national register contributing structure number L-31, LCSID 055912)

Part of 1930s West Rim Drive (Village Loop Drive) realignment. It defines the eastern edge of the railroad station land grant. Constructed at the end of the tracks to replace an earlier wall. Built following 1924 Plan. Physical Description: Curved limestone retaining wall approx 6' high with 2' parapet walls and 300' long. Random ashlar masonry. Triple culvert and offset at South end. Vault at North end. 8' wide stair with wing walls at center.

**Grand Canyon Depot Power Pole & Sign Brackets (pole and sign no longer extant)
(national register contributing structure number L-28, LCSID 055931)**

Power pole originally supported power and telephone lines to Grand Canyon Depot as well as a sign for the Western Union Telegraph System. The pole was removed in 1999 by Planned Management Action. The Power Pole was located adjacent to, but not included in, the Grand Canyon Depot NHL. Physical Description: 25' high utility pole with metal numerals "2/12" located at southeast corner of Depot parking lot. Pole supports phone line at top and metal bracket 8' above ground. Bracket is two slender, bent, iron rods 25" long with spiral at the end.

Grand Canyon Depot Stone Curb (national register contributing structure number L-27, LCSID 057178)

This stone curb defines the boundary of the original parking lot to the West of Grand Canyon Depot, and is flanked by the original iron picket fence. This stone curb is located adjacent to, but not included in Grand Canyon Depot NHL. Physical Description: Limestone curb 6"-18" high extending approx 100' in U-shape around East, South, and West edges of the Depot's parking lot. A rough concrete trough was constructed at a later date parallel to and on the parking lot side of the east curb to improve drainage.

Grand Canyon Depot Rubble Wall (reconstructed) (national register contributing structure number L-29, LCSID 057179)

Dry rubble wall defines the Northeast edge of the railroad right-of-way between a warehouse (removed) and stone retaining wall constructed in 1930 at East end of rail yard. Rubble wall was reconstructed in accordance with Secretary of Interior standards in 2005. The rubble wall is located adjacent to, but not included in, the NHL nomination for Grand Canyon Depot. Physical Description: L-shaped dry-laid rubble retaining wall, 2'-3' high and extending approx 60'. Numerous stones have fallen out. Traces of second stone wall extend west toward Depot in former location of warehouse.

Grand Canyon Railroad Yard Tracks and Grades (national register contributing structure number L-30)

The first tracks reached the Grand Canyon in 1901. Tracks were added, modified and removed multiple times. The last major modification being in 1972, several years after service was discontinued, when many of the original rails were removed or abandoned in place. In 1989 the yard was cleaned up and the tracks rehabilitated in preparation for the restoration of rail service to the Grand Canyon.

Grand Canyon Railroad Yard Platforms (national register contributing structure number L-33)

The railroad yard platform has been modified several times since the construction of the Depot in 1910. Originally constructed of wood planks these were removed in 1927 and replaced with a 4-inch concrete platform in front of the Depot and three separate long narrow concrete platforms placed between three pairs of tracks. Wood planks crossed between the concrete platforms. Sometime later, possibly in the summer of 1954, a thin layer of black asphalt was applied over the surface of the concrete. In 2002 the asphalt and concrete was removed and replaced with a new 4-inch concrete platform in front of the Depot, concrete walkways between the tracks and wood plank connecting platforms.

0.2.4.3 PURPOSE OF PROJECT AND PROPOSED TREATMENT

The purpose of this project is to provide the National Park Service (NPS) with guidelines for detailing an overall rehabilitation as defined by the Secretary of the Interior's Standards, with restoration of critical character defining features and spaces, and to provide guidelines for any future improvements or upgrades.

0.2.4.4 RELATED STUDIES

Several related studies provided information that assisted in the preparation of the history of the Grand Canyon Depot. These studies included: "The Railway at Grand Canyon: A History of the Grand Canyon Depot and Yard Structures", San Francisco National Park Service, 1984, Gordon Chappell, National Park Service Regional Historian; and "Architectural Data Section, Grand Canyon Railway Depot", National Park Service, 1980s, Richard A. Borjes, National Park Service. The bibliography incorporated into this report was drawn primarily from Gordon Chappell's "The Railway at Grand Canyon: A History of the Grand Canyon Depot and Yard Structures".

Other resources included the Grand Canyon Draft General Management Plan Environmental Impact Statement and Grand Canyon Village National Historical Landmark District Cultural Landscape Report.

0.2.4.5 CULTURAL RESOURCE DATA

Grand Canyon Depot was listed on the National Register as an individual building in 1974 and then as part of the National Register District in November 20, 1975. It was listed as an individual National Historic Landmark under Criterion 4 for architecture on May 28, 1987 and as a contributing building to the National Historic Landmark District in 1997. It was also included in the 2000 National Register Nomination for the Grand Canyon Railway, prepared by Al Richmond, that included the Depot and all related features within the Grand Canyon National Park. The 1974 National Register Nomination, the 1987 National Historic Landmark Nomination, and the 2000 National Register Nomination for the Grand Canyon Railway are included in the appendix.

The buildings of the Grand Canyon Village NHL district are the largest and most diverse assemblage of park architecture in the national park system. The buildings of the historic district represent an entire range of park architecture. Together there are 247 buildings in the historic district. Along the rim of the canyon, the older resort architecture is typically more elaborate and eclectic than the official structures commissioned by the Park Service. In the civic zone of the village, the public architecture uses massive Kaibab sandstone veneers over concrete foundations and piers, as well as dark log or wood siding on upper stories to create a powerful and controlled imagery, now known as Park Service Rustic. This consistent idiom connected all the official buildings in the parks, together projecting a strong sense of official responsibility and appropriate sensibility. In the residential subdivision of the village, an architectural distinction was made between the concessionaire residences and the Park Service residences. The simpler bungalows on the Park Service side were designed with front doors accessing semi-public pedestrian paths. The largest residences on the concessionaire side presented more decorative elevations with stone foundations, fronting the street side of each lot.

The Grand Canyon Village NHL District meets National Historic Landmark Criterion 1 for its association with the American park movement and Criterion 4 as an exceptionally valuable example of American landscape architecture, specifically as the most significant example with the greatest integrity of National Park Service town planning. Similarly, Grand Canyon Village NHL District is significant under National Register Criterion A for its association with the American park movement and Criterion C as an example of American landscape architecture, specifically as a unique and outstanding example of community planning and development.

Grand Canyon Village Historic District was first listed on the National Register on 11/20/1975 (expanded 10/24/1995), significant under Criterion A for its important association with the development of Grand Canyon National Park, under Criterion C as an example of community planning within a national park, and as a comprehensive illustration of National Park Service rustic architecture.

Daniel Hull finalized the major features of the plan for the south rim of the Grand Canyon in 1924, and today, Grand Canyon Village represents the most historically significant park village plan, with the greatest degree of integrity, ever designed by the Park Service. The town plan for Grand Canyon divided the village into discrete residential, commercial, and civic areas; a consistent architectural idiom (Park Service Rustic) was employed throughout; a hierarchy of street sections, from pedestrian paths to through roads, was developed; a central "plaza" had the village's major public buildings sited around it. The plan for Grand Canyon Village expounded the civic ideals of a certain generation of American planners and helped put National Park Service planning on the course it would follow at least until World War II.

The landscape features of the district - curbs, walls, furniture, etc. - all made use of "native" materials, especially Kaibab limestone. The strong sense of architectural unity in the district is largely due to the consistent use of construction details outside of the buildings themselves

that extend the look and inspiration of the architecture. The CCC built many of the most significant landscape structures in the village during the 1930s.

0.2.4.6 MATERIALS DISPOSITION RECOMMENDATION

It is recommended that all materials related to the Grand Canyon Depot HSR be cataloged and stored in the archives of the National Park Service Technical Information Center in Denver, Colorado with copies stored at the Grand Canyon National Park.

0.2.4.7 PROJECT AREA MAP

Hermits Rest
NHL

North Rim
Grand Canyon Lodge
NHL

Grand Canyon Railway Depot

Desert View
Watchtower
NHL

Yavapai Obs
Station

Grand Canyon
National Park

Showing NHL Bldgs and
Listed properties in
Grand Canyon Village
NHL

3June03 rap

NHL Buildings

Buildings on NR

Contributing Buildings

Non-Contributing Buildings

NHL District Boundary

1.0 DEVELOPMENTAL HISTORY

1.1 HISTORICAL BACKGROUND AND CONTEXT¹

Designing and Building a Depot at Grand Canyon

The first depot at Grand Canyon, built in 1901, [photograph H-1] was the small, frame, gable-roofed building with a board-and-batten exterior which stood southwest of the Bright Angel Hotel and a little west of the axis of the tail of the wye, on the north side of the tracks.

As early as 1903, an employee of the Atchison, Topeka & Santa Fe Railway had drawn, in the Coast Lines Engineering Department in Los Angeles, a single-sheet plan and bill of materials [See Appendix Drawing No 80-4054 Proposed Passenger Depot] for a beautiful little rustic four-room depot with a vitrified brick station platform for the Grand Canyon Railway at Grand Canyon. The plan called for a building that was a gem of rustic design and the plan itself was a jewel of the draughtsman's art. The little building was to be 47 feet, 2 inches long by 18 feet wide, plus a bay window extension on the track side to house the telegraph operator's desk. It had a shallow-pitched gable roof with the ridge running the length of the building, and a secondary gable at right angles covering the operator's bay. The exterior was finished in three bands or belts; at the bottom, a belt three and a half feet high of nine inch wide log slabs nailed to the frame, with the rounded surface outward to appear as vertical or picket log construction; above that, a six foot belt of the same sort of nine inch wide slabs applied horizontally; above that, extending to the roof below the eaves a belt of clear but rough-finished one-by-nine inch planks applied vertically with the bottom of each sawn to a decorative pattern. The ridgepole and purlins, which extended beyond the edge of the roof, and the rafters, all were peeled logs. The roof was to be finished in either redwood or cedar shakes, "same as on Hotel," meaning the hotel designed by Charles Whittlesey proposed for construction on the hill to the north. Above the roof line, the chimney which provided flues for depot stoves was faced in native limestone. The windows in the operator's bay, on the north side of the ticket office, and on the north and west sides of the waiting room were standard double-hung sash, but while the lower half was a single 32-inch square pane, the upper halves, and all the other smaller depot windows, were made up of six-by-six inch panes applied diagonally to form a diamond pattern. The depot floors were to be one-by-four inch Oregon² tongue and groove. The ticket office and waiting room walls had a vertical three foot high wainscot of the same material, above which the same one-by-four tongue and groove lumber was applied horizontally. The baggage room had a floor of Santa Fe vitrified brick, the room was not ceiled, and its walls were sheathed on the interior only to a height of six feet.

¹ The following historical background has for the most part been taken verbatim from Gordon Chappell's 1984 Historic Structure Report The Railway at Grand Canyon: A History of the Grand Canyon Depot and Yard Structures.

² Presumably Douglas-Fir.

The proposed little depot building was a beautiful match to the design to the new hotel which would become El Tovar, but alas, quickly was proved by increasing traffic to be far too small for the purpose. It never was built, and while railway management wrestled with the question of what sort of depot to build, when the tracks of the new passenger yard below El Tovar were laid about 1904, the little 1901 depot was moved to a site south-southeast of El Tovar as a temporary measure.

Another depot may have been proposed in Drawing No. 80-6058 dated September 30, 1905, but that plan has not been located, so the character of whatever that plan proposed remains unknown.

The next Grand Canyon Railway depot proposal similarly was prepared in the A.T. & S.F. Coast Lines offices in Los Angeles, this one in September 1907. The plans, numbered 83-7770 [see Appendix], consisted of four sheets, and the floor plan of the building, although not the design, was essentially the building that eventually was built. This was a two-story depot with a six room apartment for the station agent and his family upstairs, and a ground floor divided west to east into: a waiting room, an office, a baggage room, and a freight room. All occupying the bulk of the space and abutting the south side, with women's and men's lavatories separated by a stairwell and closet along the north side.

In terms of the floor plan, this proposed depot differed from the one which eventually would be built on the ground floor only in some of the measurements, the most important being that the "open shed" west of the Waiting Room was only about half the size of the shelter that actually would be built, and upstairs the 1907 plan differed only in placement of pantry and closets.

However similar the floor plans, in terms of design there was a world of difference between this proposed building and the one actually built. Its anonymous architect had completely abandoned the rustic style of the 1903 proposal and of El Tovar on the hill to the north, for the exterior of this proposed depot was to be strictly functional. The exterior walls were to be finished with eight inch wide "two lap" redwood siding applied horizontally uniformly over the building. It was to have hip roofs rather than the gable roofs of the 1903 proposal (and of the depot eventually erected), ironically the one feature that more closely matched El Tovar than the roofs of the other proposed depots. But the architecture of this building incorporated virtually no elements of "rustic" style and practically no decorative features of any kind. It was basically a common small town depot. Nevertheless, these 1907 plans are important because they established the basic floor plan and dimensions for the Grand Canyon depot which were adopted, and provided a structure that met the basic space needs of the railway Operating Department, which previous plans had not.

The fact that this depot was not built--and by the time it was designed, more than two years after the opening of El Tovar, a new depot obviously was badly needed--suggests that railway management was not happy with this proposal in terms of the exterior design, while the similarity of the floor plan of this proposal and the one actually built, coupled with other factors, suggests that management accepted the basic plan but wanted a passenger depot which matched in style the rustic hotel which stood on the hill just north of the depot site. Selection of the style for the exterior of the Grand Canyon depot apparently was a

management decision, probably of Santa Fe System President E. P. Ripley himself, in view of his continuing interest in development at Grand Canyon, not a decision made by an architect. The inference is that, probably in 1909, the Coast Lines Chief Engineer handed the four sheets of the 1907 depot plan to Architect Francis Wilson with instructions to modify the proposal into a “rustic” design which would harmonize with the “Swiss chalet/Norwegian villa” architecture of El Tovar and, incidentally, with the environment of limestone rock outcroppings and pine and pinyon forests of the South Rim.

At this time the Atchison, Topeka & Santa Fe Railway employed Francis William Wilson in its Coast Lines General Offices, specifically in Room 1106 in the Kerckhoff Building at 560 South Main Street in Los Angeles. It seems probable that the decision to assign this particular architect to the Grand Canyon Depot project, as well as the railway’s original decision to obtain his services, also were made by the president of the railway.

Thirty-four years of age in 1904, Francis William Wilson was already an established architect in Santa Barbara, and about to enter one of the most productive phases of his career. Born in Woburn, Massachusetts, on February 25, 1870, he came to California as a very young man, and, self-taught in architecture, traveled in Europe, probably in Italy, France and Spain. He had established his home and office in Santa Barbara by 1896. Already a practicing architect when the California Legislature passed a licensing law, he became a licensed architect by virtue of a “grandfather” clause which automatically licensed those already in practice. Wilson was five feet, six and a half inches in height, with a light complexion, blue eyes, and brown hair, and some who knew him described him as having “considerable artistic temperament,” as being a dilettante, and as taking great pleasure in conceiving and drawing elevations of buildings. Some claimed his ability “in arranging rooms compactly and of convenient access was not pronounced.” In other words, Wilson’s strong points were his senses of style, ornamental detail, and architectural effect, especially exteriors; when it came to effectiveness of function as expressed in floor plans and layout, Wilson’s lack of training, or talent, or both, became apparent.

Santa Fe President E. P. Ripley was undoubtedly aware of Wilson’s work in Santa Barbara and for the Southern Pacific and so the Santa Fe Railway System soon drew Wilson into its employ. As early as September 2, 1905, the Santa Barbara Morning Press reported, “Francis W. Wilson, the well-known architect leaves tonight for the Grand Canyon on business connected with one of the Santa Fe rail road hotels, which Mr. Wilson is remodeling [probably the Bright Angel Hotel]. On September 8, the same newspaper reported, “Architect Francis W. Wilson returned Wednesday night from the Grand Canyon, where he has been inspecting buildings for the Santa Fe railroad.” Two weeks later, on September 23, 1905, the same paper reported:

Francis W. Wilson, the well known local architect, has just been appointed to an important position in the construction department of the Santa Fe railroad and has already taken charge of considerable work which the company contemplates doing in the near future.

Mr. Wilson will build three large hotels for the Santa Fe system at various points throughout the west, and has already completed plans for the construction of a large hotel and station at Ash Fork, Arizona.

The exact nature of Wilson's employment by the Santa Fe is unclear; it seems unlikely that he was a salaried employee, though he listed Room 1106 in the Kerckhoff Building, the Santa Fe's Coast Lines headquarters at 560 South Main Street in Los Angeles, as his office. More likely he was under retainer or under contract, either for a specified period of time, project by project, or for design of a series of buildings.

It was apparently late in 1909 that Architect Wilson received the assignment of designing the Grand Canyon Railway Depot at Grand Canyon. The drawings he produced, the first several sheets probably by mid-October 1909 although they were undated, consisted eventually of three sheets of plans and three sheets of details, the last two sheets of details not being finished until November 20, 1909, three and a half weeks after the railway had let a contract for construction of the building. Basically, Wilson's plans followed the 1907 floor plan except for minor changes in measurements, a different location for the upstairs pantry, addition of upstairs closets, and roughly doubling the size of the covered station platform west of the waiting room. Wilson's concept reverted to calling for gable rather than hip roof lines. But Wilson's exterior design featured vertical piers or posts, and purlins, rafters and ridgepoles of peeled logs, while the ground floor structure consisted of walls of log construction, peeled logs adzed flat on top and bottom and flashed with three-ply ready roofing³. Wilson decorated the Depot doors with a boxed "X" pattern of broad-headed wrought iron nails whose points were bent over broad wrought-iron washers on the other side. Rather than standard double-hung sash as in the 1907 plans, Wilson called for paired casement windows featuring at the top six small panes arranged three over three. Inside the waiting room and office, Wilson called for a wainscot roughly three feet high which featured vertical peeled log slabs with the rounded side outward as well as milled planks, comprising the principal interior rustic feature, above which were plastered walls. The waiting room chandelier duplicated those in El Tovar. The second story was of frame construction, finished on the outside with shingles and inside with plastered walls devoid of rustic features. The roof was to be shingled, and featured copper gutters which emptied into ornately capped copper downspouts. Stained dark brown with creosote, the building would beautifully complement and harmonize with the great rustic hotel on the canyon rim upgrade to the northwest.

In fact, Wilson's plans for the Depot called for a structure whose first story log construction was more purely rustic than the false log construction of El Tovar whose walls were of log slabs spiked to a wood frame merely to simulate logs. This was not only to be the only log depot on the vast Santa Fe System but the only depot of any variation of rustic style on that railway system, and one of perhaps less than a dozen log or partially log depots in the entire United States, most of which were in the West.

With at least the initial sheets of Wilson's plans at hand, the Grand Canyon Railway in their person of Chief Engineer H.C. Phillips let the contract for construction of the new Grand Canyon Depot to A. W. Anson of Albuquerque, New Mexico, on a standard Santa Fe "General Contract, Short Form," on October 27, 1909. Andrew Anson at that time listed

³ This was called "Ribberoid roofing". See further description and discussion in part 1.3 PHYSICAL DESCRIPTION.

himself as a “General Contractor and Builder” in the Albuquerque city directory, with an office at 624 South First Street, phone number 572. Under the contract, he was to begin preliminary work, probably including moving the existing board-and-batten depot to the northwest [if the 1901 depot building was indeed moved to the northwest at this time it may have been moved again later to the east of the Depot. As noted earlier the building seen in H-7, H-8, H-10, H-13, H-17, and H-26 may be the 1901 depot building.] to continue serving as a depot during construction of the new one and to serve as an office near the stone power plant, and otherwise preparing the site for the new construction, within 15 days, or no later than November 11, 1909.

On November 3, 1909, Atchison, Topeka & Santa Fe Railway Resident Engineer E. E. Ball passed through Flagstaff on railway business, and told a representative of the local newspaper that the company had appropriated \$15,000 for “a rustic bungalow station at Grand Canyon, patterned after the El Tovar Hotel” and that construction work soon would commence. Subsequently the January 1910 issue of the railway employees’ magazine informed its readers that “A new depot has been authorized to be built at the Grand Canyon at an estimated cost of \$12,000,” a figure which was to prove much closer to the actual contracted cost than that reported in the Flagstaff press.

The “short form” contract which Anson signed on October 27 was a four page printed form in which the key language inserted by typewriter was that the contractor would furnish:

all labor, tools and outfit, except as hereinafter specified and construct complete a station building at Grand Canyon Arizona Territory, as per specifications attached and made a part hereof, and plans shown on drawing No. 80-8505, on file in Chief Engineer’s office, for eleven Thousand two hundred and fifty (\$11,250.00) Dollars.

To which, either as an afterthought due to omission or as a result of negotiations the railway added on a different typewriter, “Except heating, electric light wiring and fixtures.”

Elsewhere in the contract, the railway committed itself to supply the contractor with cement at \$1.75 per barrel with a credit of ten cents each for sacks returned in good condition, crushed rock at \$2.00 per cubic yard, sand and cinders at 75 cents per cubic yard, and water for construction and crew camp use at no stated cost. If the contractor failed to unload freight car shipments of material promptly, he would have to pay the “usual demurrage charges.”

The railroad also agreed to furnish free transportation to Grand Canyon from Albuquerque, Los Angeles or San Francisco and all ‘intermediate points over the A.T. & S.F. Railway. (essentially from anywhere on the Coast Lines of the Santa Fe) and over the Grand Canyon Railway of all tools, teams, and contractor’s outfit (equipment), from Albuquerque for foremen and skilled workmen, and again from all Coast Lines points for a “reasonable number of laborers” which for the people meant trip passes over the railroad on all other than limited trains.

The contract was accompanied by a single page Contractor’s Bond for \$2,800 insured by United States Fidelity and Guaranty Company of Baltimore, Maryland.

The real meat of the contract, however, lay in thirty and one half double spaced typed legal size pages of “Specifications of Labor, Material and Mechanical Workmanship to be used and employed in the erection and completion of a Railway Station at Grand Canon, Arizona, for the Grand Canon Railroad [sic] Company.” In the absence of any other accounts of the construction of the Depot, and as amplification of information in the drawings by Francis Wilson, these specifications, possibly written by Wilson himself, are illuminating. [The specifications in their entirety are included in the Appendix.]

While there was no doubt standard language included in the specifications, they also include many specific requirements. Contractor Anson was required, for example, “to give his personal attention and supervision to the work until entirely completed,” and when necessarily absent had to leave in charge a person authorized to act for him. He was not allowed to let any of the work to a sub-contractor without permission of either the owner or the architect. But it was in the twenty-four pages of material specifications that perhaps the most useful information lay, greatly amplifying the details in Wilson’s plans.

The concrete floors, covering all of the ground floor of the building except the freight room, were to be mixed with “one part cement, three parts sand and six parts cinders, to be thoroughly wetted, turned over twice and immediately placed in position and tamped until water flushes to the surface.” The superintendent was required to leave the wooden forms in place at least 48 hours after pouring, or until in his judgment the concrete had attained sufficient strength to permit their removal. The concrete was to be kept “thoroughly and continuously wet” for one week after it was poured. After all interior plastering and other rough work on the building had been completed, a half-inch thick “finish” floor was to be poured, using a mixture half cement and half sand, “troweled to a smooth polished surface and divided into one foot squares with deep clear straight dividing lines.” It would become evident in the finished building that the “one foot squares” were not very carefully measured and laid out.

The logs and slabs used in the Depot were to be of “Arizona pine⁴ . . . carefully peeled and thoroughly seasoned,” which differed from the Oregon pine⁵ which, for reasons unknown, was imported by rail for part of the construction of El Tovar. Before being placed in construction, the wood was “all to have a coat of pure creosote applied” and the lower end of columns were to “have a coat of liquid asphalt carefully put on and to be made absolutely water proof before being placed.”

Architect Wilson’s treatment of the logs was especially interesting, intended to simulate traditional log wall construction and its hewn, saddle-notched corners, although in reality he provided for a much stronger log wall to which simulated notched log crowns were spiked for the sake of appearance. The specifications for the log walls are worth quoting in their entirety:

⁴ According to the US Forest Service, Center for Wood Anatomy Research “Arizona pine” is another term for Ponderosa pine.

⁵ Ibid. Oregon pine is another term for Douglas-Fir.

The first story walls up to plate to be made of logs 12" in diameter with three sides sawed so as to make 9" courses, the faces of logs to project 3" if possible, but in no case to project less than 2". The slab taken off the top of logs to be less than the slab off of bottom so that each log will project over the one below about 3/4". The lower inside corner of each log to be rebated as per detail to take a 1" x 2" strip which is to be nailed to the log below. As each course is laid put a piece of Rubberoid roofing in the joint nailing it into the rebate, as shown, and all owing a projection of 3/4" on the outside.

Give the top and bottom surfaces of every log a coat of creosote before laying in place. The corners to be dove-tailed and trimmed smooth, and the projecting ends to be out separately and spiked on. All of these ends must be carefully fitted and all nail and spike heads must be set into wood, if necessary by starting in a bored hole, and all holes to be carefully puttied and filled with varnish putty on completion, in color to match logs.

Give all pieces a coat of creosote all over before putting in place.

All logs in walls to be held in place by toe-nailing only at ends.

In another instance involving authenticity of log construction versus simulation for architectural effect, Wilson left the decision to the contractor: "Contractor has the privilege of using pole rafters throughout or substituting 2" x 6" rafters where not exposed and using them with pole lookouts." Where fully exposed, of course, as in the open sided platform at the west end of the building, the specifications called for the rafters to be entirely of poles.

For the wooden floor in the freight room the specifications called for two by six tongue and groove Arizona pine, spiked with two spikes at every nailing, and the same treatment on the platform adjoining at the east end of the building. The second floor was laid with "1" x 6" surf Arizona pine . . . to be put down diagonally with two nails at every nailing . . ." The finished flooring in the second story was to consist of 1" x 4" kiln dried No. 1 O.P.⁶ flooring, vertical grained." It was "All to be laid in courses well driven up blind nailed at every nailing and through nailed at butts." The existing wood on the second floor is not all O.P. as specified but partially fir and partially oak. There is no record of the flooring having been changed after construction and the oak flooring is not an overlay. It would have had to have been a replacement of the original flooring involving removal and replacement of base boards and trim. There is no evidence of this so it seems likely that the oak is original.

Shingles were to cover not only the roof but provide the exterior wall finish of the frame second story. The specifications called for:

All shingling to be done with the best quality of redwood shingles 5 to 2 all to have two nails each and no shingle over 7" wide to be laid without splitting. Use best quality of galvanized shingle nails.

All wall surface including gables to be laid with two 5" courses to one 1" course.

All roof surface to be laid in regular courses 4" to the weather.

⁶ Presumably Oregon pine, another term for Douglas-Fir.

In every case use double courses at bottom, on both walls and roof. Shingle valleys up tight and keep edges of gables true and straight.

Before shingling, of course, all openings were to be flashed with three pound lead in pieces nine by 12 inches for valleys in the roof, and smaller sizes elsewhere.

The chimney, lined with an eight inch terra cotta flue, was to be of "good hardburned bricks with clinker bricks on the outside, all to be of even shape." The specifications defined "clinker brick" as "a brick that is over burned and is a dark blue or purple color but one that is not misshapen."

Window sash in the building was to be of one and three quarter inch "kiln dried sugar pine, glazed with best quality of 21 oz. crystal sheet glass, well puttied, bedded, and bradded." All second story windows were to have inside screens hung on solid bronze spring hinges with metal buttons for handles, and were to be covered with bronze mesh wire netting.

On the interior, all inside trim except in the waiting room and office was to be of Arizona pine, thoroughly seasoned and free from all knots, flaws, or other defects. In the second story, there was to be an inch and a half wide picture molding in all rooms. The specifications amplified by description the slab trim in the waiting room and office:

The wainscot in these rooms will have square panels of rough pine with formings, base and rail of slabs, all as per details [in the plans]. The walls above wainscot will be plastered and there will be formings in all corners from top of wainscot to ceiling, these formings to be made of 7/8" x 7" rough pine, there will also be formings of 7/8" x 9" along top of walls at ceiling line.

But the most interesting information on the interior of the Depot lay in the category of specifications labeled "Fittings":

Put in where shown in Kitchen a sugar pine drain board 1 1/8" thick and 24" wide with grooves to carry water into sink.

Put up under drain board a shelf as directed.

Build for Office a table with maple top 1 1/2" thick 1' 9" wide and 3' 0" long, to stand 2' 6" high on tapered square legs 2 3/4" at top and 1 1/2" at bottom.

Put up frame for sink in Office as directed.

Construct ticket window between Office and Waiting Room as shown, with shelf of maple 1 3/4" thick rounded at corners, 1' 10" wide and 2' 0" long, to have sliding sash 24" x 30" and a "Tucker's Alarm Till No. 28" below shelf, all to be neatly installed and finished.

Build a Counter in Office as shown with maple top 1 1/2" thick, 24" wide and made to enclose a space 5' 0" x 6' 0". Construct under this counter 2 drawers and one double locker at the end and 2 drawers and two double lockers on the side as shown.

Build an operator's table in window with 1 1/2" thick maple top cut out center for the operator, open underneath and with a single locker at either side.

All locker doors to be paneled mortised and tenoned 1 1/4" thick and all drawers to be halved together with bottoms grooved in, blocked and glued, and all to run on center track.

With regard to hardware, all doors were to have pressed steel “Vulcan” locks, and were to be hung on solid bronze butts. All window sash were to be hung on solid bronze butts of smaller size, and to have storm window fasteners of solid bronze. All lockers in the Depot were to have solid bronze butts, locker catches, and Yale locks with duplicate keys. Drawers were to have bronze pulls and, like the lockers or cabinets, Yale locks with duplicate keys. All door trim was to be “of solid bronze to special pattern with the monogram ‘GC’ cast on the knobs.” In fact, all exposed hardware throughout the building was to be solid bronze of a dark-color with a sanded finish.

In the office, the contractor was to install a “wrot [wrought] iron grill on office counter 3’ 6” high with openings as directed” The grill was to consist of “plain spindles about 3/16” diameter and 1” apart with one line of stiffeners through center, heavy top and bottom and end pieces and 5/8” square solid corner.”

Below the gable on the south side of the Depot facing the tracks the Depot was to feature a sign which spelled out “Grand Cañon⁷.” It was to be “cut out and hand hammered of heavy sheet copper.” Each letter was to be separate and to be fastened to the building with quarter inch diameter iron standards, two to each letter, with the letters standing four inches out from the wall.

The gutters were to be of 16 ounce copper with soldered joints and the outside edge to be rolled to 1/4 inch diameter with ends soldered in. The drainpipes or, as the specifications called them, “conductors,” were to be of the same material.

In terms of the interior plaster, the specifications called for the use of Roebling’s No. 20 galvanized 2 1/2 x 2 1/2 mesh wire lath with V rib, and stipulated that it was to be galvanized after weaving, not before. Where applied on logs and boards, the V ribs were to run vertically, and where applied on studs, on either interior ground floor walls or on the second floor, the V ribs were to run horizontally. Detailed specifications spelled out the requirements for three coats of plaster, the final or “finish coat” to be “a sand finish floated with a carpet float in circular sweeps.”

Another extremely useful section in the specifications dealt with painting and staining. All outside woodwork and shingles, including roofs, but not including logs or slabs, were to be stained with one coat of creosote stain “of approved manufacture,” whatever that meant, to be “rusty brown in color.” Window sash and exposed edges of frames were to be painted one coat and glazed one coat to match the woodwork.

Inside, all woodwork in the Waiting Room and Office was to be stained with one coat of oil stain, smoke color. All the woodwork in the hall, in the stairwell, and throughout the second story except for the bathroom, was to be filled with one coat of approved filler, and then varnished with two coats of Murphy’s interior finish. In the bathroom and toilets, all

⁷ While the sign was originally constructed as “Grand Cañon” it was changed within a year after the opening to “Grand Canyon.”

woodwork was to be sainted with four coats of pure white zinc paint, each coat to be sanded to a smooth, clean surface, then to be finished with two coats of Sherwin Williams and Company white enamel, the first coat to be rubbed down, and the final coat to be left in full gloss.

All thresholds throughout the building, and the kitchen drain board, were to be given an oil finish, and all counter tops in the building were to be varnished. The specifications called for painting the plaster walls in the Waiting Room and Office with three coats of oil paint in a flat "dull buff" color, with the ceiling a "light coffee color." In a similar manner, the painters were to finish the toilets and bathroom with buff walls and "cream color on ceiling." The second story kitchen was to be light gray throughout. The specifications called for all of these paints to have a base of pure linseed oil, turpentine and pure white lead or zinc, "as directed."

Anson's original contract not only excepted him from the job of installing electrical wiring and fixtures but elsewhere specified that "The Company [meaning the Santa Fe railway and, more specifically, the Grand Canyon Railway] will furnish all labor and material for electric wiring and fixtures," work which was necessarily done concurrent with Anson's construction of the building. Nevertheless, the specifications accompanying Anson's contract covered the electrical system in considerable detail, calling first of all for a complete system of iron conduits throughout the building, all feeder lines to be designed for 220 volt service, and all distributing circuits for 110 volt service:

The general system of wiring will consist of a complete system of iron conduits for feeders, sub-feeders and branches of a type and quality manufactured by the "Safety Armorite" or "American Interior Conduit Co." which will first be installed with all junction, pull, corner, outlet boxes, couplings, elbows, etc., before any wires are drawn in. The whole conduit system will be installed tight with leaded joints in the same manner as a gas system is installed. The conduits must have smooth interiors, free from all burrs and sharp points and projections, have non-corrosive lining and have the makers name or initials clearly stamped thereon, and be continuous from outlet to outlet.

The system was to start from the main switchboard in the stone power house located northwest of the Depot and the wires were to run in iron conduits to two distributing boxes shown on the plans, and from there to the various outlets through a single tube system. The workmen were to run all the conduits concealed in the walls, partitions, or floors, and where they had to place conduits in log walls, the electricians had to obtain the job superintendent's approval for the routing of channels to be cut in the logs to accommodate the conduits. No cutting of channels was permitted without the permission of the superintendent.

The electricians were to use the "best grade of Roebbling's White Core, General Electric Co's, Red Core or "Okenite" wiring. All wires to be double braid, rubber covered, as per rules of the National Board of Fire Underwriters," stipulated the specifications. The electricians could use no wire smaller than No. 14 B&S gauge and all wires of No. 6 and larger had to be stranded. The specifications called for all panels or distributing boxes to be "of steel of the Bessart construction or equal thereto with proper lugs for fastenings necessary for their support." and to be lined on top, on the sides, and on the bottom with slate or marble. Inside

these the electricians would install “tablet boards” similarly of marble or enameled slate. But the doors of the boxes were to be of wood “matching in material and finish and design the general finish of the rooms where they are placed, and they are to have beveled plate glass panels, flush hinges and Yale locks with duplicate keys.” The carpenters were to set these into the wall as far as possible by framing an opening in studs for them.

The “tablet board” in the Office would contain knife switches to control all first floor lights; the board on the second floor was similarly arranged to control lights in the upstairs apartment. The specifications stipulated that “all outlets where shown will be controlled by switches as noted on plans” and advised that all switches were to be “Hart Push Buttons.”

All light fixtures throughout the building were to be of solid cast bronze and/or wood. The most distinctive were those in the two most important Depot rooms:

The ceiling lights in Office and Waiting Room to be made with a square frame of small wooden logs stained to match log construction of building. This frame is to be suspended from outlet boxes with chains having square links and wires are to be brought down in a center tube and carried to the corners of frame where lights are to be placed. Lights to have ornamental husks.

Judging from early interior photographs of El Tovar, these rustic chandeliers duplicated the early chandeliers in the great hotel.

The specifications guided the electricians with respect to other light fixtures as well:

The light over operator table [in the depot’s bay window] to have a reflector hung on a tube, use 14” opal reflector all complete.

The lights in Baggage and Freight Rooms to be cord drops with cord adjusters and Benjamin Adjusters.

The lights in Shelter to be Arc lights with ground globes and bronze fittings.

All other lights except bracket in Kitchen and light in closet under stairs, to be ceiling lights with heavy cast ornamental canopies and Holophane globes. Each of these fixtures to be made in the proper proportion for the number of lights it is to contain.

The light under stairs to be a cord drop with cord drop adjuster and the bracket in Kitchen to be a plain cast bracket with arm extending 5” from wall, plain husk and canopy.

Except for the arc lights, all fixtures were to feature “plain 16 C.P. lamps,” with the further exception that fixtures in the Waiting Room and Office were to have “ornamental engraved globes as selected.”

Railway management undoubtedly chose to use its own forces to install the Depot electrical system because it employed electricians under the Chief Engineer of the nearby Power House to maintain the steam-powered generators and the electrical system which served all of El Tovar and the Bright Angel Hotel, employee residences, and undoubtedly other Grand Canyon consumers such as Verkamp and Kolb.

Anson’s work on all of the Depot plumbing system similarly was controlled by detailed specifications for drains and sewers of vitrified tile, wastewater and toilet pipes of extra heavy

cast iron joined with molten lead and thoroughly tamped oakum, and cold and hot water pipes of galvanized metal with galvanized iron fittings “all to be put together with red lead and made perfectly tight.” All exposed piping and fittings were to be “nickel plated on brass.”

All of the 18 toilets in the building were to be “‘Clow’s Syphon Jet’ ‘The Regla’ with white composition seats, tanks and covers.” In the Men’s Room were two batteries of urinals containing seven stalls altogether which were to be “Clow’s No. 16 with White Italian marble partitions and wall slabs.” In the Men’s and Women’s Restrooms the Depot was to contain one battery each of three washbasins, to be “Clow’s enameled iron lavatories No. R 316 with cold supply only.” The bathtub upstairs was to be “Clow’s No. P85” white enameled tub, five and a half feet long. Despite the lack of hot water in the public restrooms, the Depot did have hot water, provided by a galvanized iron 30 gallon boiler connecting with the kitchen sink, the washbasin in the bathroom (Clow’s enameled iron lavatory No. R 376 with hot and cold supply) and the bathtub in the upstairs apartment, and possibly with a washbasin in the Depot office.

On February 1, 1910, the railway let a second contract to Eugene Murray of Los Angeles, California, to cover installation of a two pipe vacuum heating system in the Depot. Murray’s work was to commence within ten days after execution of the contract, or February 10, and was to be completed by September 30, 1910.

Murray’s contract differed in certain respects from Anson’s, for example in specifying that while the Santa Fe would provide free transportation over the Coast Lines and the Grand Canyon Railway for men, material, and tools, it stipulated that the Grand Canyon Railway was to reimburse the Coast Lines for the latter’s share of such transportation costs at the regular tariff rate.

Two double-spaced typed legal size pages of specifications for the steam heating system accompanied Murray’s contract, calling for 2 1/2 inch wrought iron pipe graded from the boiler room to the Depot to carry steam from a low pressure main in the power house northwest of the Depot, with a return connection to the boiler room. The pipe was to be asbestos-covered and protected in vitrified clay pipe with cement joints. The steam and return mains were to be carried beneath the floors of the building as shown on plans.

Murray’s specifications stipulated the placement and size of the radiators:

Radiators to be cast iron ornamental pattern, 38” high and placed in rooms as shown on plans and placed in rooms as shown on plans and to be following sizes:

FIRST STORY:

Office	1 radiator	60 sq. Feet
Waiting Room	2 radiators, 40 ft. ea.	80 sq. “
Womens Toilet Room	2 radiators, 16 ft. ea.	32 sq. “
Mens Toilet Room	2 radiators, 16 ft. ea.	32 sq. “

SECOND STORY:

Bed Room	1 radiator	24 sq. “
Bed Room	1 radiator	16 sq. “
Living Room	1 radiator	40 sq. “

Each of these radiators was to have a nickel plated wood wheel radiator valve and a Simonds Vacuum return valve. The radiators and all exposed piping throughout the building were to be primed and receive one coat of gold or silver bronze paint. Where pipes passed through the floor or ceilings, they were to be fitted with nickel plated floor and ceiling plates.

The specifications in both contracts considerably amplified the detail in the six sheets of drawings by Architect Francis Wilson, and in few places left the contractors any latitude for variance.

As signed in October 1909, Anson's contract called for him to complete the Depot, except for the heating system and for the electrical wiring and fixtures which a railroad electrician crew would install concurrent with the contractors work, by February 28, 1910. The contract thus scheduled construction, at an elevation in excess of 6800 feet at the beginning of winter. Not to mention the potential impediments of snow and ice on the unloading and stockpiling of material, freezing temperatures could cause problems both in the early phases of construction which involved pouring concrete foundations and in later phases which involved the curing of newly applied plaster and the drying of paints and stains.

Progress of the construction of the Depot is unknown, but although there is nothing in the available record to indicate that Anson failed to meet the deadline on his contract, the circumstantial evidence suggests that he may have been granted a lengthy extension. It was not until cover installation of the two pipe vacuum heating system in the Depot. Murray's work on this contract was to commence within ten days after execution of the contract, or no later than February 10, a mere eighteen days before Anson, according to the original dates on his contract, was required to finish construction of the building. Possibly he had finished the building; possibly he had even finished it a few days or weeks early, and Murray was intended to install the heating system after construction of the building itself was basically done--yet the 2 1/2 inch main steam line from the boiler house and the 1 1/8 inch return line to the boiler room were to be beneath the floors of the buildings, and the floors of the Waiting Room and Office on the ground floor were to be solid concrete, poured at the same time as the foundations, which suggests that the foundations may not have been poured, and construction of the building thus really begun, until after Murray's contract went into force on February 10, 1910. It is also curious Anson's \$11,250 contract allowed a mere four months from the date of signing to build the entire, two-story, eleven room depot, whereas Murray's \$800 contract for the comparatively simple installation of a steam heating system consisting of pipes and ten manufactured radiators allowed the contractor eight full months from the date of signing, twice the amount of time allowed for completion of the building itself, and much of it through mild spring and summer weather. The implication is that Anson faced immediate delays and even before Murray's contract was let probably had obtained from the rail road a lengthy extension on the construction contract, so that construction probably did not begin in earnest until late February, with the Depot actually being completed some time in the spring of 1910 rather than in mid-winter.

The earliest evidence of a completed new Depot at Grand Canyon was a photograph taken from the south porch of El Tovar showing the southwest corner of an ostensibly finished Depot, with no evidence of construction materials still lying about, that appeared in a U.S.

Forest Service townsite plan for Grand Canyon National Monument dated July 18, 1910. As the plan undoubtedly took quite some time to draft and some time was required to take the photographs used in it, develop the negatives, and have prints made, the true date of that photograph may have been in June or even May or earlier. At least it can be said that the Depot was completed by the summer of 1910.

If the mists of time have obscured the date of completion of the Grand Canyon Depot, similarly they have clouded its original cost. The contracted cost clearly was \$12,050, not counting the cost of installation by railway labor of the electrical system and fixtures, for which no figure has been found. The Santa Fe Building Record for what was now Grand Canyon Railway Building No. 2, however, listed the 1911 cost of the building as \$16,400, which probably was the actual cost of the building. That figure did not include any of the adjacent depot platform, for the same document listed the 2550 square foot frame platform as costing \$500, an additional 43,690 square feet of gravel platform costing \$1,538; and an additional 1,310 square feet of cinders costing \$356.00. Lighting over the platform, also listed as installed in 1911, cost \$387. An additional \$1,522 paid for piping in steam lines, and it is unclear whether these served the Depot building, included piping within the Depot building, or served passenger cars parked near the Depot building. Furniture for the Depot in 1911 cost a mere \$742. A 180-foot deep well lined with dry masonry cost \$327 in 1911--it was destined to be filled in during 1940. Another \$324 spent for grading in 1911 remains unclear regarding purpose or location. Many years later, in discussing possible sale of the Depot to the National Park Service, a Santa Fe employee in Los Angeles claimed the "original cost" of the Depot as having been \$29,173, but what other costs and possible adjustments for inflation that figure may have included is unknown, and it is not regarded as reliable.

Whenever the building actually was completed and whatever it finally cost, by the summer of 1910 the Grand Canyon Railway and, in fact the Santa Fe System of which it was a part, had open for business a fine, distinctive rustic depot building at its northern terminus which harmonized beautifully with rustic El Tovar and with the pine, pinyon and juniper forest environment of the village on the south rim of the Grand Canyon of the Colorado River.

Upon completion of the Depot, the Fred Harvey Company commissioned a hand-colored post card showing the new building. Although not explicitly dated, the only example so far seen bearing a 1914 postmark, the postcard could have dated from no later than 1911 because visible through the open platform at the west end of the Depot were tank cars on the second water delivery track at Grand Canyon, a track removed in 1911 to make room for an extension to the Power House located west of the Depot. This post card undoubtedly is the earliest-known view of the new Depot, and it reveals one surprising aspect of the original appearance of the building.

Spanish-Mexican influence thoroughly permeated the American Southwest and appealed greatly to the romantic impulses of many Americans, as evidenced in the selection of Spanish names for so many Fred Harvey hotels, as well as Spanish architecture for some of them. Spanish influence also affected the language of Americans resident in the Southwest, many of them adopting Spanish words and phrases in their everyday speech, and in one particular word relevant here, Spanish spelling. Throughout the 19th Century and for the first third of

the 20th, that Spanish spelling of the word “canyon” prevailed in printed references to the “Grand Cañon.” Although the original Santa Fe & Grand Canyon Railroad employed the English spelling of the word in its articles of incorporation, W.A. Drake and most Santa Fe Railway officials who referred to it erroneously used the Spanish variation of the word. John Muir and Theodore Roosevelt followed the custom of using the Spanish spelling. And the 1910 Fred Harvey postcard clearly revealed that those building the Depot instead had spelled out “Grand Cañon.” Apparently, that Spanish spelling of “canyon” so customary in the Southwest either annoyed a railway official or puzzled the public at large, for as early as April 1911 publication the word had been changed to its English spelling. Thus the traditional Spanish “cañon” lasted in copper letters on the facade of the Depot far less than a year.

The first photograph of the new Depot published in Santa Fe advertising literature appear in the new edition of Titan of Chasms issued by the Santa Fe Passenger Department on May 17, 1911, a photo which would appear again in later editions, a photo which documented how quickly the Spanish version of “Canyon” disappeared from the south facade of the Depot. Railway management obviously was proud enough of its new Depot to publicize it along with El Tovar.

Alterations in the Depot

On April 30, 1919, a draughtsman in the Coast Lines Engineering Department prepared new tracings of Francis Wilson's plans and elevations of the Grand Canyon Depot to show changes and alterations. One proposed alteration involved construction of a new upstairs bedroom in place of the attic over the waiting room west of the upstairs kitchen. This project would necessitate raising the gable roof whose ridge ran east-west over the waiting room to a height equivalent to that of the higher gable with a north-south ridge over the center of the agent's apartment. But this proposed change never was made. The reason for the proposal is unknown, though one may surmise that it originated with a station agent resident at Grand Canyon who had a particularly large family and needed more space. Not all the agents during this period are known, and nothing is known about them. By January 1, 1917, Fred B. Grim was Grand Canyon Agent, but how long before that he had been in that position, and how much longer he held it, is unknown. Wayland E. Brown served as agent in July 1918, but the length of his tenure is unknown.

A Vitrified Brick Station Platform for Grand Canyon

By the 1920s, vitrified brick had gained a certain vogue on the Santa Fe System as paving material for station platforms, and the railway's B. and B. crews or contractors built such platforms at the Williams depot and Fray Marcos Hotel at the other end of the Grand Canyon line at Williams, at the Flagstaff depot erected in 1889, and later would build them at the new Tudor-style depot erected in Flagstaff in 1922 and the still later Winslow depot and its adjacent Harvey House, La Posada, which opened in 1930. Vitrified brick is a very hard, surface-glazed brick, very thoroughly fired, commonly used for paving purposes. It also has been called a paving brick, although that term also designates a special brick paving block larger in size than the ordinary brick. One architectural dictionary described it as a “surface-

glazed” brick and another as “Brick which has been glazed so that it is impervious to water and has a high resistance to chemical corrosion.”

The brick used by the Santa Fe generally was a dark red brick with surface tones tending toward purple or even black, although one section of platform east of the depot at Williams alongside the Grand Canyon track was built of a yellow brick. In building such a platform, first the work crew laid a level bed of sand and then placed the bricks in an interlocking pattern at right angles to each other. The 1903 plan for a rustic depot at Grand Canyon called for a depot platform of “Santa Fe vitrified brick,” but of course that depot never was built. One of the red bricks used in the depot platform at Williams carried the impressed lettering: “Coffeyville V.B & T. Co.,” which presumably signified Coffeyville Vitrified Brick and Tile Company, probably of Coffeyville, Kansas. Once workmen had laid the bricks, a border of planks or poured concrete was built around the platform to hold the bricks in place; they were not secured by mortar between them. The platform edges at Williams were of concrete.

In December 1920, the staff of the Division Engineer in Winslow drew up a plan for a 2350 square foot vitrified brick platform laid on sand to replace the platform of 3 by 12-inch planks on the south side of the Grand Canyon Depot. It was not until a year later, on December 14, 1921, that Rodman T.S. Chapman and Chainman L.W. Hitchcock performed field work at Grand Canyon to document the plank platform now scheduled to be “retired,” to use the railroad euphemism for destruction. They measured 2270.43 square feet of 3 by 12-inch flooring laid on 434.6 linear feet of joists, or as the surveyor quaintly spelled it on his Form 1928 standard work sheet, “joice.” They also estimated that 42 cubic yards of fill would be necessary before laying the proposed brick platform. What happened thereafter is unknown, but no such vitrified brick platform ever was laid at Grand Canyon. When some years later the railway authorized a concrete platform at this station, the contractor had first to remove an existing platform of planks, not vitrified bricks. Perhaps some Santa Fe official decided that brick would not blend in harmony with the rustic log Depot and the conifer forest environment of the South Rim.

Modification of the Grand Canyon Depot

Passenger traffic on the Grand Canyon Railway steadily increased in the early 1920s as the nation recovered from the World War. The total reached 56,075 in 1920, dropped back to 51,654 in 1921 as the nation experienced a post-war recession, then recovered to 59,230 in 1922. In 1923 the figure was 64,275, and in 1924 it jumped to 66,236. 95 All of this increased the workload of the staff in the Grand Canyon Depot, especially during the summer months, and required the railway to increase the staff to handle it, which in turn created the need for more office space.

Unless railway management wanted to construct an addition to the Depot, it faced limited options. It would have to seek a solution in rearrangement of the Depot interior. It was apparently in August, 1925, that an unidentified railway employee whose initials were “E.W.S.” drew a sketch plan [See Appendix] on the railway’s Form 1928 Standard work sheet for a proposal to “Rearrange Women’s Toilet in Depot to provide additional office space.” The proposal involved reducing the women’s lavatory by more than half of its space, the

slightly larger section to provide new office space. From an arrangement providing nine toilets and three sinks, the railway proposed to cut the Women's Toilet down to providing only three toilets and three sinks, eliminating the six toilets entirely and moving the three sinks from the south wall at the southeast corner of the room to the north wall at a location formerly occupied by two of the toilets. The project also involved cutting a new doorway into the now-smaller Women's Toilet. This remodeling created another office in the Depot. As if to justify the work, rail passenger traffic to Grand Canyon in 1925 climbed still higher, to 68,267.

New Concrete Station Platforms at Grand Canyon

As a further step in modernization and improvement of the rail road yards and station grounds at Grand Canyon, railway management decided in 1927, or perhaps earlier, to replace the graveled area surrounding the Passenger Yard tracks and the planked platform immediately in front of the Grand Canyon Depot with a concrete platform in front of the Depot and three separate long narrow concrete platforms, placed between three pairs of tracks, each to serve the two tracks flanking the platform. A draughtsman in the Coast Lines Engineering Department in Los Angeles drew up plans for the new platforms on March 14, 1927. After the summer tourist season that year, on September 23, 1927, the railway let a contract to S.C. Hichborn for construction of the platforms; the contract's expiration date was October 31, 1927, the obvious urgency in completing the platforms being the approach of freezing winter weather, which could play havoc with concrete not yet fully cured.

Hichborn, a contractor located at 426 South Spring Street in Los Angeles, agreed to construct these four-inch-thick concrete platforms at a cost of 22 cents per square foot, with the railway supplying cement at Grand Canyon at \$3.00 per barrel with a 10 cent rebate for each sack returned in good condition, supplying crushed rock at \$1.60 per cubic yard, sand at \$1.00 per cubic yard, and water apparently at no charge providing the contractor furnished the containers. Subsequently, on orders from the Division Superintendent, the contractor laid 6,145 square feet of platform in the vicinity of the Depot building itself as six inch thick platform instead of four inch, "it being necessary to have a heavier platform where automobiles would be used." The railway paid 30 cents per square foot for the portion of the platforms which were six inches thick.

Hichborn did not finish the platforms by October 30, perhaps in part because railway management had added construction of a water tank foundation to his job; anyway, the railway extended the deadline to December 15.

Transitman R. M. Rutledge documented the new concrete platforms in drawings dated December 15, 1927. Coast Lines Chief Engineer R.B. Ball reported the work complete on January 7, 1928 without saying on what date it actually had been finished. The February 1928 issue of The Santa Fe Magazine reported, in an item probably submitted in January, that Section Foreman Greening and his section gang "have been quite busy shoveling snow off our new platform most of the month."

A Stone Wall to Protect the Station Yard

The “Passenger Yard” in front of the Depot, sometimes called the “Coach Yard,” had been laid more-or-less on the natural surface of the ground, with minimal grading, and in ballasting and re-ballasting the tracks over the years, had been raised to some extent, but not to the extent that the wagon and later automobile road around the east end of the yard had been raised. By the mid-1920’s this east end of the Village Loop Road apparently stood quite a bit higher than the railroad yard, raised gradually by filling over the years so that its crown would drain during summer rainstorms and melting winter snows. A principal problem for both the road and the railroad yard at that location resulted from their location in the middle of a natural drainage wash which descended gently westward, parallel to the Canyon rim. To improve drainage, a ditch had been constructed about 1905 along the south edge of the railroad, passing beneath Track No. 23 and the east leg of the new wye (Track No. 33), and then passing out of the railroad yard beneath a main line bridge within the wye, Bridge B-64, built in 1916, these measures intended to take the place of the natural drainage. It wasn’t always enough, however, and to serve as a retaining wall on the west edge of the Village Loop Road east of the Passenger Yard, to more effectively divert rainwater into the drainage ditch along the south side of the yard, and to improve the general appearance of the station grounds, railway management planned to construct a stone wall around the east end of the yard. On August 10, 1928, a draughtsman in the Coast Lines Engineering Department drew plans for this stone wall at the end of track.

As if to emphasize need for the wall not yet built, late in the summer of 1929, a heavy rain at the South Rim sent a flood of water six inches deep roaring down through the entire length of the Fred Harvey Garage and then down through the Passenger Yard past the south side of the Depot and westward along the railroad right-of-way. The flood reportedly did no damage “other than littering garage and tracks with pine tree accessories.” Nevertheless, these had to be cleaned up, which was costly. Whether the little flood hastened construction of the stone wall is unknown, but by early summer of 1930, railway stonemason Charles Grant had begun construction. The central portion of the new wall running roughly north-south was straight, but at each end a segment, also straight, angled toward the west. The wall was not vertical, but of sloped or “battered” design; a stone stairway descended in the center of the main segment from the roadway to the track level, flanked on each side by a railing made of a single piece of galvanized iron pipe, bent at each end to form a pair of integral posts secured in holes drilled in the stone at the top and bottom of the stairway. Grant laid the dressed stone in regular courses, and by July, 1930, he had completed the new stone wall. “The wall is to keep young cloudbursts from washing the Pullman cars down to Coconino and is a very solid neat appearing job,” the railway magazine reported in its July issue.

A Fence for the Grand Canyon Depot

Another improvement around the Depot, following construction of the concrete station platforms, was installation of a five-foot high iron fence both east and west of the Depot, with a vehicle gate east of the Depot to permit vehicular pickup and delivery from the baggage platform on the east end of the building as well as from the freight house, and a “collapsible” gate of “standard design,” which meant a compressible latticework gate of steel straps, along

the south edge of the roofed passenger platform on the west end of the building. As with most improvements, this proposed addition apparently went through the usual phase of conceptual development, involving several plans. A railway draughtsman completed one such drawing on November 9, 1928. The Coast Lines Engineering Department in Los Angeles completed another version, consisting of a single sheet, on April 18, 1929, which was concurred in by National Park Service Landscape Engineer Thomas C. Vint on April 20, recommended by Park Superintendent Minor R Tillotson on April 22, and approved by NPS Director Horace M. Albright on May 4, 1929. The railway erected the fence that year under Authority X-8-29.

The fence which exists today differs in certain characteristic from that shown on the 1929 plans. While the fence itself and the “collapsible” gate for the Depot platform are the same, the present fence lacks posts of the ornate square configuration shown on the plan. East of the Depot, the fence stands at an entirely different location, extending eastward from the southern, rather than northern, edge of the Depot, with the gate of an entirely different design and at a different location, featuring rounded gateposts larger than those in the design. No evidence yet found indicates any later reconstruction of the fence, so the alterations from the April 1929 design must have been adopted prior to initial construction that year. It seems likely that the present iron fence is the one installed in 1929 (with but one alteration which will appear later).

A Storm Vestibule for the Depot Waiting Room

At the same time the railway undertook construction of the iron picket fence, it also built what The Santa Fe Magazine called in January 1930 a “rustic and very nice-looking storm door for the west end of the waiting room.” Actually, storm “entrance” would have been a term more accurate than “door,” for this was in fact a small additional structure divided into two spaces, one to the south which constituted a small office, and another on the north which was a vestibule-type of entrance with a door to the outside on the west, and the Waiting Room door in the old Depot west wall to the east. Use of this entrance prevented all the heat in the Waiting Room from escaping when the Waiting Room door opened. William Archer, the “speedball carpenter” assigned by the railway to build this addition, created a small wood-frame structure veneered with split slabs and painted to match the exterior of the rest of the Depot. The rustic pseudo-log exterior he gave the little storm entrance was not a perfect match for the Depot architecture, but it did go part way towards blending the new construction with the old.

The additional office space created as a part of this storm vestibule may once have served as an office for the Pullman conductors and other Pullman employees, but later it provided space for the railway’s “special officer” (the railway company policemen), giving them, apparently for the first time, a few feet of office space.

Events around the Depot

The inevitable effect of the Depression on the railway staff at Grand Canyon was reduction in personnel, particularly in the need for additional personnel during the summer months. But

reductions elsewhere also could affect the Depot. For example, on April 1, 1933, the Western Union Telegraph Company closed its “city” office at Grand Canyon, actually an office located in El Tovar Hotel. Thereafter, the duty of providing telegraph service to the general public fell to the operator at the rail road Depot, although this probably involved no physical change in the Depot building.

That same summer of 1933, a thunderstorm at the canyon fired a bolt of lightning which burned out the large floodlights over the station platform. When these particular floodlights were installed is unknown.

Usually the railway “paint gang,” headed in 1934 by a foreman named Frank Lamb, came in each spring for the “usual spring cleanup and repainting [of] the bad spots in the hotels.” It is probably then that the Depot, the power house, and other railway buildings in the village received the same kind of attention, whether it was spot painting or touchup or an entirely new paint job, depending upon what was needed.

Rebuilding the Village Loop Road

Removal about 1928 of the old power house located north of the Passenger Yard and a short distance west of the Depot had cleared the area north of the tracks, and with funding and manpower provided by New Deal economic recovery programs such as the CCC and the ECW, the National Park Service undertook to relocate the road which looped around the east end of the railroad at Grand Canyon and then passed up the hill northwest of the Depot along the southern edge of El Tovar. With the cooperation of the railway, the National Park Service commenced work in 1934 to relocate this road down off the hill by having it preempt the old entry to the Depot parking lot along the north side of the Depot, crossing the now vacant site of the old power plant, and closely paralleling the northern edge of the railroad yard westward, lower on the south flank of the hill on which El Tovar stood than the old road. The Service did not tear up the old road, but left it in place where it still serves today, but the new road bypassed it and eliminated some of climb over the hill.

For reasons unknown but apparently as a part of this project, in 1934 the National Park service found it necessary entirely to demolish the stone wall built by the railway in 1930 at the east end of the railroad yard, and to build in its place an entirely new stone wall. The new wall was to differ from the old in a number of respects: (1) while the old wall was sloped or “battered,” the new wall was to be vertical; (2) while the old wall consisted of three straight segments, a central north-south section and two end wings which angled one to the northwest and the other to the southwest, the new wall was to be built on an arc and entirely curved; (3) while the old wall was laid in regular courses of stones of nearly uniform size, the new wall was to be “random ashlar,” of stone of greatly varying sizes; (4) while railings of galvanized pipe flanked the stairway in the center of the old wall, the new wall featured more attractive railings of native stone. All factors considered, the new wall stood as a far more attractive east end to the Passenger Yard than had the old one--and perhaps that alone was justification for its construction.

“The National Park Service is replacing the retaining wall at the east end of the railway tracks with a foot walk, which is an improvement,” The Santa Fe Magazine advised its readers in its issue for December 1934. The statement was somewhat misleading, since the service actually was both replacing the stone wall and building a new sidewalk on the edge of the road above it.

Remodeling and Reroofing the Depot

After the depressing rail traffic statistics for 1933, rail passenger travel to Grand Canyon improved steadily for the rest of the decade. The total jumped from 12,319 in 1933 to 15,994 in 1934, 27,443 in 1935, 37,909 in 1936, 40,027 in 1937, 41,997 in 1938, and in 1939 was climbing toward 56,536, by which time the railway found it necessary to increase the summer staff in the Depot, necessitating some remodeling. By September 1939, the Bridge and Building Gang was hammering away in the agent’s office to provide more room to accommodate the “abundance of additional work” and the consequent “larger office force now employed at Grand Canyon.”

During the following year, the exterior received an overhaul. Some time before August, the Depot, like El Tovar, received a coat of paint on the exterior applied by the Albuquerque Division Paint Gang under Foreman Lloyd King. That crew subsequently painted the exterior of the Power House in July or August.

Aside from a fresh coat of paint, what the Depot really needed by this time was reroofing. Whether the original wood shingles applied in 1910 had lasted until 1940 is unknown, but it seems likely, and if the Depot had been reroofed during intervening years such maintenance went unrecorded. The April 1939 issue of The Santa Fe Magazine carried an article however, about “Modernizing Railway Structures with Asbestos Shingles” which forecast what was to come. The unidentified author discussed the need for railroad buildings to keep pace with the modernization of other aspects of American railroads such as diesel motive power and streamlined lightweight rolling stock, and proposed a specific solution:

Helping the railroads in this portion, of their modernization is one of the major jobs of Johns-Mansville. J-M asbestos roofing shingles have long provided railroads with a permanently economical solution to the roofing-maintenance problems, and Johns-Mansville asbestos siding shingles and clapboards--two more recent developments--are now providing a similarly permanent solution to the problem of economically maintaining sidewalls.

Notwithstanding their having “long provided” protection to railroad buildings, the railway apparently had not yet applied such shingles to the roofs of any of the older buildings at Grand Canyon.

This Santa Fe Magazine article foretold what would happen to the roof of the Grand Canyon Depot a year later. On October 2, 1940, Harry Stafford began applying Johns-Mansville rigid asbestos-cement shingles, sometimes called “transite” shingles, of what the article had described as the “Hexagonal” type, allegedly over the existing roofing. He completed reroofing the Depot, at a cost of \$1,380, on October 18, 1940, before the onset of winter

weather. Naturally light gray, in later years, at least, the Paint Gang painted the roof at different times several shades of green, which faded to a pale green. That 1940 roof finish was destined to last until after the railway's sale of the Grand Canyon branch, nearly 44 year's later.

Wartime at the Grand Canyon

The Depot at Grand Canyon remained open throughout World War II, though with diminished staff, to handle the paperwork involved in freight traffic on the line, ticketing of passengers who, although they rode on buses, traveled on rail road tickets nevertheless, telegraph business, and other matters. It seems likely that the two "tricks" or shifts on which depot personnel worked were cut back to one--depot hours being cut accordingly. Station Agent Samuel D. Turner remained in charge. But the Passenger Yard opposite the Depot was virtually empty of cars for the duration of the war, and young Sammy, Jr., and his playmates were allowed to play in that area where previously they had not been allowed, at least on days other than Tuesday when the regular freight ran.

With the tracks devoid of trains, deer regularly browsed within the railroad yard. As a spinoff of a mistake in wildlife management of the Kaibab deer herd on the North Rim (principally systematic elimination of all predators), a number of fawns had been brought to the South Rim in the 1920s, and by 1930 constituted a herd of 120 comparatively tame deer, sometimes referred to as "garbage can deer" because they frequented garbage cans looking for food. The National Park Service had stopped artificial feeding of the deer in 1932, yet the herd still existed and increased, over browsing on trees and shrubs in Grand Canyon Village and accepting handouts from tourists and residents.

One of these deer was responsible for a minor structural change near the Depot during World War II, although the specific date is unknown. One night a horrible bleating awakened Agent Turner and his wife in their upstairs apartment in the Depot, and rushing downstairs and outside to investigate, they found that a deer had attempted to jump over the iron fence adjacent to the Depot and, falling short, had impaled himself on several of the iron rods above the crossrail. Turner summoned a park ranger, who had to shoot the tortured animal to put it out of its misery. To avoid any recurrence of the tragedy, Turner sought from the Division Superintendent and received permission to have a laborer saw all the iron rods off flush with the top of the crossrail, permanently changing the appearance of the iron fence. During 1944, park rangers trapped 65 of the "garbage can deer" in the village and released them near Desert View, but plenty of deer reportedly remained in the village, and there are still deer there today, though not generally as tame.

One other change made during World War II involved the railway applying "oil paving," which probably meant asphalt, to an "L"-shaped area which wrapped around the southeast corner of the concrete station platform and extended clear across Tracks Nos. 8 and 10 to the north edge of the first of the three linear concrete platforms built in 1927 between each pair of tracks. The section of asphalt extended roughly from a line south from the west edge of the Depot's bay window eastward to a line southward from the east edge of the iron vehicle gate east of the Depot--in other words, not quite as far as the west edge of the freight house. The

asphalt may have been to facilitate the access of trucks and vans used to carry small freight and express shipments to the station platform where they could be loaded from freight cars. It was probably at this same time that the railway built an additional, comparatively narrow, planked crossing south of this section of asphalt across the two gaps between the three linear concrete platforms. Apparently delineated on Drawing 69147, dated October 30, 1942, a month after passenger traffic had ceased for the duration of the war, it is unclear whether it was completed at that time, or some time later.

Repairs at the Depot

The Grand Canyon Depot joined with other parts of the Santa Fe System in receiving post-war rehabilitation. "And, speaking of improving appearances, the new walk on the south side of the freight house and the new loading platform at the east end of the Depot help a lot," reported Eloise Turner in the December 1948 issue of the railway employees' magazine:

Also, the concrete reinforcement on the foundation of the depot to thwart termites' activities.... Workmen have been racing with the weather, and Gene Linville's water service boys finished installation of copper steam pipes throughout the building just as the mercury slid way down below freezing. They had one little snowstorm before the job was finished...

That was not all the work done, for the following month the railway magazine reported, "The beautiful new paint job on the Grand Canyon station by Cecil Dobbs' men inspired the agent (or his wife?) to add a festive Christmas [1948] note with light and evergreen on windows of their living quarters upstairs." The painting of the Depot, like installation of the steam pipes, must have been completed in October 1948 or at the latest November before the onset of winter weather could interfere with the drying of the paint by freezing it.

In January 1949, the railway's Engineering Department made certain further changes to the April 1919 revision of Francis Wilson's depot plans, showing remodeling of the women's toilet. As these plans in no way differed from the Form 1928 Standard sketch of the women's toilet dated "8-25," it is unclear whether the Engineering Department was just getting around to reflecting changes made in the Depot in 1925, or the "8-25" date referred to August 25, 1948, rather than August 1925. That change had been made to provide more office space, a need more pressing in the high traffic years of the 1920s than in 1948, but the change could have been made at either time, and the documentary evidence simply is unclear as to when the railway did the work.

Those plans reflected two other changes in the Depot, one which was accomplished and one which apparently was not. Presumably these were done in 1925, although again it is possible that they were done in 1948 or 1949. The railway did change the orientation and location of the bathtub in the upstairs apartment from an east-west direction to a north-south direction at the east end of the bathroom. The plans furthermore showed the built-in Operator's desk reoriented from facing south to facing east; if the railway changed the orientation of the Operator's desk, later they changed it back again, for its position today is the same as shown on Francis Wilson's 1909 plans.

Still later, Eloise Turner reported that spring of 1949, “Something new has been added at the railroad station in the form of a large sign calling attention to elevation and free bus service to hotels so that those passengers unaccustomed to exertion in high altitudes may ride in comfort up the hill instead of climbing the steps.”

Modernizing the Depot

During the winter of 1954, the railway ordered the last-known alteration of importance within the Depot. Reported in the employees’ magazine in March, it was probably in January or February of 1954 that electricians installed fluorescent lighting in the ground floor offices, while other workmen pursued different aspects of remodeling. “Station force definitely looks on the brighter side of life these days,” reported the agent’s wife in the employees’ magazine:

Couldn’t be gloomy if they wanted to with all those new fluroescent [sic] lights flooding the office with daylight brightness even on cloudy days. Removal of iron “cage” at counter, general redecorating which includes floor covering, and installation of swanky new desks in the office really dresses the place up. It’s a morale builder that makes employees proud to be part of America’s Great New Railroad!

Yet at the same time remodeling of the Depot offices at Grand Canyon implied Santa Fe railway confidence in the future of travel by train to Grand Canyon and thus continued use of the Depot, the permanent closing on February 1 of the Harvey House in Williams, the historic Fray Marcos, which had accommodated and fed so many Grand Canyon travelers for half a century, balanced the scales with a counterweight of pessimism. The passing of the traditional “Harvey House” in Williams--and elsewhere along the Santa Fe--constituted another measure of the passing of an era in modes of travel in Western America.

Minor yard repairs during the summer of 1954 included installation of new power lines to passenger yard lights. The following February, Gene Linville and Bill Wright of the Water Service Department, recently transferred elsewhere, returned to repair the coach watering system. In June 1955, G.W. Gibson supervised repair of the station passenger platform. While the character of this work was undocumented, it probably involved repair of the deteriorating surface of the concrete platforms, deterioration possibly due to the use of salt to melt winter snow and ice. It was probably at this time that the railway applied a thin veneer of black asphalt over the surface of the concrete as a cheap alternative to proper resurfacing of the concrete with concrete.

The ‘Last’ Tree

When the Grand Canyon Railway had reached the south rim of the Grand Canyon of the Colorado River, it had turned east and laid its track up a usually dry wash to the end of its right-of-way grant, and several years later, another six hundred feet or so to the east edge of the station grounds grant. All along the rim, it lay among tall pine trees, literally in the middle of a forest. Early photos of the wye area show the stumps of many trees. Early photos of the Passenger Yard in front of the Depot show tall pines growing between the tracks, as well as all around them. As time passed, more and more of these stately old trees which had witnessed the coming of the white man and his machines, passed from the scene. First to go

were those which stood between the tracks, victims of realignment of the yard mostly during the second decade of the 20th Century. Then during the 1920s the stately old giant north of the yard and east of the Depot died. But it was not until early in 1954 that one of the last of the great old trees which had watched over the Depot from its beginning, the old pine which stood at the west end of the traffic island north of the station, passed from the scene. Eloise Turner wrote the sad obituary and The Santa Fe Magazine published it in a black box in its March issue:

A TREE DIES--As it must to all things, Death came last month to our magnificent old pine, sentinel at Grand Canyon depot. Unofficial "experts" who counted the rings in the 36-inch stump estimated its age at nearly 300 years. How much longer it might have stood at the pedestrian crosslane leading from the rail station to El Tovar steps no one can guess. Pavement and violence of nature sounded its death knell. The tree had been slowly dying for years after precious moisture was cut off from its roots by paving all around its base. Efforts to save it were made a few years ago by intensive irrigation at its roots, but the old tree's doom was sealed two years ago when it was struck by lightning during a summer thunderstorm. Many passengers stopped to admire its height, or stooped to gather some of the large cones it dropped from topmost branches where once it "wore a nest of robins in its hair." ...Park workmen felled the tree against its lean--tricky business--missing the street light and El Tovar steps. The young pinon and juniper...in the path of the toppling giant had to be sacrificed. Now our hillside looks bare. So what, you say? Just another tree. This one was "special."

Other, mostly smaller, trees continued to surround the railroad yard, but at some distance, except at the south side where they crowded closest. But the Coach Yard no longer seemed quite as much in the middle of a pine forest as during its younger years, and there were those who mourned each ancient tree which passed.

Reminiscence of the Depot

Many years later, Eloise Turner described the Depot remembered it during the 1940s and 1950s:

The "small room" at the east end was the express, freight and baggage room. The "porch" at that end was used for loading and unloading freight and express. The door on the rail [track, or south] side of the room slid open for receiving shipments from the baggage trucks which brought it from the trains. Such shipments included anything from suitcases, trunks, etc, which might have been checked through on a passenger's ticket to shipments of milk, fresh vegetables, items for Fred Harvey newsstands... The door to the left of the baggage room opened into a small room where train passengers checked and/or claimed baggage they had not carried on the Pullman or coach. The two windows next were in the main office where tickets were sold, and where telegraph and teletype messages were sent and received, The next door opened into a cubicle used exclusively by trainmen who "reported in" and received train orders. The next two windows are in the Waiting Room which served incoming and outgoing passengers. The Agent's private office was opposite these windows. On the

north side of the building was the private entrance to our living quarters, upstairs, and the other two doors were to restrooms for passengers.

The apartment included a living-dining room, (two windows above main office,) two bedrooms (window above the baggage room door) hallway with seven (yes 7!) doors giving access to a coat closet, the bathroom, the two bedrooms, living room, kitchen, and the stairs. There was a small butler's pantry off the kitchen which opened into a utility room which is "under the eaves" at west end, above the waiting room. I had clothes-lines...washing-machine, trunks, and even a double bed in this room. There were storage areas under the eaves, and one small closet.

...No additions were made to the building proper while we were there. Improvements the railroad company made for us included installation of an electric range, building cabinets in the kitchen and bath, and installing a shower above the tub. (The housewife before me [Mrs. Lester Ge. Carr] used a New Perfection Oil Range in the kitchen--much to my amazement, I might add.) The station and our quarters were steam heated, so there was a radiator in every room...

Perhaps the most unusual use of the kitchen window on the west side, directly above the agent's office, was for our fascinating hobby of watching the birds at our feeding tray attached to that windowsill...

Sale of Railway Property to Fred Harvey

The year 1954 marked a half century of the Fred Harvey company at Grand Canyon, for it was late in 1904 that it had taken over management of the old Bright Angel Hotel, and at the same time made preparations to open the new El Tovar, then nearing completion. Equally if not more important, 1954 was the year that Fred Harvey purchased from the Atchison, Topeka & Santa Fe Railway the hotels and other tourist facilities at Grand Canyon which Fred Harvey almost always had operated but which the railway had built, owned, and always maintained.

From the perspective of the railway, the sale constituted another milepost in that company's retreat from involvement with Grand Canyon. Not only did it sell El Tovar, Bright Angel Lodge, the Motor Lodge, Phantom Ranch, Hermit's Rest, the Desert View Watchtower, Hopi House, Lookout Studio, and certain other facilities such as dormitories, barns and corrals to Fred Harvey, the railway donated to the National Park service the Power House with all of its equipment, and the utility systems, including all power and water facilities. "The Santa Fe still remains very much interested in the Canyon for it is the only railroad which runs to the Rim, and it will continue direct Pullman service to the South Rim on certain transcontinental trains as in the past," the Fred Harvey employees' magazine informed its readers. Nevertheless, the railway's disposal of all of its Grand Canyon buildings and structures except the Depot, the tracks, and certain other minor railroad structures constituted the single greatest change in the status of the railroad at Grand Canyon and in Grand Canyon National Park since its construction in 1901.

Concurrent with sale of the hotels and other tourist facilities by the railway to Fred Harvey, the latter firm negotiated a new twenty year concession contract with the National Park Service which included a million dollar program of seven major improvements to be spread

over the next five years. These included: purchase of a fleet of ten new modern sightseeing buses (accomplished in 1954); remodeling the cocktail lounge in El Tovar; construction of a "Trading Post" with refreshment facilities near the Desert View Watchtower; adding new dining room facilities at Bright Angel Lodge; enlarging and modernizing the Auto Camp cafeteria; redecorating and modernizing the Auto Lodge cabins; and most significant, construction of two new "motor hotel" buildings near the Rim between Bright Angel Lodge and El Tovar; necessitating moving an old El Tovar employees' dormitory, the "Brown Building," across the tracks to a new location south of the rail road and east of the stem of the wye.

The National Park Service, not wanting actually to operate the power plant and utility systems, contracted before the end of the year for Fred Harvey to operate them, since it was one of the largest customers for power and water anyway. Henceforth, the railway had to pay power and water bills for the electricity and water used in the Depot and coach yard--it was just another consumer instead of the producer--and the cost of heating the Depot in winter would one day be a subject of considerable unhappiness.

The Last Passenger Train to Grand Canyon

On Tuesday, July 30, 1968 at Williams Junction, Arizona, Engineer V.J. Conway and Fireman J.E. Bland climbed into the cab of diesel locomotive No. 730 while Conductor J.D. Hart and two brakemen whose names went unrecorded entered baggage car 3919 and coach No. 2924 to stow their gear. The train may have coupled to one or two pullman cars. Main line schedules had changed on June 16, and according to the final schedule, it was 8:30 a.m. Arizona time that Conductor Hart called "All Aboard," waved the engine forward, and climbed aboard the train, while Engineer Conway signaled two short blasts on the air horn and opened the throttle on the last passenger train to Grand Canyon, scheduled to arrive there at 11:15 a.m.

After a six and a quarter hour layover at Grand Canyon, inconspicuously and unheralded, at 5:30 p.m. Arizona time on Tuesday, July 30, 1968, after checking in the Depot for a clearance and any train orders which were applicable, Conductor Hart called "All Aboard" for the last time at Grand Canyon Station, waved the engineer off, and Engineer Conway signaled twice with the air horn, released the air brakes, and notched back the throttle. The last Santa Fe passenger train to leave Grand Canyon Depot accelerated forward, rolled down through the old coach yard built about 1904, down past the 1927 wye on the main track laid in September 1901, and across the Village Loop Road, the one location where train passengers could actually see, for a final time, from windows on the right side of the passenger cars, a brief glimpse of the Grand Canyon itself. Rolling onward, Engine 730 passed over the west switch to the wye, hummed past the storage tracks at the west end of the yard and the loading ramp there for Cotter Corporation uranium ore, past the Yard Limit sign and out of the Grand Canyon Yard, through the sage, pine, pinyon and juniper of the Coconino Forest, and out over the cattle guard which marked the national park boundary, for the last time. This returning train was scheduled into Williams Junction at 7:15 p.m., after which the Albuquerque Division dispatcher inscribed on his train sheet, "No. 14 and 15 discontinued on arrival Williams Jct July 30, 1968." An era had ended at Grand Canyon.

Closing the Grand Canyon Depot

Discontinuance of passenger service on the Grand Canyon line after July 30, 1968, did not automatically entail closing the Grand Canyon Depot, for the railway still operated its weekly freight train each Wednesday, although in 1967 it operated no extra freights. (The railway also operated 13 work trains on the Grand Canyon District in 1967.)

Nevertheless, railway management concluded that the paperwork involved in handling this freight traffic could be handled by agents at Williams or Flagstaff by mail and telephone, and that continued staffing at the Grand Canyon was unnecessary. Furthermore, following discontinuance of passenger traffic, the National Park Service began pressing the railway to relinquish its station grounds grant in order to permit development of a parking lot where the tracks of the old Passenger Yard lay in front of the Depot. After extensive internal discussion as well as discussions with the park superintendent and his staff, the railway applied in the spring of 1969 to the Arizona Corporation Commission for permission to “discontinue all services at its railroad station facilities at Grand Canyon, Arizona, and to abandon said facilities along with a portion of the railroad yard serving the Grand Canyon station,” requesting further to be permitted immediate abandonment without a month’s prior notice to the public. Aside from the fact that the Grand Canyon station facilities no longer were needed for passenger traffic, the railway noted that the land would revert to the government if it abandoned station facilities, and the Arizona Corporation Commission cited as the central reason for the railway’s application that

The United States Department of the Interior has asked the Atchison, Topeka and Santa Fe Railway Company to abandon the station facilities and railroad yard at the earliest possible opportunity because the land which would then revert to the United States is needed to provide additional parking facilities for Grand Canyon National Park to accommodate visitors to the Park during the summer of 1969 and thereafter; if the railroad is required to follow the thirty (30) days’ notice provision of A.R.S. #40-367 (A) before abandoning its facilities, the land could not revert to the United States until sometime in June, 1969, at the earliest and the needed parking facilities could not be completed until well into the summer.

Accordingly, under Docket No. R-11958, the Arizona Corporation Commission announced in Decision No. 40009, issued May 12, 1969, that it would allow the railway “to discontinue all service at its station facilities at Grand Canyon, Arizona, and to abandon the same along with the railroad yard used in connection with said station facilities, except that this Order shall not extend to the main track and wye turn-around portion of the yard.” The abandonment was to be effective immediately.

“Immediately” as far as the railway was concerned would require some phasing out. At 2:30 p.m. on May 13, the day following granting of authority by the Arizona Corporation Commission, Santa Fe Division Superintendent Earl Gillmore issued instructions by teletype to Agent Burns at Grand Canyon, Agent Irvin at Williams, and a number of Santa Fe officials in Winslow, Flagstaff, Los Angeles, and Topeka that the railway would close the Grand Canyon Depot at the end of the shift terminating at 6 p.m. on May 16, 1969. Agent D. L. Burns, however, was to remain on duty for four more days, until the close of his shift on May

20, to close out station records, which would terminate his assignment. On the following day, May 14, 1969, the railway issued Albuquerque Division Bulletin No. 567, which made the closing official.

Thus passed into history the Grand Canyon Agency of The Atchison, Topeka and Santa Fe Railway, after 67 years, seven months and 24 days of operation, all but about eight and a half of those years in the log building below El Tovar next to the old Passenger or Coach Yard.

As it turned out, closing the Depot did not mean that the Santa Fe would relinquish the land to the National Park Service, and in fact it would be a decade and a half before the railway gave up ownership of the station grounds and the station building.

Meanwhile, Agent Burns had to dispose of the contents of the building, and before long other uses for it would arise. No complete inventory of the contents of the building has been found, but various correspondence showed the nature of selected contents. Railway employees had removed some material even before the Depot closed, such as a carton of fusees, 500 remittance envelopes, 500 RRB envelopes, and 25 large and 25 small binder covers, all sent to Winslow in February 1969. Burns also had on hand in February 25 bundles of presto logs for dining cars, a 500-pound balance platform-type scale on metal wheels, an old style of baggage truck with steel wheels, a more modern type of the same with rubber tire wheels, and a roll of 36-inch kraft paper; all of which he wanted to ship elsewhere.

Agent Burns, furthermore, had received a request to purchase the Depot's wheelchair, a wooden three-wheeled variety, even before the Depot closed. Subsequent to closing, there remained a Santa Fe teletype, three telephones, and several electric space-heaters which needed to be removed. Agent Irvin at Williams had orders to pick up all the ticket stock and station records from Grand Canyon for storage at Williams. Additionally, on May 29, 1969, Santa Fe freight car 31411, spotted on the pit track at Williams, contained two old baggage carts and scales (probably those Burns earlier wanted to ship), as well as three old push cars, file cabinets, and desks, which Division headquarters ordered Agent Irvin to bill and forward to Winslow. Finally, Car No. 13525 at Williams contained "soil cans" (for sewage from passenger cars, otherwise known as "sanitary cans"), water hoses, another old push car, and some old tools from Grand Canyon.

Now vacant but not unwanted, the Depot building soon had suitors. Even before the Depot closed, Pastor R.R. Thompson of the Baptist church at the Grand Canyon had in 1968 inquired as a result of rumors about potential closing of the agency about the possibility of either buying or leasing the old Depot for use as a church, since the existing church was inadequate for the numbers in attendance, at least during the five month tourist season. No sooner had the Depot closed than the railway received a request from the National Park Service to use the upstairs in the Depot as park employee living quarters, so tight was government housing at Grand Canyon, and before railway management made any decision on that, in January 1970 the Bish Contracting Company, which had won a National Park Service contract for work on the sewage treatment plant at the South Rim, asked the railway if it could rent the entire Depot for a year for use construction offices. Subsequently the railway signed a lease the Bish firm, the first of three uses of the building after its historic closing in 1969.

The year 1972 was the centennial year of the establishment of the first national park in America, for it was one hundred years earlier that Congress created Yellowstone National Park. Although not established as a bureau of the Department of the Interior until 1916, the National Park Service chose to celebrate the centennial of the establishment of Yellowstone as the centennial of the origin of the National Park System, and accordingly designated 1972 as the National Park Centennial Year, to be celebrated by each and every park in the system in its own way. The Women's Centennial Committee organized at Grand Canyon for one such celebration chose to reopen the Grand Canyon Depot, closed and empty again since the Bish Company had completed its sewer system construction and departed. The women planned to use the Depot as a summertime "interpretive" center, with members of the committee and volunteers dressed in period costume to talk with visitors about life at Grand Canyon during the early 1900s, and to prepare exhibits on Grand Canyon history. While Grand Canyon National Park management would assign a full-time interpreter for five days a week in July and August, it also solicited volunteers to enroll officially in the "Volunteers-in-the-Parks" program (nicknamed "VIPS").

As exhibits, the women obtained on loan from the Santa Fe Rail road Museum in Topeka period chairs, table, and desk, an old adding machine, photographs and paintings, ticket date stamps and ticket punches, and other railway material. From local sources they gathered clothing worn at Grand Canyon in the 1920s and 1930s, and luggage and trunks to fill the baggage room. A Fred Harvey exhibit featured one of the women in a 1912 Harvey waitress' uniform, consisting of black dress, shoes, and stockings, and a white apron and cap, as well as examples of early table service used in the Harvey hotels.

The Depot opened to the public on the evening of July 17 in a "Grand Reopening" which featured a photography collection on loan from Phoenix College, as well as refreshments made by five of the women. "Santa Fe Depot Takes Part in Park Centennial," announced a headline in the Williams News on August 3, 1972, and operation of the building as an interpretive center that summer seemed a success. Unfortunately, it was only for a single summer, and for a single purpose. After it closed that fall, again the Depot lay empty, forlorn and abandoned.

On May 15, 1976, the railway leased the Grand Canyon Depot to a Flagstaff firm, Canyoners, Inc., for operation as a concession for the sale, rental and repair of hiking and backpacking equipment, and as a concession offering guided hikes. "We are located in the historic Santa Fe railroad depot near El Tovar Hotel," claimed the firm's advertising cards. This concessioner continued to operate in the railroad Depot until after the National Park Service acquired the building in 1984, when in a landmark court case the court upheld the right of the Service to cancel the firm's lease in order to serve a more essential need.

Recognition of the Depot as a Historic Building

In January of 1969, a request was made by the Superintendent for an evaluation of the historical importance of the Depot building in anticipation of the withdrawal of the Santa Fe Railway. The response was not particularly kind to the Depot and the Assistant Regional Director suggested that "the station itself is not particularly significant" and hoped that the

finding of the “history experts will suggest that we do away with the building when and if it becomes ours.”⁸ In fact a 1965 master plan map [see appendix] shows the Depot with an X through possibly indicating that it was targeted for demolition even before the end of rail service. Fortunately the response from the “history experts” was that the building was of considerable historic significance and that it should be retained along with “all the rails and tracks in the yard associated with the Depot.”⁹ This last recommendation did not go over too well and the National Park Service responded that it “is unfortunate that the depot occupies such a strategic location with regard to traffic flow and other visitor use consideration...But – the idea of perpetuating all of the existing yard trackage adjacent to the depot is completely unrealistic... We have for years considered this trackage to be the greatest eyesore along the South Rim.”¹⁰ But, while on the one hand the National Park Service was seeking to tear up most of the historic railroad tracks, on the other it did take steps to recognize the historic character of the Grand Canyon Depot. On December 15, 1971, Park Ranger Ezekial Jaramillo completed a form nominating the Grand Canyon Depot to the National Register of Historic Places. The Santa Fe Railway Company initially opposed the nomination and apparently was able to block its nomination.¹¹ But eventually after processing by the Arizona State Historic Preservation Officer, the National Park Service in Washington listed the Depot in the National Register of Historic Places at local level of significance on September 6, 1974 based on Jaramillo’s general summary of its history. Subsequently, on May 10, 1974, National Park Service Western Regional Historian Gordon Chappell assisted by Regional Historical Architect Robert Cox and Regional Archeologist Roger Kelly completed a National Register nomination for the Grand Canyon Village Historic District, subsequently listed in the National Register on November 20, 1975, which mentioned the Depot specifically as contributing to a historic district of regional level of significance. This historic district form also attributed architectural significance to the Depot, which the form on the individual building did not. Neither form specifically addressed the yard tracks, a number of which by 1975 had been torn up. The Depot building was also listed as a National Historic Landmark in 1987 and as a contributing structure to the Grand Canyon Village National Historic Landmark District in 1997. Finally in 2000 Al Richmond prepared a National Register Nomination for the “Grand Canyon Railway”. This nomination included not only the rail line but the Grand Canyon Depot and all related historic features encompassed within Grand Canyon National Park, as well as those outside of the Park.

⁸ National Park Service, J.M. Eden, Assistant Regional Director, Operations, Santa Fe, NM, letter to Chief, Office of Archeology & Historic Preservation, National Park Service, Jan. 20, 1969

⁹ National Park Service, Chief, Office of Archeology & Historic Preservation, Washington, D.C., letter to Regional Director, Southwest, Sept. 30, 1969

¹⁰ National Park Service, F.F. Kowski, Regional Director, Santa Fe, NM, letter to Director, National Park Service, Oct. 6, 1969

¹¹ National Park Service, R.R. Lovegren, Superintendent, Grand Canyon National Park, letter to J.S. Reed, President, Santa Fe Railway Company, June 7, 1972

Abandonment of the Grand Canyon District by the Santa Fe

In 1980, the Atchison, Topeka & Santa Fe Railway filed with the Interstate Commerce Commission an application for a certificate of Public Convenience and Necessity permitting the abandonment and scrapping of the Grand Canyon District. Upon hearing news of the filing of this application, Regional Historian Gordon Chappell recommended to Park Assistant Superintendent Bruce Shaw that the National Park Service ask the railway for donation of the Depot building and all the tracks within the yard limits. Subsequently the park did approach the Santa Fe for the Depot and some of the tracks within the yard limits, excluding the wye tracks and those west of the west end of the Village Loop Road. The railway company agreed to the donation of the Depot and tracks requested, but for legal reasons this was made part of a larger court proceeding involving a “friendly condemnation” suit to settle once and for all land-ownership questions regarding the “condition of reversion” applicable to the right-of-way and station ground grants within Grand Canyon National Park once the railroad was removed. The U.S. District Court lodged a judgment in that suit favorable to the National Park Service on June 21, 1982.

After several abortive proposals to revive the railway as a steam powered, tourist-hauling carrier, the Atchison, Topeka & Santa Fe Railway contracted with Railroad Resources, Inc., of Phoenix, a railroad industry firm specializing in railroad dismantling, railroad construction, and the handling of second hand track material, motive power, and rolling stock, to dismantle the Grand Canyon District trackage. After studying the matter however, Railroad Resources returned to the Santa Fe and negotiated instead an option to purchase the line rather than to scrap it. Early in 1984 they ran a ballast regulator from Williams to about Milepost 58, clearing the track of brush, weeds and small trees, in order to inspect the line. Subsequently in May 1984, Railroad Resources, Inc. purchased the line from the Santa Fe with the intention of restoring it to service as a steam-powered tourist carrier. For operation on it, they purchased from the Southern Pacific Company ten “Harriman”-style grey commuter coaches built in the 1920s, and from the New Jersey Transit Authority 14 clerestory-roof coaches of similar vintage, both types somewhat similar to the “heavyweight” cars used on the line by the Santa Fe. Railroad Resources then engaged in negotiations in Mexico and throughout the United States for purchase or lease of steam locomotives. The company projected initial operation of a “V.I.P.” special train on Memorial Day, 1985, and the beginning of regular service on July 4, 1985. The plan was not successful and in 1988 the company made plans to begin removing and salvaging the line.

Rail Service Resumes to the Grand Canyon

In 1988, the line was bought by a Phoenix, Arizona, couple, Max and Thelma Biegert. The Railway was reopened for passenger service on September 17, 1989, eighty-eight years to the day of the first passenger train to the Grand Canyon. “Bringing the Grand Canyon line back to life really came down to the eleventh hour,” explained then Williams Marshal John Moore. “As Grand Canyon Railway was working on getting the final paper-work complete, a corporation which made a failed attempt to restore the Grand Canyon line, had begun tearing it up for salvage materials. If it hadn’t been for Grand Canyon Railway, train service to the Grand Canyon would have been permanently lost.”

In 1989, Grand Canyon Railway put a stop to the salvage work and began a detailed restoration process. The decaying tracks were rebuilt, repair work was done on the historic depots at both ends of the line, and after 21 years passenger service once again returned to Grand Canyon National Park.

The small, non-historic utility building (building no. 548) was demolished in the summer of 2003.

Sale of Railway Property to Xanterra

In March 2006, owners Max & Thelma Biegert announced to the media that they were placing the railroad and its associated restaurants, hotels and amenities up for sale. The combined properties have annual revenue of nearly \$40 million. The Biegerts stated that they were seeking a new buyer/operator with a possible theme park background, which will ensure that the railroad, hotels, RV park, restaurants (and a possible new amusement park in Williams) will continue to be operated as one entity.

On September 21, 2006, it was announced that Xanterra Parks & Resorts of Denver, CO, had submitted the winning bid (for an undisclosed sum) and was selected as the new owner for the Grand Canyon Railway. Xanterra is the current operator of the Grand Canyon National Park's hotel, restaurant and store concessions, as well as National Park Service concessions of many other national parks throughout the nation. Xanterra is the corporate name and identity for what was originally known as 'The Fred Harvey Company'. The purchase of the GCR includes all of the Railway's assets outside of the Grand Canyon National Park¹², including land, depots (but not the Grand Canyon Depot which has been owned by the National Park Service since the 1982 "friendly condemnation"), hotels, RV park, rolling stock, shops and linear pieces of land along the 65 mile (105 km) line.

¹² The sale of GCR to Xanterra does not include any real property within the Grand Canyon National Park.

1.1.1 STATEMENT OF SIGNIFICANCE

The historic and architectural significance of the park's resource is defined in the 1987 National Historic Landmark nomination as follows:

The Grand Canyon Depot has multiple aspects of significance. First, the building is one of approximately 14 log depots known to have been constructed in the United States, and it is one of three remaining. Out of those three, the Grand Canyon Depot is the only one where logs were used as the primary structural material, rather than as ornament to make the building seem more rustic.¹³ As an architectural symbol, the building served as the introduction to the Grand Canyon setting the tone for the visitor experience during days of train travel; and it continues to contribute a substantial sense of place to the area so painstakingly developed as a "destination resort" by the Atchison, Topeka, and Santa Fe Railway. The Depot is integrally connected with the development of El Tovar and the South Rim of the Grand Canyon and as such had a major impact on revenues of the Santa Fe system and on the nation's entire railway network through connecting service with other railroads. The Depot is at the branch-line terminus of the only railroad line inside national park boundaries--the railroad came first and then the park was created. The massive publicity campaign undertaken by the Santa Fe increased public awareness of the Grand Canyon and undoubtedly aided in efforts to establish the area as a national park in 1919.

The first railroad into the Grand Canyon vicinity was the Santa Fe and Grand Canyon Railroad, organized in 1897. The company went bankrupt in 1900, when its tracks were still eight miles short of their South Rim destination. The Grand Canyon Railway, organized by a subsidiary of the Atchison, Topeka, and Santa Fe Railway, bought out the bankrupt short line and finished construction of the rails in 1901. The Railway developed the railroad yard and the luxurious El Tovar hotel and built a small frame depot to accommodate passengers coming and going. The boom in railroad tourism, brought about by railroad promotions of destination resorts like the South Rim, created the need for a larger depot that would contribute to the image the railway was seeking. The economic push behind the idea of a destination resort was not that the railway made money off accommodations when visitors came to an area and vacationed there for several weeks; their biggest revenues came from increased passenger traffic.

The use of the Grand Canyon as a main resort and the key feature depicted in advertising and timetables--was so successful that the "Grand Canyon Line" which originally referred only to the branch line between Williams, Arizona, and the Grand Canyon, became synonymous with the entire Atchison, Topeka, and Santa Fe Railway system.

To visitors the Depot still represents the concept of a western national park: rustic and scenic. When train travel was the primary mode of getting to Grand Canyon even before the area was

¹³ 1985, National Park Service, U.S. Department of the Interior, "Statements on Architectural and Historical Significance" by Gordon Chappell, on file at the Denver Service Center, no pagination.

set aside as a park, the Depot was the gateway through which they entered the developed area of the South Rim. The building's style and ambience was perfect for the feeling of civilized frontier that the Railway created in their south rim development. The Depot, with the "Grand Canyon" name prominently displayed on its front elevation, remains an architectural focal point continuing to draw attention to that rustic image. Today visitors are consistently causing traffic jams when they stop on the road to photograph that symbol of a national park. The building is the most photographed structure at Grand Canyon.

The architect of the Depot was Francis Wilson, who designed a number of residences and community buildings around Santa Barbara, including a residence for Edward Payson Ripley, president of the Santa Fe Railway. Wilson's training had been as a draftsman working with Albert Pissis, designer of major neo-classical revival buildings in San Francisco, and through the study of European architecture during his extensive travels here. His first job with the railroads was designing the Santa Barbara passenger depot for the Southern Pacific. He then moved on to employment with the Atchison, Topeka, and Santa Fe Railway--undoubtedly based on his previous work for Ripley--designing depots and depot hotels at Ash Fork and Williams, Arizona, and Needles and Barstow, California. He was involved with the remodeling of Bright Angel Hotel at Grand Canyon, and then began work on the Grand Canyon Depot in 1909. Most of Wilson's designs were typically Californian in nature: buildings with mission-revival and mediterranean influences with a hint of an arts-and-crafts character--typical of what other California architects of the time were doing. His log depot at Grand Canyon, however, was unique in his work as the only log building and the only rustic building he designed. Yet even this building had some classical undercurrents, with its symmetrical configuration and rustic pediments.

Francis Wilson designed the building with obvious connections to El Tovar. The logs were compatible with the log slab siding of the large hotel. The chandelier in the waiting room was similar to those in El Tovar. The dark wood wainscoting was the same deep brown as the interior paneling at El Tovar. Even the local newspaper commented in 1909 that the railway was in the process of building a "rustic bungalow station at Grand Canyon, patterned after the El Tovar Hotel." The rustic feeling inspired by this building was subordinate to, yet complimented the finer appointments of El Tovar. Wilson's choice of details in construction--fitting the logs together so tightly that water could not penetrate, and allowing for good drainage whenever possible were far superior to the log construction details of El Tovar.

Passenger service to Grand Canyon ended in 1968. A railroad agent remained at the Depot to handle freight, but that operation was shut down a year later. The National Park Service acquired the property in 1982 in a series of legal proceedings involving other Santa Fe properties and rights-of-way at the Grand Canyon. Since the Depot's closing as a railway office, the building has been used as construction offices, as a small interpretive center during the Bicentennial, as a concession for renting hiking and backpacking equipment, and as park offices. In 1988 the railroad was purchased by the Grand Canyon Railway company and daily rail service was restored to the Grand Canyon in 1989. At that time, the Depot's first floor was returned to its original use as a railway depot and remains so today. The Depot is routinely maintained by the National Park Service and Grand Canyon Railway.

1.1.2 PERIOD OF SIGNIFICANCE

In a sense the entire history of the Grand Canyon Depot from its conception and construction in 1909 and 1910, to its closure as a functioning depot in 1969, and finally to its revival as a railroad depot in 1989 and continued service to the present, is significant. Many different periods of significance have been suggested in previous documents. Gordon Chappell in his 1984 Historic Structure Report recommended the period from 1927 to 1940. The 1974 National Register Nomination lists only the 20th Century, specifically the 1890's as the period of significance, which probably can be assume to mean the period from the 1890's to the date of the nomination, i.e 1974. The 1987 Historic Landmark Nomination listed the period from 1909 to present, again presumably meaning the date of the nomination.

In terms, however, of selecting a period of historic scene to preserve, including the Depot, its site and the railyard, the years 1927 to 1934 are recommended. The Depot itself remains on the exterior little changed in appearance since its construction, except for addition of a storm vestibule entrance with small office included (1929). The Depot itself thus could easily be restored on the exterior to its 1910 appearance. Realistically, however, it is impossible to change the surrounding historic scene back before about 1927-1934. Doing so would require removal of the concrete station platforms built in 1927, which are in themselves historic structures, and the reconstruction of expensive wooden plank platforms which would pose a constant, costly maintenance headache. It would also mean the removal of the iron fence and collapsible gate built in 1929, also historic, and the removal of the stone wall at the east end of the Passenger Yard, constructed in 1934, and the reconstruction of the earlier battered stone wall. Therefore, with these preservation constraints in mind, the period 1927-1934 is recommended as the main period of focus for preservation purposes. This period corresponds to the major fulfillment of the Village plan with its community attributes and significant landscape features which were done under the direction of Dan Huff and during the CCC era.

Since the Depot building has changed little even up to the present a second period of significance from 1929 to 1968 is recommended for the Depot building alone. This period represents the period when the full extent of the structure was completed and remained functionally intact during the period of uninterrupted passenger service. The only significant change to the building after 1934 was the replacement of the wood shingle roof with asbestos shingles in 1940. These were subsequently removed and replaced with wood shingles again in 1986. The wood shingles are a significant character defining feature and therefore the period of significance for the roof should be considered to be prior to the installation of the asbestos shingles in 1940. In addition the second floor has been modified many times over the years simply as a result of its function as a residence and the tastes and styles of the various residents. There is little historic value in restoring the second floor to the main period of significance. But only relatively minor changes have been made to the second floor since the end of rail service in 1968 so within the period of significance recommended for the Depot building of 1929 to 1968 it can be preserved in essentially its current configuration.

1.2 CHRONOLOGY OF DEVELOPMENT AND USE

Timeline Summary of Grand Canyon Depot Design, Construction and Use

1901	First depot (building no. 573), a small board-and-batten gable-roofed building built south of Bright Angel Hotel.
1903	Small “rustic” depot designed for Grand Canyon but never built.
1905	Original depot (building no. 573) and station sign moved from location south of Bright Angel Hotel to new location at the southeast corner of the Powerhouse.
1907	New two story functionally-styled hip-roofed depot designed but not built, but established floor plan basically followed in the depot which was built later.
1909	New “rustic” log depot designed by Santa Barbara architect Francis W. Wilson, contract let to A.W. Anson to erect it, October 27.
1910	Present “rustic” Grand Canyon Depot built with copper letters spelling “Grand Cañon.” First depot relocated to northwest to serve as office of Chief Engineer of the Power House. New Depot opened by mid-summer; date of completion unknown.
1911	Copper letters spelling “Cañon” on south façade of Depot changed to read “Canyon” by May.
1919	Depot plans revised to show proposed changes in the building; among them, raising roof over Waiting Room for addition of new second story bedroom, a change never made.
1920	Plan for new vitrified brick station platform, which was never built.
1925	Probable date of reducing Women’s Rest Room by half, to create space for new office (plans are unclear; slight possibility change was in 1949).
1925	Possible date of the addition of a bedroom on the second floor over the Waiting Room.
1927	New concrete station platform built late in the year.
Late 1920s	Board ridges and protruding barge board rafter ends begin to disappear from the roof of the Depot. By the late 1930’s they are completely gone.
1929	Storm vestibule entrance and small office added to west end of Depot, adjoining the Waiting Room beneath the covered platform.

- 1929 Iron fence added north of Passenger Yard both east and west of the Depot, with a collapsible gate south of the covered platform.
- 1930 Battered stone wall built at east end of Passenger Yard by railway.
- 1934 Relocation of the Village Loop Road down off the hill to along the north side of the Depot.
- 1934 Demolition of railway's battered stone wall east of the Passenger Yard and construction of a new vertical curved random ashlar stone wall.
- 1939 Remodeling of unspecified nature undertaken in Agent's Office in the Depot.
- 1940 Depot exterior painted.
- 1940 Wood shingle roof replaced with Johns-Manville asbestos-cement shingles.
- 1942 "Oil Paving," probably asphalt, of an L-shaped area at the southeast corner of the Depot.
- ca. 1943 At an undetermined date between 1942-1945 iron rods of the Depot fence sawn off above the crossrail after a deer impales itself.
- 1948 Depot foundation "reinforced" with concrete to "thwart termites."
- 1948 New copper steam pipes installed throughout.
- 1948 New walk on the south side of the freight house and new loading platform at the east end of the Depot.
- 1948 New paint job on the Depot.
- 1949 Revisions made to Depot plans – unclear whether reflecting changes made in 1949 or changes made earlier, such as turning half the Women's Rest Room into a new office; other changes indicated included: bathtub in agent's apartment reoriented, and changing orientation of built-in operator's desk.
- 1949 New sign added to Depot announcing the elevation and free bus from Depot to hotels.
- 1954 New fluorescent lights installed in Depot first floor office area.
- 1954 Iron "cage" at counter removed.
- 1954 Unspecified remodeling of the Depot interior including floor covering and new desks.

- 1954 Large pine at the west end of the traffic island on the north side of the Depot dies and is removed.
- 1954 At undetermined dates in the 40s and 50s additions made to the agent's apartment including electric range, cabinets in kitchen and bath, and a shower above the tub.
- 1954 Atchison, Topeka & Santa Fe Railway considers abandonment of the branch line to the Grand Canyon.
- 1955 1901 depot (building no. 573) moved to South Entrance. It was demolished at an unknown date.
- 1955 Repairs to the Depot passenger platform – probably resurfaced with asphalt.
- 1968 Last passenger train departed Depot July 30.
- 1969 Grand Canyon Agency (Depot) closed May 16.
- 1970 Depot leased for one year to Bish Contracting Company for a construction office while working on the South rim sewage treatment plant.
- 1972 Depot reopened for the summer as part of the National Park Centennial.
- 1974 Depot building listed on the National Register as a stand alone building.
- 1975 Depot building included as part of the National Register district.
- 1976 Depot leased to Canyoneers, Inc for the sale, rental and repair of hiking and backpacking equipment.
- 1982 Ownership of Depot and tracks reverts to National Park Service from Atchison, Topeka & Santa Fe Railway through “friendly condemnation” suit settled in favor of Grand Canyon National Park.
- 1983 Atchison, Topeka & Santa Fe Railway begins the process to remove and dispose of the rail line to the Grand Canyon.
- 1984 Court upholds the right of the National Park Service to cancel the Canyoneers, Inc's lease in order to serve a more essential need.
- 1984 Railroad Resources, Inc. purchases the line from Atchison, Topeka & Santa Fe Railway with the intention of restoring it to service as a steam-powered tourist carrier.
- 1984 Roof work on the Depot including repair to log rafters, trim boards, gutters and asbestos-cement shingles.

- 1984 All of the windows are removed and reconditioned.
- 1986 Cement asbestos shingles removed and replaced with wood shingles. Work at this time probably also included repair of log rafters, gutter repair, removal of three planter boxes, repair to board gable ends, repair to the “GRAND CANYON” sign, re-staining the exterior, repair of windows, replacement of shutters on south gable, repair work on exterior doors, replacement of decking on loading dock, interior plaster repair.
- 1986 Two new downspouts are added to the west end of the Covered Waiting Area due to the settlement of the west end.
- 1986 The Loop Road was converted to one-way traffic.
- 1987 Depot listed as an individual National Historic Landmark under Criterion 4 for architecture on May 28.
- 1987 Electric cove heaters installed. The original radiators had already been removed sometime earlier.
- 1987 Extensive maintenance work begun and continued into 1989. Refer to the Maintenance Logs in the Appendix for details.
- 1987 East loading dock decking removed and replaced.
- 1987 “GRAND CANYON” lettering stripped of paint, straightened, polished and coated with clear laquer.
- 1987 Windows stripped of white paint. Inside received clear varnish and out sides were painted (H-C 72).
- 1987 Attic windows and shutters reconstructed.
- 1987 Wrought iron fence and gate removed, repaired and reinstalled.
- 1988 Window repairs: eave windows (bath and Pantry), Waiting Room, Agent’s Office, Stairway landing window.
- 1988 Plaster repair including extensive removal and replacement of sagging and falling plaster.
- 1988 Replacement of both north corner log ends at ground level.
- 1988 Replacement of some steps in the stairway.
- 1988 Insulation installed.

- 1988 Line was bought by a Phoenix, Arizona, couple, Max and Thelma Biegert who form Grand Canyon Railway.
- 1989 Depot leased to the Grand Canyon Railway
- 1989 Grand Canyon Railway put a stop to the salvage work and began a detailed restoration process including repair work on the Depot. Refer to the 1989 Depot Rehabilitation Drawings in the Appendix.
- 1989 First run of restored rail service to the Grand Canyon September 17.
- 1989 Stair railing restored.
- 1990 Handicapped accessible restroom added.
- 1990 Non-historic fluorescent light fixtures removed and replaced with reproduction fixtures approximately matching the historic fixtures.
- 1990 Grand Canyon Depot reopens in July.
- 1990 National Historic Landmark plaque installed in log stand south of Covered Waiting Area.
- 1990-92 Second floor used as office space for park engineering and resource staff.
- 1990-2007 Grand Canyon Science Center occupied the second floor for offices.
- 1994 Painting done in Women's' restroom, repair to plaster in Waiting Room and Agent's Office, accessible restroom repainted, photographs added in Waiting Room.
- 1995 Cleaned and grout/caulk floors in Women's Restroom
- 1996 Sink/countertops in Men's and Women's Restrooms resurfaced.
- 1996 Add section to the west end of the wrought iron fence extending to the old heating building (building 548).
- 1996 Wheel stops of 8-inch by 16-inch timber add to parking area west of the Depot to prevent further damage to the wrought iron fence. These were later removed.
- 1997 Depot listed as a contributing building to the National Historic Landmark district.
- 1997 Smoke and fire detection devices installed in the Dpot.

- 2000 Al Richmond's "Grand Canyon Railway" nomination to the National Register of Historic Places.
- 2002 Concrete platform and steam conduit reconstructed.
- 2002 Concrete Depot platform reconstructed.
- 2003 Building 548, a small, non-historic utility building, demolished.
- 2005 Stone wall east of the Depot reconstructed.
- 2005 Work done on the Depot included log viga repair work on the south façade, repair of damages eave, and repair of severely spalled concrete walkways.
- 2005 Northwest eave repaired following vehicle collision.
- 2006 Xanterra purchases the railroad and its associated restaurants, hotels and amenities outside of the park. The sale did not include any real property within the park.
- 2007 Fire suppression system installed throughout the Depot.
- 2007 Northwest eave repaired following vehicle collision and traffic bollards installed to protect the building.

1.3 PHYSICAL DESCRIPTION

General Statement

The Grand Canyon Railroad Depot appears today almost as drawn in the original design. Modifications to the exterior of the structure have been few and these that have been made are minor in nature. More modifications have been made to the interior of the structure than were made on the exterior. However, changes on the interior are almost entirely to the second floor. The second floor modifications do not affect the integrity of the existing fabric of the structure.

The plan of the structure is a basic rectangle on the first floor with the long axis in the east-west direction. A second story extends a few feet beyond the walls of the first floor centered on the north-south axis. The second story is supported on log columns and beams where it extends beyond the walls. A covered shelter extends to the west of the first floor and an uncovered loading dock is on the east elevation.¹⁴

The overall design motif of the structure is “Swiss chalet” rustic. This is a common motif carried out in many log structures of the period. Wide eave overhangs, exposed log rafter ends, log column and pilaster details, rough sawn lumber, wood shingles, multi-light casement windows, and long horizontal shadow lines all contribute to the above mentioned character of this structure.

The “Swiss chalet” rustic motif links the Railroad Depot to other structures at the south rim of the Grand Canyon. The architect's decision to create a Swiss chalet Railroad Depot at the south rim of the Grand Canyon should be respected in the proposed treatment for this structure.

Exterior Appearance

Excellent design and detailing by the architect, Francis W. Wilson, account for the longevity of this structure. This is perhaps the only log structure designed and executed by Mr. Wilson. His detailing and usage of the logs as a building material have resulted in an incredibly sound structure which has not been subject, until recent years, to the problems which usually plague log structures.

At first glance the log walls appear to be merely a veneer. The log walls of the structure are incredibly regular with courses measuring a constant nine inches. [Photographs E-18, E-19] At each joint between the log courses a 1 to 1 1/2 inch continuous strip of building paper appears secured to the lower log with galvanized roofing nails at 2 to 2 1/2 inches on center.

¹⁴ Much of this physical description section comes from the document: National Park Service, U.S. Department of the Interior, 1984, *Grand Canyon Railway Depot. Historic Structure Report* by Richard Borjes. No pagination.

The regularity of the coursing belies the fact that the logs are actually the structural element of the building. The logs carry the structure weight to the concrete foundation.

The architect's specifications for the Railroad Depot call for logs to be surfaced on three sides and "barked" on fourth side to create the continuous nine inch log courses. The specifications read as follows:

The first story walls up to [the] plate [are] to be made of logs 12" in diameter with three sides sawed so as to make 9" courses, the faces of logs to project 3" if possible, but in no case to project less than 2". The slab taken off the top of logs to be less than the slab off of bottom so that each log will project over the one below about 3/4". The lower inside corner of each log to be rebated as per detail to take a 1" x 2" strip which is to be nailed to the log below. As each course is laid put a piece of Rubberoid roofing [Photograph E-80] in the joint nailing it into the rebate, as shown, and allowing a projection of 3/4" on the outside. Give the top and bottom surfaces of every log a coat of creosote before laying in place.

Inspection of the log walls shows that the contractor followed the specifications for construction of these elements.

The building paper, called "Rubberoid roofing" in the specification, is Mr. Wilson's ingenious design element which replaces the usual mortar daubing, split log chinking, or oakum caulking of traditional log construction. The building paper is a continuous layer between each log course. The paper insures that each log drains freely to prevent deterioration.

Mr. Wilson designed the log crowning or sculptured log ends at each of the building corners as a false design element. [Photographs E-19, E-31, E-37] The logs are not continuous at the corners and the log crowns are added to give the appearance of a traditional log structure. Each crown was individually hand worked with adz and broad axe and then spiked onto the log ends at the corners. The log corners beneath the crowning are standard "stop log" construction with every other log, alternating between the two walls, continuing through the joint, to create the corner. The corners are squared and notched to receive the log crowning.

The exterior wall foundation was designed and constructed as concrete wall with spread footing. Concrete piers with spread footings were constructed to support the log columns. Interior bearing walls and columns were supported on similar foundations. The foundations were constructed without reinforcing steel.

The first story floor, except for the floor of the freight room, was concrete slab laid on grade. The floor in the freight room was constructed of wood joists and planking raised to the level of the east receiving dock.

Francis Wilson designed the shelter on the west side entirely of logs. [Photographs E-3, E-4, E-22, E-40 – 53] The structure is supported on 14 inch diameter log columns. The ceiling is open log rafters and tie beams. [Photograph E-21, E-49] Log king posts extend between ridge and tie beams connected with one inch wide iron straps. A false log ridge pole extends the length of the interior of the shelter roof. The actual ridge was installed as one by five inch

rough sawn board. The log rafters connected to the board ridge above, but were not attached to the log ridge pole.

Log connections were designed with metal pins and bolts. This is standard log detailing for log structures designed by architects. Metal fastenings take the place of traditional log joining techniques such as mortise and tenon and notching.

It should be noted here that the shelter is the only portion of the structure in which the roof was actually constructed with log members. All other roofs were constructed with 2 by 6 inch rough sawn rafters. Exposed log rafter ends at these roofs are only pole lookouts which are not structural other than holding the weight of the eave. These log lookouts extend into the attic approximately 4 feet 8 inches and are attached to the rafters with spikes.

The dock on the east end of the main structure is a simple concrete foundation with a wood platform. [Photograph E-5] The wood platform is constructed of 6 by 8 inch girders, with 2 by 10 inch floor joists spaced at 12 inches on center and 2 by 6 inch tongue and groove deck.

A particular design element is the window configuration installed throughout the structure. All windows were designed as casement. [Photographs E-89 and following] The sashes were constructed with multi-light panels over a single fixed light panel. The multi-light configuration was repeated in the transoms of the exterior doors of the structure. The number of multi-light panels varies between six or eight panels depending on the size of the window sash.

Another interesting design element is the exterior door. The doors were constructed of heavy vertical planks with two rectangular patterns on each door created from large iron brads. [Photographs E-93, E-95, E-108, E-110] Of special note is the door hardware. Cast brass knobs and escutcheon panels with the stylized letters "GC" on each knob were installed on each door¹⁵. [Photograph I-110] Trim for windows and doors were formed from log slabs.

The second story of the structure was designed and constructed with frame walls supported on six 18 inch diameter log columns, four columns on the north and two on the south elevations. [Photograph E-18] The columns are spanned by 14 inch diameter log girders in the east west direction at the second floor level. A classical design element was added by installation of four log slab pilasters on each of the north and south elevations. Much the same as classical pilasters, the log pilasters support brackets which then support the overhanging gable ends of the second story roof.

The rustic motif of the structure was carried out in materials at the second story level. Wood shingles laid in a straight butt coursing with every other course doubled fills the space between the pilasters and forms the east and west wall surfaces. The walls of the gable ends

¹⁵ By 1989 many of the original knobs and hardware were missing and for the reopening of the Depot in 1990 were replace with replica brass knobs and escutcheon plates matching the original lettering.

are sided with rough sawn vertical tongue and groove boards. Full length, log barge boards form exposed design elements on each of the four “main structure” gable ends.

The roof is wood shingle with board ridges. False log rafter ends extended from the roof surfaces to give the appearance that barge board logs extended through the roof. [Photographs E-66 – 88]

The addition of a vestibule on the west elevation of the main structure presents a change from Francis Wilson’s original design. [Photograph E-49, E-50] The vestibule, added in 1929, was wood frame with log slab siding and has not been changed significantly since its construction. A 7 1/2 inch concrete pad, poured over the original shelter floor slab, forms the floor and foundation for the vestibule. A storm entrance and office were created by this addition. The west door and window of the waiting room were covered by the construction of the vestibule but were not blocked out. These elements of the original structure remained operable.

Three windows and one door constitute the openings in the vestibule and all appear to have been fabricated for another structure. In each of the north and south elevations a single fixed 20 light window, has been incorporated. The front elevation of the vestibule has a three panel with single fixed light access door and a small 2 foot square “ticket” window. All openings are trimmed with log slabs.

The top log slab on each of the vestibule exterior walls was shimmed along the upper edge to tilt the slab outward. This detail adds a classical touch to a very simple structure by creating an entablature on the vestibule walls.

The Depot vestibule is in good condition although not insulated. Winter weather conditions have created the need for vestibules and airlocks on other Grand Canyon structures including Bright Angel Lodge and El Tovar Hotel. The vestibule’s date of construction (1929) fits within the period of significance for the Railroad Depot.

Also in 1929, the iron fencing, gates, and collapsible gate were proposed for addition to the structure to enclose the track and yards. [See Appendix 4.3.7] Both the fencing and collapsible gate were constructed at this time but neither were constructed as shown on the design drawing dated April 18, 1929. Presumably many factors including economics, fabrication, and on site revisions by the job supervisor, account for the differences between the drawing and actual construction.

The iron fence, as constructed, extends to the east of the railroad station in line with the south elevation. [Photographs E-6 – 14] This section of fence includes a large double gate to the east of the loading dock. On the west of the Railroad Depot the fence was constructed in the location shown on the design drawing. A note on the original drawing describes the fence and gates as follows:

NOTE: five foot iron picket fence with square metal posts set in concrete. Collapsible gate of standard design for passenger entrance. Double 12 foot gate for truck entrance. Entire fence to be painted black.

The “five foot iron picket fence” was constructed with a buttressed iron dowel where the square metal posts are shown on the drawing. The “double 12 foot gate” is of a different design entirely with cast iron ball capped, round iron posts replacing the square metal posts shown.

During World War II the fencing and gates were modified even further when the top of the pickets were removed as a safety measure. A section of fence to the east of the double gate still retains the picket spikes.

The collapsible gate “for passenger entrance” is of a standard design but not one shown on the drawing. [Photographs E-41 – 46] The gate installed has a lower profile and has continuous iron webbing rather than the double webbed iron pickets shown in the drawing. Although movement in the concrete floor of the shelter has distorted the bottom track, the operation of the gate is not impaired.

Another major modification affecting the exterior is the addition of asphalt surfacing to the road directly behind the structure on the north side and to the parking lot on the west side. The road is built-up to approximately two feet above the base of the structure and is, at the closest point, approximately three feet from the structure wall. The parking lot is surfaced to the edge of the shelter slab on the east and within three feet of the iron fence on the south side. Together the road and parking lot comprise a very large area of asphalt. A water runoff problem is created by this asphalt. [Photographs E-4, E-5, E-50, E-52, E-57]

The road accommodates the major circulation pattern for traffic in the area including busses and large vehicles. Traffic is one way on the road. At the Railroad Depot the road is split into two lanes by an island. The island is elliptical in shape, with stone curbing around the perimeter. There is a traffic sign at the east end of the island that says "keep right," so all general traffic keeps to the right (north) side of the island. The only traffic on the south side of the island is Grand Canyon Railway service vehicles or the Fred Harvey Tour buses, both of which are authorized vehicles. General public vehicles are not permitted to use the south lane. According to their contract, only a certain number Fred Harvey tour buses are permitted within the vicinity of the Depot at any one time.

But with the south lane so close to the Railroad Depot, vehicle impact is almost unavoidable. Vehicles turning from this lane into the west parking lot compound the problem. Damage was probably frequent and either bollards or closing of the inner lane were considered as far back as 1986. Damage occurred frequently in recent years, resulting in closing the inner lane in 1986 and installing bollards in 2007. The vehicle access of the south lane is a permitted use of the space that is presently being reconsidered by Grand Canyon NP as part of the new Transportation Master Plan under development.

Interior Appearance – Ground Floor

Francis W. Wilson carried the rustic character of the exterior into the interiors of the Railroad Depot. His log slab wainscoting and trim and sand finished plaster walls and ceiling helped

create this character. For the concrete floor finish he used a 12 inch square grid pattern mimicking quarry tile and thus enhancing the rustic character.

The lower floor plan of the structure, adopted by Mr. Wilson from a 1907 plan, includes a waiting room, an office, a baggage room, a freight room, the men's and women's toilets, and a stairway to the second floor. The second floor is the apartment of the station agent and contains a kitchen, living room, two bedrooms and a bath room.

The waiting room [Photographs I-9 – 12] and the agent's office are finished to match the rustic character of the exterior of the Depot. Both have a wainscot of vertical rough sawn pine boards set in roughly square panels. The base, rail and vertical casing are made of log slabs. The wainscot is stained a dark brown. The walls above the wainscot and the ceiling are painted plaster with rough sawn pine corning casing and ceiling molding. The floors are concrete with a roughly one foot square grid pattern. Between the waiting room and the agent's office there is a ticket window. [Photographs I-116, I-117] The ticket window as designed in the cabinetry details of the original construction documents was a small opening, 2 feet wide by 2 feet 5 1/2 inches high. A "chip glass" window slid into an overhead pocket in this design. The ticket window, as designed, allowed only one agent to perform transactions. The ticket window existing in the structure is approximately 4 feet 6 inches wide by 2 feet 5 1/2 inches high with three till drawers allowing space for three functioning agents. Borjes states that the detailing of the window indicate that it is an enlarged version of that shown in the drawing. A large "chip glass" window slides into an overhead pocket. The construction details of this existing ticket window indicate that it was part of the original Railroad Depot construction. The window designed was apparently never constructed and an onsite decision by the architect or a representative for the railroad created the window as it exists. The ticket window also was originally constructed with a wrought iron grill that was removed in 1954. A metal pipe railing has also been installed in front of the ticket window sometime after the original construction. The railing matches a railing installed on the north side of the covered waiting leading toward the men's restroom. According to Borjes the exterior railing being mounted onto the retaining wall indicating a date of installation of 1935 or later. Detailing and pipe size indicate that the railing at the ticket window was probably installed at the same time.

The agent's office [Photographs I-13 – 20] is the same rustic finish as the waiting room. In addition to the "back" side of the ticket window a counter was built in wrapping and facing the exterior door on the south side. This was presumably for the use of railroad employees to pick up communications and instructions. The agent's office also contains a built in operator's desk in the projecting bay.

If Francis Wilson designed the public rooms of the Railroad Depot in a rustic theme, he designed the toilets and station manager's apartment to reflect contemporary modern tastes. Trim for the second floor was simple and functional including a continuous mop board and picture rail with simple board trim around doors and windows. [Photographs I-79 – 82] The picture rail continued across the heads of the doors and windows as a molded cap. The doors in these interior spaces were simple five panel doors. [I-134] Hardware for these doors included the same cast brass "GC" doorknobs used elsewhere in the structure. [Photograph I-

133] The walls were three coat plaster over metal lath with the same sand finish used in the first floor plaster.

The toilets on the first floor were designed as simple functional spaces. In these rooms an 8 foot cement¹⁶ wainscoting finished as 2 1/2 by 5 inch tiles runs the entire perimeter.

[Photograph I-22 – 24] The wainscot is topped with a simple molded cap. Partitions between toilet stalls were constructed of vertical 1 1/8" x 3" tongue and groove to the height of the wainscoting with the same molded cap of the wainscot topping these elements. The urinal partitions were constructed of white Italian Marble including wall slabs, dividing panels, and grooved floor slabs. [Photograph I-32] The fixtures in these rooms were originally "state of the art" as well, including siphon jet water closets of vitrous clay china, vitrous clay china urinals with holding tank mounted on the wall above the wainscot, and enameled iron lavatories. The floors are, as elsewhere on the first floor, concrete finished in a 12 inch square grid.

The baggage room and freight room on the first floor were strictly utilitarian. [Photographs I-43 – 53] The walls were finished with by 8 inch horizontal boards. The ceiling of the baggage room was finished in this same material. No ceiling was installed in the freight room originally though at some point a plywood ceiling was installed. Shelving and cabinets in the baggage room were constructed of 1 1/8 by 3 inch three inch vertical tongue and groove. The floor of the baggage room is concrete while the floor of the freight room is 2 by 6 inch tongue and groove. At the south end of the baggage room a wire mesh cage, not part of the original construction drawings, separates the baggage room from the south entrance. According to Borjes construction details indicate that the cage was added during building construction.

Interior Appearance – Second Floor

The second floor was originally composed of living room, kitchen with pantry, bathroom, and two bedrooms all arranged around a central hall. A third bedroom was later added in the attic space over the Waiting Room accessed off of the kitchen through the pantry.

The stair to the second floor starts from either an exterior door on the north side or a door from the agent's office on the south. A short flight of stairs from either side leads to a common landing. [Photographs I-39, I-40] From this landing a flight of stairs with winder treads top and bottom leads to an intermediate landing. [I-41, I-42, I-58, I-59] From the intermediate landing a straight flight of stairs leads to the second floor landing. [Photograph I-60] A door from this landing leads to the central hall. The stair treads, stringers and landings are all clear stained wood. From the intermediate landing up there is a clear stained wood rail made up of square newel posts with a simple wood cap, rectangular rail and nominal 1x1 pickets. At the intermediate landing there is a raised floor area with built in painted wood storage cabinets. This space results from the fact that the second floor overhangs the first floor

¹⁶ The original specifications indicated plaster for all walls except the wainscot. The wainscot was "to be made of pure Keene's cement thoroughly worked." It is also interesting to note that the plaster was to have "a generous quantity of hemp well incorporated."

by about two and half feet. Since the landing is only half way up to the second floor it couldn't go out beyond the wall line of the first floor without impacting the exterior elevation. But at the same time the second floor wall is two and half feet further out creating this space above the level of the landing at the level of the second floor. Francis Wilson seems to have missed this relationship during design as the original drawings show the intermediate landing going all the way out to the second floor wall with no winder treads. The winder stairs are probably the result of a "field fix" during construction when they realized that the stair couldn't be built as drawn.

The central hall at the top of the stairs is a room with seven identical four panel wood doors. [Photograph I-61 – 64] It must have presented a real dilemma to the overnight guest that wandered out of their room in the middle of the night and needed to decide which was the correct one to get them safely back to their bed.

The living room [Photographs I-79 – 82] and the two original bedrooms [Photograph I-91 – 95] have painted plaster walls and ceilings with clear stained pine baseboards and picture rail. The picture rail aligns with the heads of the window casing. Window and door casings are clear stained pine with a crown molding head. The doors are four panel clear stained pine with cast brass knobs and escutcheon panels with the stylized letters "GC" on each knob.¹⁷ All of the windows are wood casement windows with a six-over-one pattern of lights. The floors of the living room and central hall are of oak while the floors of the two bedrooms are of fir. The original specifications called for all the floors on the second floor to be "Oregon Pine" another name for Douglas-Fir. It seems probable that at some point new oak and fir flooring was added on top of the original floor. A note in a February, 1989 Maintenance Logs states "The northeast bedroom baseboards were removed to run the outlet wiring inside the wall. These 8" redwood planks sat atop the original yellowpine flooring that must have worn out within weeks." The stair landings, also oak, presumably would have been done at the same time to compensate for the added thickness on the second floor. The floor in the closet off of the central hall is approximately $\frac{3}{4}$ of an inch lower than the hall and therefore may be the original "Oregon Pine" flooring. [Photograph I-68] The kitchen and bathroom floors, now covered with linoleum, were probably also re-floored and a July, 1988 Maintenance Log indicates that beneath the linoleum it is the same "redwood material as the bedrooms, but [it is] worn severely under the linoleum to made the determination difficult."

The kitchen [Photographs I-69 – 72] has painted plaster walls and ceiling with clear stained pine baseboard and chair rail. The floor in the kitchen is currently carpeted and beneath the carpeting is linoleum. As noted above the wood floor is probably the same fir as in the bedrooms. The kitchen has the same type of doors and windows as the other rooms on the second floor. On the east wall there are wood base and wall cabinets. The base cabinet is of stained wood with a plastic laminate counter top trimmed with wood. There is a double porcelain sink. The wall cabinets are painted. On the south wall is another set of base and wall cabinets of a different design. The base cabinet is stained wood with a stained wood counter top. The wall cabinets are painted with glass front doors.

¹⁷ As noted above many of the existing "GC" knobs may be replicas.

The pantry [Photographs I-73 – 76] was originally just a small alcove off of the kitchen tucked in under the large overhanging eaves of the second floor roof. It also now serves as the ‘vestibule’ to the added bedroom. There is a single trapezoidal shaped casement window, matching the slope of the roof overhang on the north wall. The pantry has built in cabinetry on both the north and south walls. On the south side the cabinetry consists of a base cabinet of stained wood with a plastic laminate counter top and stained wood wall cabinets. On the north there is a stained wood base cabinet with plastic laminate top. In this case the counter top is set at the sill of the casement window, about five feet off the floor. The design and detailing of these cabinets is different than any of the cabinets in the kitchen. [Photographs I-76 – 78] While the kitchen cabinets are made of clear boards with chrome plated hardware the cabinets in the pantry are made of bead board with decorative cast bronze hardware.

A door in the west wall of the pantry leads into the bedroom added in the attic space over the waiting room. [Photographs 83 – 88] It is clear that the door and frame were built to fit existing conditions because both the top of the door and the head casing slope to match the slope of the roof, in this case the overhanging second floor roof. It is also not a standard height door, the height of the door being determined by the slope of the lower roof beyond. [Photograph I-135] The walls and ceiling are all finished with painted bead board. The ceiling, being attached directly to the bottom of the roof joists slopes to match the roof and is only about four feet above the floor at the north and south walls. Multiple doors built into the north wall open into the attic space beyond. No doors were built into the south wall but access to the attic space was provided through the closet in the east wall. The most unusual aspect of the room is the two casement windows in the west wall. They have to fit between the roof of the Depot and the roof of the covered waiting area. Therefore they are set tight to the ceiling and are angled to follow the slope of the roofs. A small diamond window joins the two casement windows at the peak. The doors and casings are also much simpler here than in the other rooms of the second floor. The door is a four panel but 2 over 2 door rather than four horizontal panels as in the typical second floor doors. The casings are simple with no crown molding. Also all the wood work is painted rather than stained.

The bathroom on the second floor [Photographs I-96 – 100] has been modified probably several times over the years. The original drawings by Francis Wilson show the tub located along the north wall with the lavatory on the opposite south wall. Sometime, possibly in 1925 when the changes were probably made to the women’s restroom but certainly by 1949 when the changes show up on a set of revised drawings also showing remodel to the women’s restroom, the tub was reoriented from east-west to north-south along the east wall. The lavatory was also moved to the north wall and a set of cupboards with a built-in vanity and mirror were added to the south wall. The walls of the bathroom are painted plaster and there is a painted wood molding about five feet above the floor at the bottom of the window sill. The window is a trapezoidal casement window similar to the window in the pantry. Similar to the pantry the bathroom extends out under the overhanging eave of the second floor roof.

1.4 CHARACTER DEFINING FEATURES

Site

The Depot is located at the branch-line terminus of the only railroad line inside national park boundaries. Its location is integrally connected to the El Tovar Hotel and the South Rim of the Grand Canyon. It sits at the base of the hill directly below the El Tovar Hotel within 500 feet of the South Rim of the Grand Canyon. The Depot is immediately bounded on the north by a paved road. To the west is a small paved parking lot primarily used for bus parking during arrival and departure of trains. To the south, the main front of the building, sit the railroad yard platform and tracks. On the east is a service drive to the railroad yard and beyond that a small grassy area and the paved loop road which curves back to the south.

Exterior General Description

The Grand Canyon Depot is a log and wood-frame structure with a central section two-and-a-half stories in height and wings to the east and west each one-and-a-half stories. The building's foundation is concrete. The walls are log up to the level of the second floor. The second floor is constructed of frame walls with wood shingles. The gable ends are finished with vertical tongue and groove boards. The wood shingled gable roof of the two-story section runs on a north-south axis, and those of the wings on an east-west axis. The intersecting gable roofs are also finished with wood shingles. The south gable end frames the Santa Fe logo near the ridge, with the identifying "Grand Canyon" name below in dark copper letters. Centered below that on the first floor is a log bay projecting out from the building's mass, sheltered by a small gable roof. Another Santa Fe logo is centered in this gable end. The baggage loading platform and baggage room are at the east end of the building. The waiting platform and ticket booth are at the west end. The front elevation faces south and overlooks the remaining tracks.

This section identifies the historic character defining features, both exterior and interior, of the Depot. Historic character defining features are categorized here as either primary or secondary. Features not listed here are considered non-contributing.

For the purposes of this HSR, Primary character-defining materials and features are elements or materials holding a high degree of architectural significance and a high degree of historic physical integrity. The primary designation identified them as holding the highest sensitivity to change and require treatment accordingly.

Secondary character-defining features are characterized by a lesser degree of architectural significance, yet retain a high degree of historic integrity, or are historically important, yet altered elements thus hold less integrity. Features that have been replaced in kind, for example roofing shingles and interior wall plaster, are considered as important but secondary features. Secondary features, though less sensitive to change, replacement in kind would typically be the most extreme treatment on these features.

Non-contributing materials or features are generally non-historic elements or elements that have been altered to the extent that their original character is absent.

For the Depot exterior, all elevations are highly visible thus are designated as primary elevations. However, the south elevation remains the public ‘gateway” to Grand Canyon National Park and should be considered the most sensitive to change of all the elevations.

Exterior Character Defining Features

South Elevation	Category	Comments
		For the Depot, all the elevations are highly visible thus should be treated as primary elevations. However, the south side was and is the public ‘gateway’ to Grand Canyon National Park and should be considered as even more sensitive to change than the other elevations.
Log walls to level of second floor with sculptured log ends at the corners. [Photographs E-2, E-37]	Primary	Original Design & Construction with high integrity.
Central projecting log bay with double casement window facing south and side windows facing east and west. Log slab casing around windows. Wood shingle gable roof with wood shingles on gable wall. Log barge boards with [missing] log false barge board extensions. Wood A.T. & S.F logo centered on gable wall. [Photographs E-18, E-30, E-31]	Primary	Original Design & Construction with high integrity.
Two wood plank doors with multi-light transoms. Doors have wrought iron brads set in an X in a rectangle pattern. Cast brass door locksets with stylized letters “GC” on the knob. Log slab casing. [Photographs E-17, E-32, E-33, E-108, E-110]	Primary	Original Design & Construction with high integrity. Door hard ware may be replacement.
Fixed sliding wood plank door with man door cut in, also with X in a rectangle pattern of wrought iron brads. “Baggage Room” painted on metal sign over the man door. Log slab casing. [Photographs E-18, E-103]	Secondary	Original Design shows as swinging door. Appears in H-41, dated 1968. Undetermined if this is a historic alteration.
Sliding wood plank door with wrought iron brads set in an X in a rectangle pattern. Sill is about 36 inches above exterior grade (floor level of Freight Room). Log slab casing. [Photographs E-19, E-102]	Primary	Original Design & Construction with high integrity.

Two double casement windows, multi-light panels over a single-light panel at first floor, with log slab casing. [Photographs E-17, E-33, E-109, E-111]	Primary	Original Design & Construction with high integrity.
Second floor frame walls projects beyond first floor and are supported by two log columns and the central log bay. Columns support a log girder. [Photographs E-17, E-18, E-27, E-33]	Primary	Original Design & Construction with high integrity.
Four log slab pilasters support log brackets that then support the overhanging gable ends of the second story roof. [Photograph E-18]	Primary	Original Design & Construction with high integrity.
Wood shingle siding laid in a straight butt coursing with every other course doubled fills the space between the pilasters. [Photograph E-18]	Primary	Original Design & Construction with high integrity.
Second floor double casement windows, multi-light panels over a single-light panel, centered between each log pilaster. Log slab casing. [Photographs E-18, E-123, E-124, E-125]	Primary	Original Design & Construction with high integrity.
Gable end of second floor roof of rough sawn vertical tongue and groove boards with full length, and log barge boards. [Photograph E-18]	Primary	Original Design & Construction with high integrity.
Log false barge board extensions	Secondary	Replaced in kind, most likely with wood shingle roof installation in the 1986.
Metal A.T. & S.F logo (circle with a cross in the center) at second floor gable wall. [Photograph E-18]	Primary	Original Design & Construction with high integrity.
Small double casement window, also multi-light over single, with rough-sawn wood shutters centered in gable wall. [Photograph E-18]	Primary	Original Design & Construction with high integrity.
Across the gable wall cut out copper letters, set approximately four inches from the face of the wall, spell out "GRAND CANYON." [Photograph E-18]	Primary	Original Design & Construction with high integrity.

Copper-lined wood gutters built into roof eave with copper collector heads and down spouts. [Photograph E-19]

Secondary

1986 drawing 113/60409B indicates these have been replaced in kind.

Wood shingle roofs. [Photographs E-2, E-67 – 88]

Secondary

1986 drawing 113/60409B indicates these have replaced cement asbestos shingles. Original construction drawings called for wood shingle roof so that these may be considered as replacement in kind.

North Elevation

Log walls to level of second floor with sculptured log ends at the corners. [Photographs E-5, E-23, E-64]	Primary	Original Design & Construction with high integrity.
Two wood plank doors with multi-light transoms. Doors have wrought iron brads set in an X in a rectangle pattern. Cast brass door locksets with stylized letters "GC" on the knob. Log slab casing. [Photographs E-23, E-93, E-95]	Primary	Original Design & Construction with high integrity.
Ten awning windows, multi-light panels over a single-light, on first floor with log slab casing. [Photograph E-23, E-90, E-91, E-92, E-94, E-96, E-97, E-98, E-99]	Primary	Original Design & Construction with high integrity.
Second floor frame walls projects beyond first floor and are supported by four log columns. Columns support a log girder. [Photographs E-23, E-57, E-58]	Primary	Original Design & Construction with high integrity.
Four log slab pilasters support log brackets that then support the overhanging gable ends of the second story roof. [Photograph E-61]	Primary	Original Design & Construction with high integrity.
Wood shingle siding laid in a straight butt coursing with every other course doubled fills the space between the pilasters. [Photographs E-61, E-62]	Primary	Original Design & Construction with high integrity.
Second floor double casement windows, multi-light panels over a single-light panel, centered between each log pilaster. Log slab casing. [Photographs E-23, E-118, E-119, E-120]	Primary	Original Design & Construction with high integrity.
Gable end of second floor roof of rough sawn vertical tongue and groove boards with full length, and log barge boards. [Photograph E-23]	Primary	Original Design & Construction with high integrity.
Log false barge board extensions	Secondary	Replaced in kind, most likely with wood shingle roof installation in the 1986.
Small double casement window, also multi-light over single, with rough-sawn wood shutters. [Photograph E-23]	Primary	Original Design & Construction with high integrity.

Two wood shingle-clad ventilators extend above the roof level on the east and west sides of the second floor. [Photographs E-4, E-5, E-60, E-81, E-82]	Primary	Original Design & Construction with high integrity.
Dormer casement windows under second floor roof overhanging eaves. [Photographs E-60, E-62, E-117, E-122]	Primary	Original Design & Construction with high integrity.
Copper-lined wood gutters built into roof eave with copper collector heads and down spouts. [Photograph E-63]	Secondary	1986 drawing 113/60409B indicates these have been replaced in kind.
Wood shingle roofs. [Photographs E-4, E-5, E-67 – 88]	Secondary	1986 drawing 113/60409B indicates these have replaced cement asbestos shingles. Original construction drawings called for wood shingle roof so that these may be considered as replacement in kind.

East Elevation

Log walls with sculptured log ends at the corners and wood shingled gable wall. Wood shingles laid in a straight butt coursing with every other course doubled. Log barge boards with [missing] log false barge board extensions. [Photograph E-5, E-19, E-24]	Primary	Original Design & Construction with high integrity.
Single sliding wood plank door with wrought iron brads set in an X in a rectangle pattern and log slab casing. [Photograph E-24, E-101]	Primary	Original Design & Construction with high integrity.
Single awning window, multi-light panels over a single-light, with log slab casing. [Photograph E-24, E-64, E-100]		Original Design & Construction with high integrity.
Diamond shaped vent opening in gable centered under ridge. Shingles project over the edges of the jambs. Boarded closed. Original specifications call for bronze wire mesh. [Photograph E-65]	Primary	Original Design & Construction with high integrity.
Wood plank freight platform. [Photograph E-24]	Undetermined	This maybe secondary if determined that replacement in October 1987 was replacement in kind. See section 4.4.4 1987-1989 maintenance logs.
Second floor frame walls with wood shingles laid in a straight butt coursing with every other course doubled. [Photograph E-62]	Primary	Original Design & Construction with high integrity.
Two double casement windows, multi-light panels over a single-light panel, with log slab casing. [Photographs E-62, E-121]	Primary	Original Design & Construction with high integrity.
Wood shingle-clad ventilators extend above upper roof level. [Photographs E-24, E-62, E-81, E-82]	Secondary	Original Design & Construction. It would seem likely due to the nature of the material, at some point, the wood shingles must have been replaced in kind.

Wood shingle roofs with copper-clad wood built in gutters. [Photographs E-5, E-67 – 88]

Secondary

1986 drawing 113/60409B indicates existing shingles replaced cement asbestos shingles. Original construction drawings called for wood shingle roof so that these may be considered as replacement in kind. Drawing also indicates gutters were replaced in kind.

West Elevation

Log walls with sculptured log ends at the corners and wood shingled gable wall. Wood shingles laid in a straight butt coursing with every other course doubled. Log barge boards with log false barge board extensions. The roof of the Covered Waiting Area (discussed below) interrupts the gable wall. Two six-light casement windows, set above the Covered Waiting Area roof and parallel to the slope of the roof. Fixed diamond-shaped window, between the two casement windows, at the peak. [Photographs E-3, E-4, E-50]	Primary	Original Design & Construction with high integrity.
Single awning window, multi-light panels over a single-light, with log slab casing. [Photographs E-50, E-89]	Primary	Original Design & Construction with high integrity.
Log slab sided vestibule with three windows. In each of the north and south elevations has a single fixed 20 light window. The west elevation has a three panel with single fixed light door and a single light fixed window. All openings are cased with log slabs. [Photographs E-40, E-49, E-50]	Primary	Though not original design & construction it is a historic 1929 change.
Original exterior door (wood plank doors with multi-light transoms, wrought iron brads set in an X in a rectangle pattern, cast brass door locksets with stylized letters "GC" on the knob, and log slab casing) and window (double casement window, multi-light panels over a single-light panel at first floor, with log slab casing) still in place but covered by the vestibule addition. [Photograph E-115]	Primary	Original Design & Construction with high integrity.
Second floor frame walls with wood shingles laid in a straight butt coursing with every other course doubled. [Photograph E-59]	Primary	Original Design & Construction with high integrity.
Two double casement windows, multi-light panels over a single-light panel, with log slab casing. [Photographs E-3, E-4, E-59, E-117, E-126]	Primary	Original Design & Construction with high integrity.

Wood shingle-clad ventilators extend above upper roof level. [Photographs E-4, E-60, E-81, E-82]

Secondary

Original Design & Construction. It would seem likely due to the nature of the material, at some point, the wood shingles must have been replaced in kind.

Wood shingle roofs with copper-clad wood built in gutters. [Photographs E-3, E-4, E-67 – 88]

Secondary

1986 drawing 113/60409B indicates existing shingles replaced cement asbestos shingles. Original construction drawings called for wood shingle roof so that these may be considered as replacement in kind. Drawing also indicates gutters were replaced in kind.

Covered Waiting Area

Extends from the west wing of the Depot building. [Photographs E-3, E-4]	Primary	Original Design and Construction.
18 inch diameter log columns support exposed log truss roof system. From east to west, on both the north and south side, the log columns are grouped as a single, a pair and a triple. The triple group forms the west corner. Each column has one log bracket at approximately a 45 degree angle and, in the case of double or triple columns, is joined to its neighbor by a log spacer. The eastern most single columns are joined to the log wall with a log spacer. [Photographs E-40, E-43, E-45, E-47, E-48, E-53]	Primary	Original Design and Construction.
The columns support a log beam running east and west which in turn supports log king-post trusses set about two foot on center.[Photographs E-3, E-4, E-43, E-49]	Primary	Original Design and Construction.
Wood shingle roof with copper-clad wood built in gutters at the eave. [Photographs E-3, E-4]	Secondary	1986 drawing 113/60409B indicates existing shingles replaced cement asbestos shingles. Original construction drawings called for wood shingle roof so that these may be considered as replacement in kind. Drawing also indicates gutters were replaced in kind.
Log false barge board extension at the west end of the roof. [Photographs E-3, E-4]	Secondary	Replaced in kind, most likely with wood shingle roof installation in the 1986.
Concrete slab floor with one foot square grid pattern. [Photographs E-49, E-51]	Undetermined	Unclear if this is historic material. This may have been replaced in kind at some point.

Interior General Description

The interior continues the rustic character of the exterior. It is laid out with the main area for the public, the Waiting Room, on the west side and entered from either the covered waiting platform on the west or directly from the railyard platform on the south. Public restrooms are on the north, the women's entered from the Waiting Room and the men's entered from the exterior on the north side. The Agent's Office is next to the Waiting Room in the center of the first floor flanked by the Baggage Room and Freight Room to the east. A central stair leads to the second floor apartment for the agent. The second floor has the kitchen, living and bed rooms laid out around the central hall. One additional bedroom was added later over the waiting room and is entered through the kitchen and pantry.

Interior of the Depot can be seen as a series of primary and secondary spaces. Primary spaces retain their original/historic configuration and sequence of flow. In this building these tend to be the larger spaces and, mainly at the first floor, the more publically used spaces. For the second floor the larger spaces (bedrooms, living room and kitchen), though not originally publically used, they retain their original spatial integrity and highly contribute to the historic character. Thus should be considered primary spaces.

Secondary spaces are generally more utilitarian in appearance and often smaller size than primary spaces. They may include areas and rooms that service the building, such as bathrooms and closets. Secondary spaces tend to be of less importance to the building and may accept greater change in the course of work without compromising the building's historic character.

Interior Character Defining Features

	Category	Comments
Vestibule 111		
Original log exterior wall and exterior door [Photograph I-3, E-115]	Primary	Original construction elements remaining intact. It is a historic change from 1929.
Stained bead board walls [Photograph I-4]	Primary	Though not original design & construction it is a historic change from 1929.
Vestibule Office 112		
Original log exterior wall and exterior window [Photograph I-6]	Primary	Original construction elements remaining intact. It is a historic change from 1929.
Stained bead board wainscot with painted bead board above [Photograph I-6, I-8]	Primary	Though not original design & construction, it is a historic change from 1929.
Waiting Room 101		Primary Space
One foot square grid pattern concrete floor [Photographs I-10, I-11, I-12]	Primary	Original Design and Construction.
Log wainscot and plaster walls [Photographs I-9, I-10, I-11, I-12]	Primary	Original Design and Construction. Maintenance log from September 1988 indicate some west wall plaster 75% replaced.
Wood casement windows in south and west walls [Photograph I-10]	Primary	Original Design and Construction.
Wood plank exterior doors with broad headed wrought iron nails [Photograph I-10]	Primary	Original Design and Construction.
Four panel wood interior doors [Photographs I-12]	Primary	Original Design and Construction.
Cast bronze door hardware with “GC” monogram ¹⁸ [Photograph I-110]	Secondary	Knob likely a replacement in kind.

¹⁸ As noted earlier much of the cast bronze hardware are reproductions installed in 1989/90.

Ticket window to Agent's Office [Photograph I-9]	Primary	Original Design and Construction.
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Agent's Office 102

Primary Space

One foot square grid pattern concrete floor [Photograph I-13]	Primary	Original Design and Construction.
Log wainscot and plaster walls [Photographs I-13 – 16]	Primary	Original Design and Construction. Maintenance log from September 1988 indicate some east wall plaster replaced.
Wood casement and fixed windows in south wall and bay [Photographs I-16, I-17]	Primary	Original Design and Construction.
Wood plank exterior door with broad headed wrought iron nails [Photographs I-18, I-118]	Primary	Original Design and Construction.
Four panel wood interior doors [Photographs I-13, I-14, I-119, I-120]	Primary	Original Design and Construction.
Half-height (dutch) door with counter to Baggage room [Photograph 120]	Primary	Original Design and Construction.
Cast bronze door hardware with "GC" monogram [Photograph 108]	Secondary	Hardware likely replacement in kind.
Ticket window to Waiting Room [Photograph 115]	Primary	Original Design and Construction.
Built-in agents desk in bay window [Photographs I-16, I-17]	Primary	Original Design and Construction.
L shaped wood counter and cabinets in southwest corner [Photographs I-13, I-18, I-20]	Primary	Original Design and Construction.

Women's Restroom 110

Primary Space

One foot square grid pattern concrete floor [Photograph I-24]	Primary	Original Design and Construction.
Cement wainscot finished as 2 ½ by 5 inch tiles with wood mold cap [Photographs I-23 – 25]	Primary	Original Design and Construction. Maintenance log from Sept 1988 indicates replacement at north and west wall portion.
Bead board toilet partitions with wood louvered doors [Photograph I-22]	Primary	Original Design and Construction.

Four panel wood interior doors [Photograph I-21, I-132]	Primary	Original Design and Construction.
Cast bronze door hardware with “GC” monogram	Secondary	Hardware likely replacement in kind.
Wood awning windows in west and north walls [Photographs I-23, I-24]	Primary	Original Design and Construction.
Hall 109		Primary Space
One foot square grid pattern concrete floor [Photograph I-26]	Primary	Original Design and Construction.
Wood awning window in north wall [Photograph I-26]	Primary	Original Design and Construction.
Accessible Restroom 109A		The room itself is not significant but the following items are part of the historic fabric of the building and are therefore character defining.
One foot square grid pattern concrete floor [Photograph I-28]	Primary	Original Design and Construction.
Wood awning window in north wall [Photograph I-30]	Primary	Original Design and Construction.
Men’s Restroom (east and west) 105 & 106		Primary Space
One foot square grid pattern concrete floor [Photographs I-31 – 33]	Primary	Original Design and Construction.
Cement wainscot finished as 2 ½ by 5 inch tiles with wood mold cap [Photographs I-32, I-33]	Primary	Original Design and Construction.
White Italian marble urinal partitions and grooved floor slab [Photographs I-32, I-35]	Primary	Original Design and Construction.
Bead board toilet partitions with wood louvered doors [Photographs I-31, I-36]	Primary	Original Design and Construction.
Wood plank exterior door with broad headed wrought iron nails [Photograph I-129]	Primary	Original Design and Construction.
Four panel wood interior doors [Photographs I-31, I-37, I-128]	Primary	Original Design and Construction.
Cast bronze door hardware with “GC” monogram	Secondary	Hardware likely replacement in kind.

Wood awning windows in north and east walls [Photograph I-34, E-94, E-96 – 100]	Primary	Original Design and Construction.
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Stair and Stair Hall 107	Primary Space	
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One foot square grid pattern concrete floor [Photographs I-39, I-40]	Primary	Original Design and Construction.
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Wood stair and rails with oak landings [Photographs I-39 – 42, I-58, I-60]	Primary	Original Design and Construction.
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Storage shelves and “loft” at mid level landing [Photograph I-59]	Primary	Original Design and Construction.
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Wood plank exterior door with broad headed wrought iron nails [Photographs I-38, I-130]	Primary	Original Design and Construction.
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Four panel wood interior doors [Photographs I-40, I-60]	Primary	Original Design and Construction.
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Cast bronze door hardware with “GC” monogram	Secondary	Hardware likely replacement in kind.
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Wood casement window at mid level landing [Photograph I-59]	Primary	Original Design and Construction.
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Baggage Room 103	Secondary space	
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One foot square grid pattern concrete floor [Photographs I-43 – 45]	Secondary	
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1x8 horizontal wood board walls and ceiling [Photographs I-43 – 45]	Secondary	
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Built-in bead board cabinets on west and north walls [Photographs I-43 – 46]	Secondary	
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Wire mesh cage and cabinetry [Photographs I-47, I-48, I-124]	Undetermined	Date of current configuration installation unknown. Varies from as shown on 1949 drawings.
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Fixed wood plank sliding exterior door with swing door cut into it [Photograph I-123]	Primary	Primary due to contribution to character of south elevation.
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Four panel wood interior door [Photograph I-125]	Secondary	
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Half-height (dutch) door with counter to Agent’s Office [Photograph I-122]	Primary	Primary due to contribution to character of Agent’s office.
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Freight Room 104		Secondary Space
2x6 tongue and groove wood floor [Photograph I-52]	Secondary	
1x8 vertical wood board walls [Photographs I-50, I-52]	Secondary	
Cabinets on north wall of vertical tongue and groove with one decorative wood door on east end [Photograph I-51]	Secondary	
Sliding wood plank exterior doors with broad-headed wrought iron nails [Photographs I-50, I-126, I-127]	Primary	Primary due to contribution to character of east and south elevations.
Pocket in west wall for sliding door in Baggage Room	Secondary	
Storage/Mechanical 108		Secondary Space
One foot square grid pattern concrete floor [Photograph I-54]	Secondary	
Wood awning window in north wall [Photograph I-56, E-92]	Primary	Primary due to contribution to north elevation character.
Four panel wood interior doors [Photograph I-57]	Primary	Primary due to contribution to stair way primary space character.
Second Floor Hall 205		Primary Space
Oak floor [Photographs I-61, I-62, I-68]	Undetermined	Original design called for Douglas Fir for floor finish (aka "O.P." = Oregon Pine). Not clear when Oak finish was installed.
Plaster walls with stained wood base [Photographs I-61 – 64]	Primary	Original design and construction. Maintenance log from 1988 indicates a portion of plaster has been replaced.
Four panel wood interior doors [Photographs I-61 – 64]	Primary	Original design and construction.
Cast bronze door hardware with "GC" monogram [Photograph I-133]	Secondary	Hardware likely replacement in kind.

Kitchen 206		Primary Space
Plaster walls with tile finish wainscot and wood chair rail [Photographs I-69 – 71]	Primary	Original design and construction. Maintenance log from August 1988 indicates some wall plaster replaced. Also indicates that wainscot of “simulated brick” was 50% replaced.
Wood base and wall cabinets [Photograph I-72]	Secondary or undetermined	Cabinets not as per original design. 1949 drawings show them at their current location. Chronology suggests a 1940s to 1950s date on this.
Wood china cabinet [Photograph I-70]	Secondary or undetermined	Cabinets not as per original design. Date of installation unknown.
Wood casement windows on west and north walls [Photographs I-71, I-72]	Primary	Original design and construction.
Four panel wood interior doors [Photograph I-69, I-70]	Primary	Original design and construction.
Cast bronze door hardware with “GC” monogram	Secondary	Hardware likely replacement in kind.
Pantry 207		Secondary Space
Plaster walls [Photographs I-73 – 76]	Secondary	Maintenance log from August 1988 indicates ‘A[1]most the entire plaster surface is new with sand finish’.
Built-in base and wall cabinets [Photographs I-73 -76]	Secondary	
Trapezoidal wood window on north wall [Photograph I-73]	Primary	Primary due to contribution to North elevation character.
Door to West Bedroom cut to fit sloping roof [Photograph I-135]	Primary	Primary due to contribution to west bedroom primary space.

Living Room 201		Primary Space
Oak floor [Photographs I-79 – 82]	Undetermined	Original design called for Douglas Fir for floor finish (aka “O.P.” = Oregon Pine). Not clear when Oak finish was installed.
Plaster walls with stained wood base and wood picture rail [Photographs I-79 – 82]	Primary	Original design and construction with high integrity. Maintenance log from August 1988 indicates some wall and ceiling plaster replacement.
Wood casement windows in south and west walls [Photographs I-79, I-80]	Primary	Original design and construction with high integrity.
Four panel wood interior doors [Photographs I-81, I-82]	Primary	Original design and construction with high integrity.
Cast bronze door hardware with “GC” monogram	Secondary	Hardware likely replacement in kind.
West Bedroom 208		Primary Space
Horizontal wood bead board walls and ceiling attached directly to roof rafters [Photographs I-83 – 86]	Primary	Non Original design and construction but complete in c. 1925 thus is a historic change with high integrity.
Uncased bead board doors in north wall to attic space [Photograph I-84, I-85]	Primary	Non Original design and construction but complete in c. 1925 thus is a historic change with high integrity.
Wood casement windows installed parallel to the roof with a diamond shaped window at peak [Photographs I-83, I-84]	Primary	Non Original design and construction but complete in c. 1925 thus is a historic change with high integrity.
North Bedroom 204		Primary Space
Douglas-fir floors [Photographs I-90 – 93]	Primary	Original design and construction with high integrity.

Plaster walls with stained wood base and wood picture rail [Photographs I-90 – 93]	Primary	Original design and construction with high integrity. Maintenance log from August 1988 indicates some wall and ceiling plaster replacement.
Wood casement windows in north and east walls [Photographs I-90, I-91]	Primary	Original design and construction with high integrity.
Four panel wood interior doors [Photograph I-92]	Primary	Original design and construction with high integrity.
Cast bronze door hardware with “GC” monogram	Secondary	Hardware likely replacement in kind.
South Bedroom 202		Primary space
Douglas-fir floors Photographs I-94 – 97]	Primary	Original design and construction with high integrity.
Plaster walls with stained wood base and wood picture rail [Photographs I-94 -97]	Primary	Original design and construction with high integrity.
Wood casement windows in east and south walls [Photographs I-96, I-97]	Primary	Original design and construction with high integrity.
Four panel wood interior doors [Photographs I-94, I-95]	Primary	Original design and construction with high integrity.
Cast bronze door hardware with “GC” monogram	Secondary	Hardware likely replacement in kind.
Bathroom 203		Secondary space
Plaster walls with painted wood chair rail. Plaster finished as tile below the chair rail [Photographs I-98, I-99, I-101, I-102]	Secondary	Maintenance log from August 1988 indicates some wall plaster and simulated tile replacement.
Trapezoidal wood window on north wall [Photograph I-98]	Primary	Primary due to contribution to North elevation character.
Built-in cabinets along south wall with built-in counter and mirror [Photograph I-100]	Secondary	

Painted wood medicine cabinet with mirror over lavatory [Photograph I-102]	Secondary	
Claw foot cast iron tub [Photograph I-98]	Undetermined	Maintenance log from August 1988 indicates "removal of a 'built in antique tub'". Suggest this tub not original or historic to this building.
Four panel wood interior doors [Photograph I-101]	Secondary	
Cast bronze door hardware with "GC" monogram	Secondary	Hardware likely replacement in kind.

1.5.1 CIVIL CONDITION ASSESSMENT

1.5.1.1 ASSESS MOTOR VEHICLE AND PEDESTRIAN ACCESS

Roadways surrounding the building are asphalt with a cut stone curb. The condition is average to good. The age appears to be 5 plus years. The parking lot at the Depot provides spaces for four busses. During the site visit, conducted on a weekday, all spaces were filled. Additionally three busses had parked in the drive lane adjacent to the Depot. Pedestrian access is adequate for the site. Access is provided on three sides of the building. Additionally, there is an asphalt pedestrian path located north of the site. This is in good condition.

1.5.2 SITE CONDITION ASSESSMENT

Improper slope away from the Depot structure is the primary drainage issue with this site. This is compounded with insufficient piping capacity. The drainage report prepared by SEH describes three potential alternatives for remediation. In order to correct deficient grading, all slopes away from the building shall be 2% or greater. The structural engineer has also recommended that where impervious surfaces are adjacent to the building, a slope of ten percent for five to ten feet away from the building shall be provided. In order to correct deficient conveyance capacities, additional pipes and inlets are necessary. The drainage report recommends the construction of Alternative 1 or Alternative 3. Both provide high flow capacity and have long term maintenance advantages. Both take stormwater underground. Bus parking should be considered before further developing the remediation plans. See the drainage report for more detail.

Metal Fence and Gate

Original fence and gate tie into Depot at the southwest and southeast corners. On the west side of the Depot the 5' iron picket fence extends approximately 216' in U-shape around the parking lot west of the Depot. On the east side the fence extends approximately 129' to the Rubble Wall. Physical Description: Vertical rails 6" o.c. Pickets cut off above upper rail (1940s). 16' wide gate hinged on 8" iron post 8' high with sphere at top. Top rail & pickets arch upward to post.

The condition of the fence is fair to poor condition. [Photographs E-6 – 14] In many areas the rails and pickets are bent. The section to the south of the parking lot has been pushed out of alignment from buses parking against it. Most of the original vertical braces along this stretch have been removed and replaced with section of iron rail driven into the ground. The grade at the fence is also now higher than when the fence was installed resulting in most of the bottom rail being buried. The section along the western edge of the parking area also is showing pronounced sagging of the horizontal rails between the support posts.

Stone Retaining Wall & Stair

Part of 1930s West Rim Drive (Village Loop Drive) realignment. It defines the eastern edge of the railroad station land grant. Physical Description: Curved limestone retaining wall approx 6' high with 2' parapet walls and 300' long. Random ashlar masonry. Triple culvert and offset at South end. Vault at North end. 8' wide stair with wing walls at center.

The retaining wall is in good condition.

Power Pole & Sign Brackets

The existing power pole located at the west end of the Depot adjacent to the parking lot is not historically significant. A power pole existed at this location since at least 1927 and a pole with sign brackets was given National Register and National Historic Landmark status in 1997. The power pole originally supported power and telephone lines to Grand Canyon Depot as well as a sign for the Western Union Telegraph System. The pole was removed in 1999 by Planned Management Action. From the existing pole a single line still runs to the southwest corner of the second floor.

Stone Curb

This stone curb defines the boundary of the original parking lot to the West of Grand Canyon Depot, and is flanked by the original iron picket fence. Physical Description: Limestone curb 6"-18" high extending approx 160' in U-shape around East, South, and West edges of the Depot's parking lot. A rough concrete trough was constructed at a later date parallel to and on the parking lot side of the east curb to improve drainage. [Photograph E-3]

Rubble Wall

Dry rubble wall defines the Northeast edge of the railroad right-of-way between the end of the Metal Fence and the Stone Retaining Wall at East end of rail yard. Physical Description: L-shaped dry-laid rubble retaining wall, 2'-3' high and extending approx 60'. The existing wall was built in 2003.

The Rubble Wall is in good condition. [Photographs E-14, E-15]

Railroad Yard Tracks and Grades

The first tracks reached the Grand Canyon in 1901. Tracks were added, modified and removed multiple times. The last major modification being in 1972, several years after service was discontinued, when many of the original rails were removed or abandoned in place. In 1989 the yard was cleaned up and the tracks rehabilitated in preparation for the restoration of rail service to the Grand Canyon. Currently tracks numbers 1, 2 and 3 appear to be in good [Photographs E-1, E-2] condition with track number 3 used primarily by the Grand Canyon Railway. Tracks numbers 4 through 7 appear to be unused and probably are in poor condition.

Railroad Yard Platforms

The railroad yard platform has been modified several times since the construction of the Depot in 1910. Originally constructed of wood planks these were removed in 1927 and replaced with a 4-inch concrete platform in front of the Depot and three separate long narrow concrete platforms placed between three pairs of tracks. Wood planks crossed between the concrete platforms. Sometime later, possibly in the summer of 1954, a thin layer of black asphalt was applied over the surface of the concrete. In 2002 the asphalt and concrete was removed and replaced with a new 4-inch concrete platform in front of the Depot, concrete walkways between the tracks and wood plank connecting platforms. The railroad yard platforms are currently in good condition. [Photograph E-17]

1.5.3 ARCHITECTURAL CONDITION ASSESSMENT

1.5.3.1 EXTERIOR

Roof

The roof system is in poor condition but there was no evidence of leaks on the interior. The wood shingles are weathered and beginning to cup and crack. [Photograph E-88] Ridge boards and barge board rafter extensions are deteriorating. [Photographs E-78, E-83, E-85, E-86, E-87] The barge board rafter extensions are missing on the east gable end entirely and one is missing from the north gable. See 1.5.4 STRUCTURAL CONDITION ASSESSMENT for more information on the condition of the roof.

Walls

Problems that are evident in the log walls, columns, floors and footings of the structure can be related directly to the water runoff from the roof surfaces and to runoff from the area surrounding the Railroad Depot. This has resulted in the deterioration of these elements and the subsequent introduction of water into walls and foundations of the structure. The construction of an asphalt road directly behind or on the north elevation of the structure has resulted in water from rain and snow melt, sheeting into the base of the structure. As could be expected, wherever water is running against the surface of the structure, problems are evident.

The worst case is the North elevation where water from the asphalt road is sheeting into the structure base. Here the level of the road has been built up to an elevation approximately two feet above the base of the structure and within three feet to the north of that base. A stone retaining wall holds the road in place at this location. The water has resulted in a building up of soil against the sill logs and subsequent deterioration of those logs for almost the entire length of this elevation.

Settlement is evident in the north elevation in both the log wall and the log columns supporting the second story. Cracks in the plaster walls of the men's toilet in the north east corner of the structure evidence the problems of settlement. The problem is deterioration of the sill logs resulting in wall settlement.

The log columns supporting the second floor and the shelter are also showing signs of deterioration. Again, this deterioration can be related directly to the periodic soaking of the column bases due to poor site drainage that channels water against the north side of the building. An inspection of the four columns supporting the second floor on the north elevation shows that these members may be deteriorated as far as 18" up from the base. [Photograph E-57] Although no crushing was evident during the inspection, cracks in the plaster of the interior walls of the second floor indicate that settlement is occurring. Observations of the floors reveal an increase in the slope of the floor where they project beyond the log walls to the log columns. Deterioration is also evident in the two west columns in the northwest corner

of the shelter where rot may be as high as 12 inches up from the column base. These columns appear to have shortened approximately 2 to 3 inches.

Water runoff from the asphalt road is resulting, as well, in the settlement of concrete footings in the shelter. Here the settlement of the concrete footings is exhibited in the apparent upheaval of the concrete slab floor. The problem may be compounded by frost heave below the concrete slab. A peripheral drain was constructed along the north shelter elevation. However, this drain has filled with debris and no longer carries water away from the structure.

The gutter and downspout system for the structure is an integral part of the design of the roofs. The gutters are constructed of wood planks, shimmed at each rafter support to create a positive drain to the downspouts. The gutters are lined with copper to create the water seal. The downspouts are copper as well, with four large copper “collecting boxes” located at the major corners of the first floor. [Photographs E-19, E-25, E-37, E-38, E-54, E-63] These four boxes collect the water from all building roofs. The water is then taken away from the structure through an underground drainage system.

Several factors have resulted in the malfunction of the building’s gutter and downspout system. Warping and deterioration in the roof rafters has changed the positive drainage; break down in the soldered joints in the copper elements has destroyed the waterproof seal; vehicle impacts have destroyed the integrity of the system; and lack of maintenance has undoubtedly resulted in underground drainage system becoming clogged. All of these factors have resulted in water entry into the structure.

At both the northwest and southwest downspouts, deteriorated copper seams allow water to run over the surface of the log. This water has promoted deterioration in the log members. In both locations the sill log and several log crowns will have to be replaced.

Water running over the log rafter ends due to malfunctioning gutters has resulted in deterioration of these log members. Depending on the extent of the deterioration in the rafter ends, the repair may be a simpler process than first inspection would indicate. For all but the bargeboard rafters of the main structure, rafter ends are “pole lookouts” and, as described earlier in this report, do not extend to the building ridge. For these rafter ends it may be possible to cut the spikes holding the lookout to the rafter and then slide the entire lookout forward far enough to allow removal of the deteriorated portion. The lookouts extend approximately 4 feet 8 inches into the attic which should be enough length to accomplish this task. For the roof over the shelter and the barge board rafters of the main structure, other methods of repair should be considered such as splicing or replacement of the entire log rafter.

The main element that has kept the logs of the structure in such good condition over the years is itself beginning to deteriorate. The “Rubberoid roofing” described earlier in this text, is drying and cracking where exposed on the surface of the logs. Busy hands of passers by have speeded up deterioration by pulling, ripping, and tearing portions of the material away. Between the logs, however, it is supple and serviceable. Replacement of the rubberoid roofing would be difficult at best, requiring lifting each individual log during the process. Perhaps the best treatment is to renail the remaining portions of the material.

See 1.5.4 STRUCTURAL CONDITION ASSESSMENT for further information.

Windows

The direction of exposure of a window has a direct relationship on the existing condition of that window. Windows on the south elevation of the structure exhibit, by far, the worst degree of deterioration. The sunlight, or rather ultra violet light, at 7,000 feet above the sea level has had a harsh effect on this structure.

In general, lack of maintenance has resulted in the breakdown of the paint film layer on the wood sash. Subsequently the wood surface beneath the paint has been subject to deterioration. The same can be said for the glazing, where the putty has dried and no longer sheds water or holds the glass tightly in place. In many locations the putty has disappeared completely or has been replaced in a non acceptable manner.

Wear and tear on the window sash has resulted in deterioration in these elements. Windows in the apartment on the second floor, where usage is greater, are in worse condition than those of less used locations. The general condition in these windows is broken or loose sash joints. In several locations side and bottom sash rails require replacement.

See Window Condition Schedule in the Appendix 4.3.18 and photographs E-89 - 127.

Doors

Problems in the doors of the railroad station are similar to those of the windows. The doors, however, because of sturdier construction, have less deterioration than the windows. The worst case is the south exterior door to the waiting room. Here the wood has been abraded to the point that a portion of the door, has broken away. The general condition of Railroad Depot doors is breakdown of stained surfaces due to ultra violet light and weather.

The door hardware on the first floor is generally in good condition. Many of the door knobs and escutcheon plates are replicas of the originals installed in 1990.

A common problem found in most exterior doors, is deterioration in the lower portions of the log slab trim. These members have been subject to wetting and standing water as have the sill logs. Although the trim is visually intact in most places, the lower portion of trim will require replacement on at least one of the doors.

See Door Condition Schedule in the Appendix 4.3.18 and photographs E-93, E-95, E-101, E-102, E-103, E-108, and E-110.

A collapsible metal gate closes off the railroad yard platform from the covered waiting area. The gate and the overhead rail system are in fair to good condition but due to the movement in the concrete floor the gate is no longer functional. [Photographs E-42 – 46]

Signage

Original signs are still in existence in several locations on the structure. Original signage includes the copper letters spelling “GRAND CANYON” in the south gable end, the small metal Santa Fe sign above the window in the south gable end, the cut out logo above the telegraph office windows, and the “TICKET OFFICE” sign on the west door to the waiting room. The signage appears to be in good condition.

EXTERIOR IDENTIFICATION

Primary Name: South Elevation

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Original design and construction

MAJOR FEATURES

Log walls to level of second floor with sculptured log ends at the corners

Central projecting log bay with casement windows

Wood plank doors with multi-light transoms and iron brad 'X' pattern

Fixed sliding wood plank door with man door and iron brad 'X' pattern

Sliding wood plank freight door with iron brad 'X' pattern

Double casement windows, multi-light panels over a single-light panel at first floor, with log slab casing

Second floor frame walls projects beyond first floor and are supported by two log columns and the central log bay

Log slab pilasters support log brackets that then support the overhanging gable ends of the second story roof

Wood shingle siding laid in a straight butt coursing with every other course doubled

Second floor double casement windows, multi-light panels over a single-light panel, centered between each log pilaster with log slab casing

Gable end of second floor roof of rough sawn vertical tongue and groove boards with full length, log barge boards and log false barge board extensions

Metal A.T. & S.F logo (circle with a cross in the center) at second floor gable wall

Small double casement window, also multi-light over single, with rough-sawn wood shutters centered in gable wall

Across the gable wall cut out copper letters, set approximately four inches from the face of the wall, spell out "GRAND CANYON."

Wood shingle roofs

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

CONDITION SYNOPSIS

Walls generally in good condition with some deterioration of logs and column bases near grade. Windows and doors vary from poor to good. See Window and door condition schedule in the appendix. Roof in poor condition.

EXTERIOR IDENTIFICATION

Primary Name: North Elevation

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Original design and construction

MAJOR FEATURES

Log walls to level of second floor with sculptured log ends at the corners

Wood plank doors with multi-light transoms and iron brad 'X' pattern

Awning windows, multi-light panels over a single-light, on first floor with log slab casing

Second floor frame walls projects beyond first floor and are supported by four log columns

Log slab pilasters support log brackets that then support the overhanging gable ends of the second story roof

Wood shingle siding laid in a straight butt coursing with every other course doubled

Second floor double casement windows, multi-light panels over a single-light panel, centered between each log pilaster with log slab casing

Gable end of second floor roof of rough sawn vertical tongue and groove boards with full length, log barge boards and log false barge board extensions

Small double casement window, also multi-light over single, with rough-sawn wood shutters centered in gable wall

Two wood shingle-clad ventilators extend above the roof level on the east and west sides of the second floor

Dormer casement windows under second floor roof overhanging eaves

Wood shingle roofs

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

CONDITION SYNOPSIS

Walls generally in good condition with some significant deterioration of logs and column bases near grade. Windows and doors vary from poor to good. See Window and door condition schedule in the appendix. Roof in poor condition.

EXTERIOR IDENTIFICATION

Primary Name: East Elevation

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Original design and construction

MAJOR FEATURES

Log walls with sculptured log ends at the corners and wood shingled gable wall. Wood shingles laid in a straight butt coursing with every other course doubled. Log barge boards with [some missing] log false barge board extensions

Sliding wood plank door with wrought iron brads set in an X in a rectangle pattern and log slab casing

Awning window, multi-light panels over a single-light, with log slab casing

Diamond shaped vent opening in gable centered under ridge

Wood plank freight platform

Second floor frame walls with wood shingles laid in a straight butt coursing with every other course doubled

Double casement windows, multi-light panels over a single-light panel, with log slab casing

Wood shingle-clad ventilators extend above upper roof level

Wood shingle roofs

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION**CONDITION SYNOPSIS**

Walls generally in good condition with some deterioration of logs near grade. Windows and doors vary from poor to good. See Window and door condition schedule in the appendix.

Roof in poor condition.

EXTERIOR IDENTIFICATION

Primary Name: West Elevation

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Original design and construction. Vestibule added in 1929.

MAJOR FEATURES

Log walls with sculptured log ends at the corners and wood shingled gable wall. Wood shingles laid in a straight butt coursing with every other course doubled. Log barge boards with [some missing] log false barge board extensions

Six-light casement windows, set above the Covered Waiting Area roof

Awning window, multi-light panels over a single-light, with log slab casing

Log slab sided vestibule with three windows

Original exterior door and window still in place but covered by the vestibule addition

Second floor frame walls with wood shingles laid in a straight butt coursing with every other course doubled

Double casement windows, multi-light panels over a single-light panel, with log slab casing

Wood shingle-clad ventilators extend above upper roof level

Wood shingle roofs

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

CONDITION SYNOPSIS

Walls generally in good condition with some deterioration of logs near grade. Windows and doors vary from poor to good. See Window and door condition schedule in the appendix.

Roof in poor condition.

EXTERIOR IDENTIFICATION

Primary Name: Covered Waiting Area

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Original design and construction

MAJOR FEATURES

18 inch diameter log columns support exposed log truss roof system

The columns support a log beam running east and west which in turn supports log king-post trusses

Wood shingle roof with copper-clad wood built in gutters at the eave

Log false barge board extension at the west end of the roof

Concrete slab floor with one foot square grid pattern

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION**CONDITION SYNOPSIS**

Columns and beams generally in good condition with some deterioration of columns near grade. Roof in poor condition.

1.5.3.2 INTERIOR

The interior is generally in good condition. On going maintenance on the building since the late 1980's has repaired much of the damage due to settlement and deterioration. This work appears to have been done in compliance with the Secretary of the Interior's Standards and Section 106 of the National Historic Preservation Act.

ROOM IDENTIFICATION

Primary Name: Vestibule

Alt. Name:

Room #: 111

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Vestibule and Office were not part of the original 1910 construction but were added on in 1929.

MAJOR FINISHES

Floors: Concrete – no pattern – 7½” conc pad poured over original shelter floor slab.

Wall – North: Open to back of exterior wood siding – stained

Wall – East: Original exterior logs – stained

Wall – South: Bead board – stained

Wall – West: Open to back of exterior wood siding - stained

Ceiling: Exposed ceiling joists and decking - stained

BUILT-IN FEATURES

Casework: None

Windows: One twenty light fixed window in north wall

Doors: Exterior door: four panel wood door with a window in the upper panel. Does not match typical original plank doors.
Interior door to Waiting Room: Original exterior stained wood plank door with boxed “X” pattern of broad-headed wrought iron nails.

Hardware: Dark bronze with the monogram ‘GC’ cast on the knobs

Light Fixtures: Contemporary ceiling mounted bowl fixture

Mechanical: None

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

A July-August 1987 Historic Preservation Report by Dennis Dorman indicates that the exterior entry door previous to 1987 had lettering on the glass. The report states that the “window in the door with lettering “ticket office and waiting room” broken, the glass replaced without the hand lettering.”

CONDITION SYNOPSIS

Generally in good condition. Floors need to be cleaned and resealed. Woodwork should be repainted or refinished. Doors need latches and closers.

ROOM IDENTIFICATION

Primary Name: Vestibule Office Alt. Name: Small Office Room #: 112

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Vestibule and Office were not part of the original 1910 construction but were added on in 1929.

MAJOR FINISHES

Floors: Concrete – no pattern – 7½” conc pad poured over original shelter floor slab.
Access to service trench.

Wall – North: Bead board – stained wainscot and painted above

Wall – East: Original exterior logs – stained

Wall – South: Bead board – stained wainscot and painted above

Wall – West: Bead board – stained wainscot and painted above

Ceiling: Bead board - painted

BUILT-IN FEATURES

Casework: Painted wood shelving/storage on east wall

Windows: One twenty light fixed window in south wall
One square single light fixed window in the west wall
One double six-over-one casement window in east wall – original exterior window.

Doors: Interior door to Vestibule: three panel wood door with window in upper panel.

Hardware: Black metal round knob and metal escutcheon and brass thumb latch

Light Fixtures: Contemporary ceiling mounted bowl fixture

Mechanical: None

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

CONDITION SYNOPSIS

Generally in good condition. Floors need to be cleaned and resealed. Woodwork should be repainted or refinished.

ROOM IDENTIFICATION

Primary Name: Waiting Room

Alt. Name:

Room #: 101

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction. Modifications have been minor and include the addition of a door in the north wall to the Women's Restroom and the addition of a pipe railing in front of the ticket window.

MAJOR FINISHES

Floors: Concrete with 12-inch square grid pattern
Wall – North: Log wainscot, stained, with painted plaster above
Wall – East: Log wainscot, stained, with painted plaster above
Wall – South: Log wainscot, stained, with painted plaster above
Wall – West: Log wainscot, stained, with painted plaster above
Ceiling: Plaster

BUILT-IN FEATURES

Casework: Ticket counter and window. Wire glass window pockets into wall above. Stained wood casing and counter. Wood with glass doors poster case.
Windows: Six-over-one double casement windows on south and west walls with stained log casing. Ten light transom over south exterior door.
Doors: Exterior doors: stained wood plank with boxed "X" pattern of broad-headed wrought iron nails with stained log casing
Interior doors: four panel wood with stained log casing
Hardware: Dark bronze with the monogram 'GC' cast on the knobs
Light Fixtures: Contemporary log and chain chandelier added in 1990– poor copy of the original design
Mechanical: Ceiling mounted electric radiant heaters added in 1987.

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

Wood slat benches. Pipe railing in front of ticket counter, not part of original 1910 construction, probably added around 1935 or later. Original steam radiators have been removed. Fire protection sprinklers were added in 2007.

A July, 1988 Maintenance Log states "The windows were stripped to reveal a top layer of high gloss Grand Canyon dark brown cover coat of unique composition. This shiney [sic] layer, that exists on the wainscoating [sic] of the entry porch and most of the split log trim

about the interior [sic] of the Depot. This coating may be responsible for the naming of a hue of brown Grand Canyon for it appears to be a varnish stain mixture that lends depth to the surface it covers. The underlying, and most likely original coating was discovered to be much darker and penetrated the wood grain as is characteristic of a stain.”

CONDITION SYNOPSIS

Generally in good condition. Floors need to be cleaned and resealed. Woodwork should be repainted or refinished. Plaster needs to be patched and repainted.

ROOM IDENTIFICATION

Primary Name: Agent's Office Alt. Name: Office Room #: 102

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction. Modifications have been minor.

MAJOR FINISHES

Floors: Concrete with 12-inch square grid pattern
Wall – North: Log wainscot, stained, with painted plaster above
Wall – East: Log wainscot, stained, with painted plaster above
Wall – South: Log wainscot, stained, with painted plaster above
Wall – West: Log wainscot, stained, with painted plaster above
Ceiling: Plaster

BUILT-IN FEATURES

Casework: Wood counter, wood built-in desk, back side of ticket counter with built-in drawers and brochure racks
Windows: Six-over-one modified (see below) double casement in south wall at built-in desk flanked on each side by one six-over-one fixed. One ten-over-one fixed in south wall. All with stained log casing. Ten light transom over exterior door.
Doors: Exterior doors: stained wood plank with boxed "X" pattern of broad-headed wrought iron nails with stained log casing
Interior doors: four panel wood with stained log casing
Hardware: Dark bronze with the monogram "GC" cast on the knobs
Light Fixtures: Contemporary log and chain chandelier added in 1990 – poor copy of the original design
Mechanical: Ceiling mounted electric radiant heaters added in 1987

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

Wood slat benches. Two closets on the north side of the room. One small closet with small four panel door with "GC" hardware. One larger closet with patterned glass sidelight, three panel door and round brass knob. This closet is not on the original drawings and there is no record of when it was added. It may be part of the 1919 modifications to the Women's Restroom. Original steam radiators have been removed. Fire protection sprinklers were added in 2007. Out of character digital wall clock on east wall.

The large casement windows in the south elevation of the telegraph booth have been modified by cutting the large single light free from the multi-light section of the sash. The multi-light section of the sash has been fixed to form a transom while the single light section, with the addition of a new top rail, has been reinstalled as an operable casement window.

CONDITION SYNOPSIS

Generally in good condition. Floors need to be cleaned and resealed. Woodwork should be repainted or refinished. Plaster needs to be patched and repainted.

ROOM IDENTIFICATION

Primary Name: Women's Restroom Alt. Name: Room #: 110

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction. Original restroom was reduced in size by about half, probably in 1925/26, to add a new office.

MAJOR FINISHES

Floors: Concrete with 12-inch square grid pattern, painted
Wall – North: Cement wainscot finished as 2 ½ by 5 inch tiles with wood mold cap, no base. Plaster above
Wall – East: Same as north wall
Wall – South: Same as north wall
Wall – West: Same as north wall
Ceiling: Plaster

BUILT-IN FEATURES

Casework: Painted wood vertical bead board toilet partitions with wood louvered doors
Windows: Six-over-one outward opening awning-type windows in north and west walls with patterned glass.
Doors: Four panel wood door, painted
Hardware: Dark bronze with the monogram 'GC' cast on the knobs
Light Fixtures: Ceiling mounted frosted glass bowl fixture. Date unknown but most likely from late 1980's or early 1990's.
Mechanical: Ceiling mounted electric radiant heaters added in 1987. Wall hung lavatories with cast iron support brackets. Fixtures appear to be from 1925/26 renovation. See Mechanical Condition Assessment for more detail.

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

Painted wood vertical bead board privacy screen wall at entry door. Top of screen wall and tops of toilet partitions align with wood molding. Original steam radiators have been removed. Fire protection sprinklers were added in 2007.

CONDITION SYNOPSIS

Generally in fair condition. Floors need to be cleaned and resealed. Woodwork needs to be repainted or refinished. Plaster needs to be patched and repainted.

ROOM IDENTIFICATION

Primary Name:	Hall	Alt. Name:	Office (before addition of ADA restroom)	Room #:	109
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STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Originally part of the Women's Restroom. Converted to an office probably during the 1925/26 renovation. Part of the office was converted to an accessible restroom in 1990.

MAJOR FINISHES

Floors:	Concrete with 12-inch square grid pattern
Wall – North:	Plaster with painted wood chair rail, no base
Wall – East:	Plaster, no base
Wall – South:	Plaster, no base
Wall – West:	Plaster, no base
Ceiling:	Plaster

BUILT-IN FEATURES

Casework:	None
Windows:	Six-over-one outward opening awning-type window in north wall
Doors:	Cased opening to Waiting Room with no door.
Hardware:	None
Light Fixtures:	Contemporary, added in 1990
Mechanical:	None

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

An old Toledo baggage scale located in this room. The history of the scale or how long it has been in the Depot is not known. It is listed as belonging to the Government in the Grand Canyon Railway Concession Permit.

CONDITION SYNOPSIS

Generally in good condition. Floors need to be cleaned and resealed. Woodwork should be repainted or refinished. Plaster needs to be patched and repainted.

ROOM IDENTIFICATION

Primary Name: Accessible Restroom Alt. Name: Office (before addition of ADA restroom) Room #: 109A

STYLE

PERIOD OF SIGNIFICANCE

Contemporary modification

CONST./ALTERATIONS SYNOPSIS

Originally part of the Women's Restroom. Converted to an office probably during the 1925/26 renovation. Part of the office was converted to an accessible restroom in 1990.

MAJOR FINISHES

Floors: Concrete with 12-inch square grid pattern
Wall – North: Plaster, no base
Wall – East: Plaster, no base
Wall – South: Plaster, no base
Wall – West: Plaster, no base
Ceiling: Plaster

BUILT-IN FEATURES

Casework: None
Windows: Six-over-one outward opening awning-type window in north wall
Doors: Four panel wood door, painted
Hardware: Lever handle with historic dark bronze escutcheon.
Light Fixtures: Contemporary, added in 1990
Mechanical: Contemporary plumbing fixtures from 1990.

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

Contemporary grab bars and other toilet room accessories. Plastic baby changing station.

CONDITION SYNOPSIS

Generally in good condition. Floors need to be cleaned and resealed. Woodwork should be repainted or refinished. Plaster needs to be patched and repainted.

ROOM IDENTIFICATION

Primary Name: Men's Restroom – west side Alt. Name: Room #: 106

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction.

MAJOR FINISHES

Floors: Concrete with 12-inch square grid pattern, painted. Grooved white Italian marble floor slabs at urinals.

Wall – North: Cement wainscot finished as 2 ½ by 5 inch tiles with wood mold cap, no base. Plaster above

Wall – East: Same as north wall

Wall – South: Same as north wall with white Italian marble urinal partitions and wall.

Wall – West: Same as north wall

Ceiling: Plaster

BUILT-IN FEATURES

Casework: Painted wood vertical bead board toilet partitions with wood louvered doors

Windows: Six-over-one outward opening awning-type windows in north wall with patterned glass.

Doors: Exterior doors: stained wood plank with boxed “X” pattern of broad-headed wrought iron nails with painted log casing
Interior: Four panel wood door, painted

Hardware: Exterior door: dark bronze with the monogram ‘GC’ cast on the knobs
Interior door: hardware missing

Light Fixtures:

Mechanical: Ceiling mounted electric radiant heaters installed in 1987. Wall hung lavatories with cast iron support brackets. Fixtures appear to be from 1925/26 renovation or later. See Mechanical Condition Assessment for more detail.

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

Original steam radiators have been removed. Fire protection sprinklers were added in 2007.

CONDITION SYNOPSIS

Generally in fair condition. Floors need to be cleaned and resealed. Woodwork needs to be repainted or refinished. Plaster needs to be patched and repainted.

ROOM IDENTIFICATION

Primary Name: Men's Restroom – east side Alt. Name: Room #: 105

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction.

MAJOR FINISHES

Floors: Concrete with 12-inch square grid pattern, painted. Grooved white Italian marble floor slabs at urinals.

Wall – North: Cement wainscot finished as 2 ½ by 5 inch tiles with wood mold cap, no base. Plaster above. White Italian marble urinal partitions and wall

Wall – East: Cement wainscot finished as 2 ½ by 5 inch tiles with wood mold cap, no base. Plaster above

Wall – South: Same as east wall

Wall – West: Same as east wall

Ceiling: Plaster

BUILT-IN FEATURES

Casework: Painted wood vertical bead board toilet partitions with wood louvered doors. Painted bead board storage closet on north wall.

Windows: Six-over-one outward opening awning-type windows in north and east walls with patterned glass.

Doors:

Hardware:

Light Fixtures: Porcelain socket and bulb. Date unknown.

Mechanical:

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

Original steam radiators have been removed. Fire protection sprinklers were added in 2007.

CONDITION SYNOPSIS

Poor condition. Some fixtures are missing others in disrepair. Floor, walls and ceiling have holes, cracks and damaged. Wood partitions are in fair condition. One stall door is missing and one unhinged.

ROOM IDENTIFICATION

Primary Name: Stair and Stair Hall

Alt. Name:

Room #: 107

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction. Shelving at the second landing is of unknown date. Probably not original.

MAJOR FINISHES

Floors: Wood Douglas-fir treads and oak (probably not original) landings. Concrete with 12-inch square grid pattern at first floor.

Wall – North: Plaster with stained wood base

Wall – East: Plaster with stained wood base

Wall – South: Plaster with stained wood base

Wall – West: Plaster with stained wood base

Ceiling: Plaster

BUILT-IN FEATURES

Casework: Painted wood storage and shelving at second landing in a raised area created by the second floor extending beyond the first floor exterior wall

Windows: Eight-over-one casement window at second landing

Doors: Exterior doors: stained wood plank with boxed “X” pattern of broad-headed wrought iron nails with stained log casing
Interior doors: four panel wood

Hardware: Dark bronze with the monogram ‘GC’ cast on the knobs

Light Fixtures: Ceiling mounted with copper base. Probably part of 1990 rehabilitation.

Mechanical: None

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

Stair is entered from first floor from either the Agent’s Office or from the exterior. Two short flights meet at a landing then two equal flights to the second floor with a mid level landing. The west side flight has winders at the top and bottom; the east side has landings at mid level and at the second floor. The stair is composed of Douglas-fir handrail with 4x4 newel posts, 1 ½ x 1 ½ balusters, and 2 ½ x 3 ¾ handrail. Lower and center banister railings were reconstructed in 1989. Fire protection sprinklers were added in 2007.

CONDITION SYNOPSIS

Generally in good condition. Concrete floors need to be cleaned and resealed. Woodwork should be refinished. Plaster needs to be patched and repainted.

ROOM IDENTIFICATION

Primary Name: Baggage Room

Alt. Name:

Room #: 103

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction. One difference from the design drawings is a wire mesh cage separating off the south end of the room. This was probably installed during the building construction. The exterior door was designed to be a swinging door but was originally installed as a slider. At some later date a swinging door was cut into the slider using the removed portion as the new door.

MAJOR FINISHES

Floors: Concrete with 12-inch square grid pattern
Wall – North: 1x8 horizontal wood boards, painted, no base
Wall – East: 1x8 horizontal wood boards, painted, no base
Wall – South: 1x8 horizontal wood boards, painted, no base
Wall – West: 1x8 horizontal wood boards, painted, no base
Ceiling: 1x8 wood boards, painted

BUILT-IN FEATURES

Casework: Built-in bead board cabinets on west and north walls. Open wood shelving on east wall. Wood base cabinets part of wire mesh cage.
Windows: None
Doors: Exterior door: stained wood plank with boxed “X” pattern of broad-headed wrought iron nails. Swing door cut into original sliding door.
Interior doors: Four panel wood to Freight Room and half height door with counter top to Agent’s Office.
Hardware: Black metal knob on door to Freight Room. Hook and eye only on the half height door. Two brass knob latch sets on exterior door that do not match the “GC” knobs.
Light Fixtures: Ceiling mounted fluorescent strips. Date unknown.
Mechanical: Ceiling mounted electric radiant heaters installed in 1987.

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

Notice board on north wall by door to Freight Room. New fire suppression sprinkler system riser installed on east wall in 2007. Supply come in under the Freight Room through a hole cut into the west wall of the Baggage Room.

CONDITION SYNOPSIS

Generally in good condition. Concrete floors need to be cleaned and resealed. Woodwork should be refinished.

ROOM IDENTIFICATION

Primary Name: Freight Room

Alt. Name:

Room #: 104

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction. Cabinets not shown on the design drawings were installed on the north wall. May have been part of original construction. At some later time a plywood ceiling added to bottom of collar beams and a sink was added to the north wall at the west end of the cabinets.

MAJOR FINISHES

Floors: 2x6 tongue and groove wood

Wall – North: 1x8 horizontal wood boards, painted, no base. This wall is predominantly built-in cabinets

Wall – East: 1x8 vertical wood boards, painted, no base

Wall – South: 1x8 vertical wood boards, painted, no base

Wall – West: 1x8 horizontal wood boards, painted, no base

Ceiling: Plywood, painted

BUILT-IN FEATURES

Casework: Cabinets on north wall of vertical tongue and groove. Cabinets and open shelving on west wall.

Windows: None

Doors: Two sliding wood plank doors with boxed “X” pattern of broad-headed wrought iron nails.

Hardware: Metal hasps. Iron overhead door track and hardware.

Light Fixtures: Cove fluorescent strip lighting at west, south and east walls. Date unknown.

Mechanical: None

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

Wood stairs up from Baggage Room with galvanized metal pipe handrail. East most cabinet door in north wall is different than the other doors. The upper panel decorative and made of alternating vertical boards and openings. Pocket built in to the south west corner to accommodate the sliding door in the Baggage Room. This pocket was closed off in the Baggage Room presumably at the time the swinging door was cut into the sliding door. Fire protection sprinklers were added in 2007.

CONDITION SYNOPSIS

Generally in good condition.

ROOM IDENTIFICATION

Primary Name: Storage (Under Stair) Alt. Name: Mechanical Room Room #: 108

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction.

MAJOR FINISHES

Floors: Concrete with 12-inch square grid pattern
Wall – North: Plaster with wood base
Wall – East: Plaster with wood base
Wall – South: Plaster with wood base
Wall – West: Plaster with wood base
Ceiling: Plaster

BUILT-IN FEATURES

Casework: None
Windows: Six-over-one outward opening awning-type windows in north wall
Doors: Four panel wood door, stained
Hardware: Escutcheon matches typical “GC” hardware but simple metal knob on exterior and no knob on interior
Light Fixtures: None
Mechanical: None

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

This room is under the first flight of stairs to the second floor so part of the ceiling height is low and slopes to follow the rise of the stairs. Fire protection sprinklers were added in 2007.

CONDITION SYNOPSIS

The room is in poor condition from its use as a storage room and lack of maintenance. There is a large area of plaster missing from the ceiling. Walls are stained and there are holes have been punched through at various times to run piping.

ROOM IDENTIFICATION

Primary Name: Second Floor Hall

Alt. Name:

Room #: 205

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction. No significant modifications.

MAJOR FINISHES

Floors: Oak strips, probably not original.
Wall – North: Plaster with stained wood (Douglas-fir) base
Wall – East: Plaster with stained wood (Douglas-fir) base
Wall – South: Plaster with stained wood (Douglas-fir) base
Wall – West: Plaster with stained wood (Douglas-fir) base
Ceiling: Plaster

BUILT-IN FEATURES

Casework:
Windows: None
Doors: Four panel wood doors, stained. Stained wood casing with crown molding head.
Hardware: Dark bronze with the monogram ‘GC’ cast on the knobs. Doors have been mortised but no latch mechanism
Light Fixtures: Ceiling mounted with copper base. Probably part of 1990 rehabilitation.
Mechanical: None

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

Wood cased electrical panel on west wall, door panel missing. Data cable has been run surface mounted on the walls and through the door openings. Fire protection sprinklers were added in 2007.

CONDITION SYNOPSIS

Good condition. Wood floor needs to be refinished.

ROOM IDENTIFICATION

Primary Name: Kitchen

Alt. Name:

Room #: 206

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction. The kitchen has been “modernized” several time and present cabinetry date to many periods of occupancy.

MAJOR FINISHES

Floors: Carpet on linoleum
Wall – North: Plaster with stained wood chair rail. Plaster finished as tile below the chair rail
Wall – East: Plaster
Wall – South: Plaster with stained wood chair rail. Plaster finished as tile below the chair rail
Wall – West: Plaster with stained wood chair rail. Plaster finished as tile below the chair rail
Ceiling: Gypsum board.

BUILT-IN FEATURES

Casework: Wood base and wall cabinets on east wall. Base cabinet stained wood with plastic laminate counter top. Wall cabinets are painted. Wood base and wall china cabinets on south wall, base cabinet stained, upper cabinets painted with glass panel doors.
Windows: Six-over-one double casement in north and west walls with stained wood casing and crown molding matching door casing
Doors: Four panel wood doors, stained. Stained wood casing with crown molding head.
Hardware: Dark bronze with the monogram ‘GC’ cast on the knobs. Doors have been mortised but no latch mechanism. Some missing knobs also.
Light Fixtures: Contemporary ceiling mounted fluorescent box light. Push button type light switches
Mechanical: Ceiling mounted electric radiant heater

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

Evidence indicates that the kitchen has been modernized several times over the years and present cabinetry and equipment date to many periods of occupancy. Cabinets and double sink have been constructed on the east kitchen wall to replace the original sink and drain board. The original brick chimney has been removed. A china cabinet was constructed on the south wall next to the panty fairly soon after construction. Original steam radiators have been removed. Fire protection sprinklers were added in 2007.

CONDITION SYNOPSIS

Generally in good condition. Casework needs refinishing; some knobs are missing or mismatched.

ROOM IDENTIFICATION

Primary Name: Pantry

Alt. Name:

Room #: 207

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction.

MAJOR FINISHES

Floors: Carpet
Wall – North: Plaster with stained wood base
Wall – East: Plaster with stained wood base
Wall – South: Plaster with stained wood base
Wall – West: Plaster with stained wood base
Ceiling: Plaster

BUILT-IN FEATURES

Casework: Base and wall cabinets on south wall of stained wood with plastic laminate counter top. Storage cabinets on north wall to sill of window.
Windows: Trapezoidal shaped casement window in north wall.
Doors: Wood cased opening to kitchen. Door to West Bedroom is a four panel door but different from other doors in that it is two-over-two. The door and the frame are cut down to fit within the low roof.
Hardware: Brass escutcheon, not typical. No knobs
Light Fixtures: Contemporary ceiling fixture
Mechanical: None

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

The pantry is built under the large overhang of the roof so the ceiling is sloped as is the window to follow the roof.

CONDITION SYNOPSIS

Generally in good condition. Casework needs refinishing.

ROOM IDENTIFICATION

Primary Name: Living room

Alt. Name:

Room #: 201

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction.

MAJOR FINISHES

Floors: Oak strips
Wall – North: Plaster with 1x8 Douglas-fir base
Wall – East: Plaster with 1x8 Douglas-fir base
Wall – South: Plaster with 1x8 Douglas-fir base
Wall – West: Plaster with 1x8 Douglas-fir base
Ceiling: Plaster

BUILT-IN FEATURES

Casework: None
Windows: Six-over-one double casement in south and west walls with stained wood casing and crown molding matching door casing
Doors: Four panel wood doors, stained. Stained wood casing with crown molding head.
Hardware: Dark bronze with the monogram 'GC' cast on the knobs. Doors have been mortised but no latch mechanism. Door to Hall has no knobs.
Light Fixtures: Ceiling mounted, no globe.
Mechanical: Ceiling mount electric radiant heaters

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

Wood picture rail about 12 inches below ceiling aligned with head of windows. Original steam radiators have been removed. Fire protection sprinklers were added in 2007.

CONDITION SYNOPSIS

Good condition. Floor needs refinishing and minor wall patching.

ROOM IDENTIFICATION

Primary Name: West Bedroom Alt. Name: Laundry Room #: 208

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Attic space above the Waiting Room was finished as an additional bedroom probably about 1925.

MAJOR FINISHES

Floors: Carpet on painted wood (probably fir)
Wall – North: Horizontal wood bead board, painted
Wall – East: Horizontal wood bead board, painted
Wall – South: Horizontal wood bead board, painted
Wall – West: Horizontal wood bead board, painted
Ceiling: Horizontal wood bead board, painted

BUILT-IN FEATURES

Casework: None
Windows: Six light wood casement windows installed parallel to the roof with a diamond shaped window
Doors: Door to Pantry is a four panel door but different from other doors in that it is two-over-two. The door and the frame are cut down to fit within the low roof.
Hardware: Brass escutcheon, not typical. No knobs
Light Fixtures: Contemporary ceiling mounted fluorescent box light.
Mechanical: None

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

The ceiling of this room is wood bead board attached directly to the bottom of the rafters. Knee walls were from about four foot in height down to the floor. Doors into the attic space beyond were built of the same bead board with no casing. Fire protection sprinklers were added in 2007.

A July, 1988 Maintenance Log indicates that the floor was painted brown enamel.

CONDITION SYNOPSIS

Good condition.

ROOM IDENTIFICATION

Primary Name: North Bedroom

Alt. Name:

Room #: 204

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction.

MAJOR FINISHES

Floors: Douglas-fir strip
Wall – North: Plaster with 1x8 Douglas-fir base
Wall – East: Plaster with 1x8 Douglas-fir base
Wall – South: Plaster with 1x8 Douglas-fir base
Wall – West: Plaster with 1x8 Douglas-fir base
Ceiling: Plaster

BUILT-IN FEATURES

Casework: None
Windows: Six-over-one double casement in north and east walls with stained wood casing and crown molding matching door casing
Doors: Four panel wood doors, stained. Stained wood casing with crown molding head.
Hardware: Dark bronze with the monogram 'GC' cast on the knobs. Door has been mortised but no latch mechanism.
Light Fixtures: Ceiling mounted with glass globe. Push button light switch.
Mechanical: Ceiling mount electric radiant heaters

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

Wood picture rail about 12 inches below ceiling aligned with head of windows. Original steam radiators have been removed. Fire protection sprinklers were added in 2007.

CONDITION SYNOPSIS

Good condition. Floor needs refinishing and minor wall patching. Crack in ceiling plaster.

ROOM IDENTIFICATION

Primary Name: South Bedroom

Alt. Name:

Room #: 202

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction.

MAJOR FINISHES

Floors: Douglas-fir strip
Wall – North: Plaster with 1x8 Douglas-fir base
Wall – East: Plaster with 1x8 Douglas-fir base
Wall – South: Plaster with 1x8 Douglas-fir base
Wall – West: Plaster with 1x8 Douglas-fir base
Ceiling: Plaster

BUILT-IN FEATURES

Casework: None
Windows: Six-over-one double casement in south and east walls with stained wood casing and crown molding matching door casing
Doors: Four panel wood doors, stained. Stained wood casing with crown molding head.
Hardware: Typical historic type dark bronze escutcheon but no knob or latch mechanism.
Light Fixtures: Ceiling mounted with glass globe. Push button light switch.
Mechanical: Ceiling mount electric radiant heaters

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

Wood picture rail about 12 inches below ceiling aligned with head of windows. Original steam radiators have been removed. Fire protection sprinklers were added in 2007.

CONDITION SYNOPSIS

Good condition. Floor needs refinishing and minor wall patching.

ROOM IDENTIFICATION

Primary Name: Bathroom

Alt. Name:

Room #: 203

STYLE

Rustic

PERIOD OF SIGNIFICANCE

1929 to 1968

CONST./ALTERATIONS SYNOPSIS

Part of original 1910 construction. The bathroom has probably been “modernized” several times.

MAJOR FINISHES

Floors: Sheet vinyl

Wall – North: Plaster with painted wood chair rail. Plaster finished as tile below the chair rail

Wall – East: Plaster with painted wood chair rail. Plaster finished as tile below the chair rail

Wall – South: Plaster with painted wood chair rail. Plaster finished as tile below the chair rail

Wall – West: Plaster with painted wood chair rail. Plaster finished as tile below the chair rail

Ceiling: Plaster

BUILT-IN FEATURES

Casework: Built-in cabinets along south wall with built-in counter and mirror. Painted wood medicine cabinet with mirror over lavatory.

Windows: Trapezoidal shaped casement window in north wall.

Doors: Four panel wood doors, stained. Painted wood casing with crown molding head.

Hardware: Dark bronze with the monogram ‘GC’ cast on the knobs

Light Fixtures:

Mechanical:

OTHER INFORMATION AND SUPPLEMENTAL DESCRIPTION

The east end of the restroom is built under the large overhang of the roof so the ceiling is sloped as is the window to follow the roof. Claw foot cast iron tub. Access to attic space through access panel in the ceiling. Original steam radiators have been removed. Fire protection sprinklers were added in 2007.

CONDITION SYNOPSIS

The walls and ceiling are generally in good condition. The floor is in poor condition.

1.5.4 STRUCTURAL CONDITION ASSESSMENT

1.5.4.1 GENERAL STRUCTURAL INFORMATION

Introduction

Martin/Martin, Inc. at the request of Chamberlin Architects has performed a visual structural condition assessment of the railroad Depot located in Grand Canyon, Arizona. The onsite assessment was conducted on October 3 and 4, 2007. This report describes observations and recommended actions to correct the structural deficiencies observed.

Background

The Depot is a two story log structure built in 1910. For the purpose of this report, the front of the building faces south. With the exception of the freight room, the first floor is a concrete slab-on-grade with a utility trench along the north wall that branches at several locations to the south. The floor of the freight room is elevated to match the platform on the east side of the Depot. The freight room floor and the platform are constructed of sawn wood joists and beams with wood decking. The crawlspace under the freight room and platform are accessed from the baggage room.

The foundation is constructed of cast-in-place concrete footings and stem walls. The interior partition walls on the first and second floors are of wood frame construction. Some of these partitions are structural, load-bearing walls. The exterior walls of the first floor are constructed of sawn logs. The exterior walls of the second floor are constructed of wood frame construction.

The second floor and roof are constructed of wood framing. They are supported on the exterior log walls, some of the interior partition walls, and the log columns that are beyond the outline of the first floor.

Project Objectives

The purpose of this condition assessment is to provide the Park Service with a description of the current structural condition of the Depot and to evaluate whether or not remedial work is required at this time. The condition survey was performed using visual methods of observation. Based on our findings, more elaborate testing and investigation was not warranted for the assessment.

Approach

A limited condition survey was conducted by Martin/Martin, Inc. to determine the typical construction of the log walls and timber framing, to determine the materials used in construction, and to visually evaluate the current condition of the materials.

1.5.4.2 STRUCTURAL RESULTS

Foundations

The foundation walls of the Depot are constructed of cast-in-place concrete and were observed from the exterior and from the crawlspace under the freight room and platform. Cracks were discovered in the north wall at the women's restroom, on the west wall near the northwest corner, on the east wall at the middle of the platform, on the south wall at the southeast corner of the platform and between the southeast corner of the Depot and the platform. The cracks appeared to be the result of foundation settlement. The remainder of the foundations walls were either hidden from view or appeared to be in fair to good condition.

It appears that the foundations have settled around the perimeter of the Depot where the soils supporting them are subject to changes in moisture content. The east-west centerline of the building appeared to be a high point with settlement along both the north and south walls. Drainage on the north side of the building is inadequate and a shallow trench drain has been installed to improve the drainage. The effectiveness of the trench drain to handle heavy flows of water is questionable. It was partially obstructed with leaves, needles and debris at the time of this assessment. Regular maintenance is needed to keep it clean.

Drainage on the south side of the Depot itself appeared to be adequate where there was concrete paving. The drainage at the landscaping to the south and east of the platform was not sufficient to move water away from the building. A 10% slope in the first 10 feet is usually recommended by geotechnical engineers in landscaped areas.

Timber

Log Walls

In general, the log walls are in good condition with the exception of the first row of logs above the foundations and some of the false log crowns. The logs at the foundation level are located at grade, and therefore, are subject to repeated and sometimes prolonged wetting. There were several logs with rot on the north side where the drainage is poor and on both walls at the southwest corner of the Depot. The logs at the foundation level may also be in direct contact with the concrete foundation. Moisture can be drawn out of the foundation and into the logs if a vapor barrier was not placed between them. The deteriorated logs will need to be replaced. A vapor barrier should be placed between the foundation and the base log when they are replaced. All of the base logs should be protected with a wood preservative that does not change the appearance of the logs.

Some of the false crowns on the logs at the corners of the building are rotted. These are non-structural but will need to be replaced. Some deteriorated crowns at the northwest and southwest corners had been repaired with cement based patching products. These cement based products can hold moisture and accelerate the deterioration of wood. The cement based materials should be removed and replaced with appropriate materials or the crowns should be replaced.

Log Columns

Many of the log columns supporting the shelter and second floor of the Depot were rotted, and most of the remaining columns were suspected of having at least some rot. The deterioration is typically located at the base of the column. The columns rest on concrete foundations that are at grade level and subject to frequent wetting. We did not observe any flashing between the columns and the foundations. A 2 to 3 inch tall ring of concrete had been placed around the base of the columns on the north side of the Depot. This may have been an effort to keep water away from the columns; however, it has helped to trap water against the columns.

The roof of the shelter has a noticeable slope from the center columns toward the southwest corner. The west section of the collapsible passenger gate can no longer be closed. Either the footing or the triple log column at the southwest corner of the shelter has settled. This movement has occurred since the report prepared by Mr. Richard Borjes in 1984. The bottoms of the columns are rotted and in need of repair.

The double log column supporting the center of the shelter on the north side was displaced from a vehicle impact. The impact does not appear to have damaged the column; however, the bottoms of the logs are suspected to be rotted. There was no evidence of flashing or a vapor barrier where the column was displaced. A horizontal shear crack was noted in the log beam supporting the roof to the west of the column. The crack in the beam does not appear to be affecting its strength.

Floors

Most of the timber floor framing was hidden, but where we could observe it, it is in good condition and, to the best of our knowledge, is suitable to support live loads appropriate for the intended use. The second floor framing mirrors the settlement of the foundations and log construction. A high point similar to the concrete floor slab runs east-west through the second floor. The high point appears to coincide with the wood framed bearing wall below. The slope in the floor is likely due to a combination of the following causes:

- Drying shrinkage of the logs laid horizontally in the exterior walls is greater than the drying shrinkage of the vertical log columns and interior partition walls.
- Settlement of the foundations along the north and south walls.
- Settlement due to the deterioration of the lowest row of logs in the walls.
- Settlement due to the deterioration of the bottoms of the log columns.

The bedroom over the waiting room was probably built some time around 1925. The doorway to the bedroom was constructed out of plumb. This indicates that significant settling had occurred shortly after construction of the Depot was completed and before the doorway was constructed. This settlement was probably due to greater drying shrinkage of the log walls relative to the drying shrinkage of the columns and interior walls of typical wood construction, a common problem with log construction. Additional settlement has taken place after the construction of the doorway; which is probably due to a combination of foundation

settlement and deterioration. We do not recommend any corrective action be taken at this time.

The floors throughout the remainder of the second floor also slope from the east-west center line to the north and south walls with an increase in slope where the second floor projects beyond the log walls below and is supported by the log columns. The total settlement was not measured but seemed to be approximately 3 inches or more. Many of the interior finishes have been repaired or repainted. We do not recommend trying to level the floors.

Attic

The timber framing in the attic appeared to be adequate to carry the existing ceiling. The attic should not be used for storage of any kind.

Roof

The timber framing of the roof did not appear to be adequate to carry the 50 pound square foot (psf) snow load recommended by the National Park Service. The framing did appear to be in good condition. The International Existing Building Code (IEBC) will allow the existing roof to remain without modifications as long as the occupancy of the building does not change to increase the importance factors for the building. No remedial work is necessary unless the owner chooses to increase the roof capacity to support the 50 psf snow load.

The exposed ends of the log rafter lookouts were typically in fair to poor condition. Some of the ends were rotted and many others were suspected of being rotted. These logs are attached to the roof rafters with lag screws and can be replaced or adjusted fairly easily. Previously, some of the lookouts were extended further out and the rotted ends were cut off.

A few log rafters on the south elevation are suspected of being rotten. These rafters project out from under the eave of the high roof. They will need to be reviewed in more detail prior to the issuance of repair drawings.

The gutters at the northeast and northwest corners of the Depot are clogged, and the soldered seams to the downspouts are failing. Water overflowing the gutter falls to the ground and is not carried away in the drainage system attached to the downspouts. This adds to the moisture problems around the building. The gutters need to be cleaned and repaired.

The gutter on the northwest corner of the high roof holds water because that corner of the building has settled and reversed the slope in the gutter. A drain should be added or the slope of the gutter should be re-established.

Lateral System

The Depot is located in an area of moderate seismicity and wind loads. The Depot is constructed of heavy timber and wood framing with cement plaster wall finishes. Many of the walls have long sections that do not contain large openings, are stacked vertically, and are

braced by floor and roof diaphragms. Based on our experience with similar structures under similar loads, the lateral system has adequate strength to prevent collapse and does not need to be further investigated. The building may not be usable after a seismic event, but it is not required to be based on its current use.

1.5.5 MECHANICAL CONDITION ASSESSMENT

1.5.5.1.1 HISTORIC ASSESSMENT OF PLUMBING SYSTEMS

The Men's and Women's restrooms on the ground level have tank type water closets, counter mounted lavatories, wall mounted urinals and floor drains. The fixtures in both restrooms appear to be from the 1925/26 renovation, with the exception of the urinals which appear to be replicas replaced at a later period. The original urinals were most likely a "trickle down" type urinal and were therefore replaced with the current flush valve urinals to conserve water. Additionally, a few of the water closets appeared to have either tanks or bowls of a newer time era. However, these replacements are in the same style of the original water closets. Therefore, while all plumbing fixtures in the main restrooms might not be from the 1925/26 renovation they are well matched and could all be considered historically significant. Photos M1, M2, M3 and M4 depict these fixtures. There is a second men's restroom that adjoins the current Men's restroom that is locked off and not accessible to the public. The fixtures in this restroom, while of the same time period and therefore historic significance, are all broken and beyond repair.

The family ADA restroom has modern plumbing fixtures from a recent renovation and has no historic significance.

The freight room has a service sink that appears to from the 1925/26 renovation and therefore has historic significance. The sink is cast iron with an enamel coating. The sink is not currently plumbed to the domestic system. [See photo M-8].

The plumbing fixtures in the upstairs bathroom are residential type fixtures from the 60-70's era and do not appear to be historically significant.

The upstairs kitchen has a double compartment porcelain sink [photo M-9] that has been installed as part of a renovation to the kitchen, as the sink does not match the cabinet schematic. The sink appears to be from the 1950's time period and is not historically significant to the original construction.

The roofs are all drained to exterior gutter and downspouts. [See photo M-6.] The gutters appeared to be recently replaced and pose no historic significance, though they do blend well with the original drainage equipment. The downspouts were made of copper and discharge indirectly into funnels that date to the original construction and therefore have historic significance.

1.5.5.1.2 HISTORIC ASSESSMENT OF HVAC SYSTEMS

All remnants of the original steam radiator system have been removed from the Depot with the exception of two capped steam pipes in both the Women's Restroom vestibule and the Women's restroom. These steam lines extend approximately 3" above the floor and are

capped. The steam radiator system was replaced with electric cove heaters with no historical significance.

The ground floor restroom ventilation systems in the ground level restrooms have ventilation grilles that appear to be from the 1925/26 period, but do not offer any features to give them any historical significance. The bathroom fan and heater in the upstairs bathroom appears to be from the 70's and presents no historical significance.

1.5.5.2.1 ASSESSMENT OF EXISTING PLUMBING SYSTEMS

Water is routed to the Depot through the crawl space (under the freight room) in intermittently insulated copper pipe. Portions of the building are still piped with galvanized pipe and some is piped with copper pipe. Whenever new plumbing was incorporated into the Depot it appeared to be copper. However, most plumbing was not accessible so this could not be fully verified. It is therefore also not known if it is insulated, but considering the age of the Depot, it is assumed the piping is not insulated.

The sewer pipe that was visible in the crawlspace appears to be cast iron soil pipe and appears to be in good condition. However, no video inspection of the piping was done, and assuming the age of the soil pipe it is probably pitted on the inside. The waste system has a floor cleanout at the north office entrance hall and in the upstairs bathroom. There is a wall cleanout underneath the upstairs kitchen. The waste drained out to a waste lift station in the road median to the south of the depot. The exterior of the lift station appeared to be in good condition, but was not accessible to be inspected for operating condition. According to the Park staff, the lift station is in an acceptable condition, but underutilized. The station contains, "very large pumps and very small flow rates". Park staff has stated that "there would be no problem accepting additional flows". The depot's sanitary waste system is traditionally vented with various vents through the roof throughout the building.

Plumbing fixtures in the main ground floor men's restroom are (3) water closets, (3) urinals, (1) floor drain and (3) lavatory bowls contained in a single modular assembly. The water closets [Photo M-2] are separated tank type porcelain and are in good condition considering their age and were functioning. The tank capacity appears to be 6 gallons per flush. The urinals [photo M-3] are the flush valve wall mounted porcelain type and are also in good condition and are functioning. The lavatories [photo M-1] are cast iron with enamel coating and are served by a single cold-water faucet trim. The faucet is a screw type electroplated brass trim and is very well worn, exposing much of the brass. In addition there is a hole inset for a hot water faucet that is empty and appears that it never was used. The lavatory bowls are chipped and cracked in multiple places and require repair [see photo M-5]. The lavatories are drained through an unscreened electroplated brass ring that has been worn, exposing the brass beneath. The overflow drain is protected by an electroplated brass strainer that has come loose on many lavatories. The overflow strainer is also worn exposing the brass beneath. The modular counter top that the lavatories are incorporated into is also cast-iron with enamel and, like the lavatories, has multiple chips and cracks in that would require repair. Multiple work orders archived at the NPS GRCA office indicate that these fixtures have required a substantial amount of repair and refurbishing. The floor drain [photo M-4] appears to have

been painted multiple times, but is still in operating condition. The plumbing fixtures in the main ground floor women's restroom are (3) water closets, (1) floor drain and (3) lavatory bowls contained in a single modular assembly. These fixtures match the fixtures in the men's restroom by both type and condition. All fixtures have individual shutoff valves, except the lavatories, which have one to serve all three bowls.

There is a second men's restroom that adjoins the current Men's restroom on the ground floor that is locked off and not accessible to the public. This bathroom contained (3) urinals and (6) water closets that are all broken and beyond repair. The plumbing in this bathroom has been abandoned and capped.

The family ADA restroom has a wall mounted porcelain lavatory and a tank-type porcelain water closet. [See photo M-7.] The lavatory had chrome gooseneck faucet with swing lever trim and a chrome strainer in the bowl drain. These fixtures appeared to be installed fairly recently and were in good working condition. The fixtures appeared to meet ADA standards, except the lavatory waste that is not insulated.

The Freight Room has a service sink with all plumbing connections removed. The sink is cast iron with an enamel coating. Beyond a few chips and cracks in the enamel the sink is in relatively good condition. In addition, the Freight Room also has a floor sink behind the icemaker that appears to have been fairly recently added and is in working condition.

The bathroom upstairs has a water closet, a bathtub and a wall-mounted lavatory. All domestic water plumbing is exposed, uninsulated copper. The fixtures are not operational and the water supply may have a closed valve. The lavatory is wall mounted white porcelain with chrome HW/CW turn trim. The bathtub is a floor standing cast-iron with enamel coating tub with a residential style faucet and shower extension. The water closet is a floor mounted tank type porcelain water closet. No plumbing fixtures had any external damage. The upstairs kitchen has a two-compartment porcelain sink with separate HW/CW trim and a swivel kitchen faucet. [See photo M-9.] The sink had no external damage and was in good operating condition.

The roof drains to exterior gutter and downspouts. Many of the downspouts terminate into a trench drain on the north side of the building that runs east-west parallel to the Depot. The downspouts were made of copper and discharge indirectly into funnels that date to the original construction. [See photo M-6.] While the roof drainage system appears to be operational, the funnels were oxidized and the down spouts were dented and damaged. There were additionally splits in some to the downspouts most likely from freezing. The entire system has been painted the same color brown as the exterior of the building. The gutters appeared to be recently replaced and were in fairly poor condition.

A now abandoned electric tank type water heater, located in the closet under the stairs, previously provided hot water to the Depot. The water heater is a 40-gallon model with a 4500W electric heating element that has been abandoned in place. All plumbing and electrical connections to the water heater have been disconnected. The water heater previously supplied hot water to the upstairs bathtub and lavatory, the upstairs kitchen sink and the porcelain sink in the Freight room. It did not appear that the lavatories in the ground level restrooms ever

had hot water service. It was undeterminable if the water heater was salvageable, but there were no external indications of damage.

1.5.5.2.2 ASSESSMENT OF EXISTING HVAC SYSTEMS

The existing HVAC system consists of electric cove heaters that were added to the depot after the original construction. The original heating system consisted of steam heat with ribbed radiators and manual control valves. Steam and condensate were routed in sub grade tunnels from a campus boiler plant. When the central plant was abandoned the steam radiators were completely removed from the depot and the electric cove heaters were installed in their place. According to the Park, while some of these radiators were salvaged, they are not in any condition to be reused, be it functionally or aesthetically. For a detailed history of the now-removed steam heating system refer to the “HISTORICAL BACKGROUND AND CONTEXT” section of the “DEVELOPMENTAL HISTORY” chapter.

For the most part, each room has its own electric cove heater(s) that are controlled either by a central room thermostat, in the case of multiple heaters, or by a single unit-mounted thermostat. [See photo M-10]. Both the wall thermostats and the unit-mounted thermostats have adjustable set point capabilities. Though it varies throughout the depot, all ceilings above the cove heater have some degree of discoloration and/or cracking due to the heat radiated from the heaters. [See Photo M-11]. Though this most likely represents an aesthetic concern, rather than a safety one, it is still an obvious issue with the usage of cove heaters. According to the Park staff, all of the cove heaters are in working condition. Ventilation air is from operable windows.

All of the restrooms, except the family ADA restroom, had some sort of natural ventilation. The main restrooms on the ground level had ventilation grilles that are ducted, via wooden ducts, up through the roof and terminated through wooden ventilation stacks on either side of the depot. The ventilation stacks on the roof are terminated with a wooden cap. These systems were not mechanically ventilated, but were simply gravity ventilated. The wooden ducts serving these grilles [photo M-12] contain multiple gaps and are placed haphazardly over the ventilation grilles, which renders the small amount of ventilation that this system gives to the restrooms essentially useless. The upstairs bathroom had a residential style ceiling mounted exhaust fan with a supplemental electric heating coil that terminated in the attic space. This fan was controlled from a wall switch. The fan did not appear to work, but the electric heating coil did.

1.5.5.2.3 ASSESSMENT OF EXISTING FIRE SUPPRESSION SYSTEMS

A fire protection sprinkler system was installed in the Depot during a 2007 project. A new 4” water line was routed to the Baggage room where a double check valve assembly and a anti-freeze valve assembly were installed. A 3” dry sprinkler pipe system was routed from the valve assembly to serve the Freight room and attic space. The dry sprinkler pipe system was actuated from a Victaulic dry valve and was powered by a riser mounted air compressor. The fire protection details, including the Fire sprinkler Riser Manifold detail, are located in the Appendix.

The fire protection piping enters the building through the crawlspace at the northwest corner of the depot. A combination of concealed and exposed sprinkler heads are located throughout the ceilings of the depot. The fire sprinkler design documents, including the site and piping plans, are located in the Appendix.

1.5.6 ELECTRICAL CONDITION ASSESSMENT

1.5.6.1.1 GENERAL ELECTRICAL INFORMATION

The general electrical system is in fair to poor condition. Electrical distribution components are of various age and manufacture. The receptacles installed are current style grounding type receptacles. Many of the light switches are the traditional two-button push-on, push-off style. Exit signage is nonexistent in the Depot. The fire alarm system appears to have been upgraded/installed recently and is in operating condition – contract #C1211070906. The telecommunications system consists of surface run cable from telephone closet on the second floor.

1.5.6.1.2 CURRENT BUILDING ELECTRICAL CONDITIONS

The main electrical service is believed to be a 120/240V, 200 amp, single-phase service that originates from a utility transformer just west of the Train Depot's parking lot. The exact conductor size could not be verified, as we were not able to open the panel or wireway (See photo E1). The transformer secondary runs underground and daylights on the west end of the outdoor waiting area and terminates in a small vertical wireway. The galvanized rigid conduit (GRC) changes size at this point from 2-1/2" to 2" GRC. The 2" GRC then continues up the west end of the exterior shelter and runs horizontally below it's roof and continues to the building meter location. At this location, the conduit terminates in a wireway that connects to the utility meter and an exterior panelboard. The panelboard located on the exterior of the building is a 120/240V, 125 amp, single-phase panel manufactured by Square D. The panel is not in a NEMA 3R type enclosure. This panelboard is approximately 50 years old. The exterior wireway also feeds three other panelboards located throughout the interior of the building. The three interior panelboards are from various manufacturers. Panel "B" is located upstairs in the original fuse box location and is a panelboard interior designed to fit in the original fuse box dimensions. Manufacturer could not be determined [See photo E2].

Panel "C" is located on the stair landing leading upstairs. The panel is a 120/240V, 125 amp, single-phase panel manufactured by General Electric and appears to have been installed within the last 15 years. The panel and breakers are still in manufacture and supported by GE (See photo E3). Panel "D" is located on the main level inside the office. The 120/240V, 100 amp, single-phase panel can is a Zinsco, manufactured in the 40's, but has a newer interior with various Bryant and Square D breakers. Panel "C" is the only panel in acceptable working condition and still in manufacture.

No main overcurrent protection for the building was noted during the site observation. The transformer secondary conductors appear to run unprotected from the transformer to the utility meter. Also, none of the panelboards have main overcurrent protection. It is believed that the panels inside the building are being fed by tapping the main service entrance conductors. Proper AIC bracing and/or series rating are in question. Panelboards also lack arc flash hazard labeling as required by the current National Electrical Code (NEC). Wiring within the building is a mixture of knob and tube (possibly abandoned in place), older conduit

and conductors and some newer conduit and conductors. All of which are out of date and in need of replacement. All of the mechanical equipment is hardwired and does not meet current NEC requirements for having a disconnect within sight of the equipment.

The lighting throughout the building consists of various types and styles. There were no period wall sconces noted in the Train Depot as indicated on the original construction documents. The original large chandeliers located on the main level are poor copies of the originals (See photo E4). The three and one light ceiling luminaires from the original construction documents also appear to remain intact. Some of them are damaged and possibly beyond repair. The original globes on the some of these luminaires are missing (See photo E5). The Freight Room contains cove lighting consisting of 1' x 4' T-12 fluorescent strips. The Baggage Room lighting consists of one 4' T12 fluorescent wraparound luminaire. There was only one building mounted exterior luminaire noted during the observation. The luminaire was located outside the Baggage Room door. The exterior luminaire appears to be from the original contract documents and has historical value. Other exterior luminaires were mounted below the covered exterior waiting area and are cable hung and appear to be historic [See photo E6].

Telecommunication systems are in place, but consist of surface run cabling. All of the backbone equipment has been removed.

1.5.6.2.1 ELECTRICAL ELEMENTS

Due to the age of the panels and meter on the exterior of the building, the service entrance conductors are believed to be aged conductors, possibly cloth insulation if they are from the same period as the panel and meter. Again, the service entrance wireway could not be opened to verify. There are still remnants of knob and tube type wiring, inside the building, however much of it appears to be abandoned in place and should remain. Some of the interior wiring consists of newer THHN type conductors. All wiring is of various ages from separate remodels.

The overcurrent protection devices for branch circuits are from various manufacturers. The branch circuit breakers on the exterior panelboard are no longer manufactured and have obvious signs of deterioration due to exposure to the elements. Panelboard "D" has both Bryant and Square D breakers. There is no consistency of branch circuit protection in this panelboard.

The original period chandeliers in the Office and Waiting Room are a poor copy of the original design. Wiring in the chandeliers has ground conductors. The one and three light ceiling luminaires appear to be from the original contract documents and appear to be in good condition. Luminaires throughout the rest of the building are in fair condition and are not period luminaires. Most luminaires are incandescent with the exception of some fluorescent lighting in the Baggage and Freight Rooms.

Telecommunications system cabling is CAT 5 and in good condition, but is surface routed throughout the building [See photo E7]. The only remaining computer equipment in the

Depot is the point of sale computers located in the office on the main level. It was noted during the observation that it is desired that the telephone service and poles to the Depot be removed to restore the view shed. It would be possible to install below grade conduit, however onsite personnel have expressed a desire to utilize a wireless system.

1.5.6.2.2 ELECTRICAL SYSTEM CONDITIONS SUMMARY

The electrical distribution in the building is in fair to poor condition. Lack of overcurrent protection and age are the main factor determining the systems current condition.

Many of the original luminaires are still in place. Some fluorescent luminaires have been installed in various rooms to supplement original lighting. Many of the fluorescent lamps are not functioning and need to be replaced. The fluorescent luminaire in the Baggage Room is missing the wraparound lens. All light switches were functioning during the observation. Exterior luminaires are in fair condition. The luminaires should be removed and inspected and should have wiring and bases replaced as necessary. Some of the exterior luminaires were missing their lamps during the observation. All existing luminaires not original to the building should be replaced. All existing luminaires original to the building should be sent to a UL certified shop to be refurbished.

1.5.6.3.1 ELECTRICAL SYSTEM DEFICIENCIES

The main electrical service is in need of updating. A main service disconnect with appropriate feeder breakers need to be installed and conductors need to be updated. The exterior panelboard needs to be replaced with a modern, NEMA 3R (outdoor) style panelboard. All interior panelboards should be replaced inside the building. Aged branch circuit conductors should also be replaced and should have separate ground conductors installed in all conduits. The main service electrical ground is routed inside a metal conduit and not bonded at either end, which is a violation of the NEC. There are no arc flash labels on any of the panelboards, another NEC violation.

Period luminaires should be removed from their respective locations and have the wiring and lamp bases inspected. Wiring and lamp bases should be replaced as necessary. Any fluorescent lighting that would remain should be updated to the energy efficient T8 type lamp. Incandescent luminaires to remain should have compact fluorescent lamps installed. Building currently does not have any exit signs or egress lighting.

The fire alarm system has recently been installed and is in good working condition [See photo E8]. However, many of the smoke detectors throughout the building are damaged and need to be replaced. A functional test of the entire system should be performed upon replacement of the detectors.

There was no security system noted during the observation.

There was no lightning protection system noted during the observation.

Telecommunication cabling should be removed if it is the National Park's desire to remove the telephone service and change the system to an all wireless configuration.

2.0 TREATMENT AND USE

2.1.1 ULTIMATE TREATMENT AND USE

The Depot building at present is being used as a depot for rail service to the Grand Canyon. For purposes of train operation it is highly desirable to maintain the building in its historic use as a depot. The best possible use of any historic building is a continuation or resumption of its historic use, which is highly desirable for this specific building. As long as a railroad serves Grand Canyon, the Depot should be used as a depot, which implies restoring the building primarily along with selective rehabilitating in order to: modify architectural elements and functional spaces to serve special populations and contemporary functions; upgrade MEP building systems as required; correct structural deficiencies; and enhance facility performance to meet applicable codes..

The second floor of the Depot should not be returned to its original use as residential. Its best use would be as support for the depot functions. Office use with minor storage is compatible with current and historic layout of the space. The current plan should be retained and any changes necessary for office function should be as minimal as possible and reversible.

2.1.2 CIVIL AND SITE RECOMMENDATIONS

The site is generally consistent with a site plan dated 1951. This site plan reflects the 1934 roadway modifications located north of the Depot. The additional asphalt placed during this 1934 project brought up grade in this area interrupting the pre-project drainage patterns. Bringing this down to an elevation that allows runoff from the building to flow north and away from the building, as described for Alternative 3 of the drainage report, would improve drainage and could provide a configuration that is more consistent with the historic condition.

Drainage remediation is recommended on the north side of the structure. Improper slope away from the Depot structure is the primary drainage issue. In order to correct deficient conveyance capacities, additional pipes and inlets are necessary. The drainage report recommends the construction of Alternative 1 or Alternative 3. Both provide high flow capacity and have long term maintenance advantages. Both take stormwater underground. Bus parking and capacity should be considered before further developing the remediation plans. Alternative 3 includes removing the asphalt area immediately north of the Depot, thus reducing the area available for bus parking. See the Drainage Report for more detail.

The historic wrought iron fence located just west of the Depot is buried partially in spots and has been damaged by busses backing up and hitting the fence. The existing curb is not far enough from the fence to protect it. We recommend regrading and repairs to the fence. Additionally, some method of providing a stop for vehicles parking in this area would ensure protection for the historic fence. We recommend wheel stops rather than removing and rebuilding the historic curb. If wheel stops are undesirable from a snow removal standpoint, bollards could be placed between the fence and curb. Either measure will reduce or eliminate further damage to the fence.

The wrought iron fence and stone wall east of the depot are both in good condition.

Surface archeological survey has revealed no archeological sites in the NPS-owned portion of the railroad yard. However, any ground-disturbing activity there should be subject to archeological monitoring, with the expectation that certain artifacts are likely to be found which are of historic if not archeological significance, some of which may answer questions of historic interest not answered by the documentary record. For example, if in the very early years the railway used link and pin couplings, it is likely that buried in the ballast of the railroad yard are coupling links and pins either dropped and lost accidentally during switching, or discarded due to being bent or broken. If the Grand Canyon Railway once used buttons, cap badges, or other insignia on conductors' and brakemen's uniforms with its own rather than Santa Fe initials, such objects are most likely to be found in the railroad yard. Broken and discarded dining car china may also be expected to be found in the ballast beneath the tracks. The original 52 or 56 pound rail, was second hand from the initial construction of the Atlantic & Pacific about 1883, and although changed out by 1928, it is possible broken sections may lie buried in the railroad yard. All such objects are specimens which may provide information significant at least in local history, and are exhibitable museum specimens which, if found, should be cataloged into the museum collections.

Foundation

A geotechnical engineer should investigate the soil immediately adjacent to the foundations to determine the potential for additional settlement. Underpinning of the foundations with micro-piles may be needed to stabilize the foundations. Re-leveling of the foundation should only be contemplated where doing so would not cause additional damage to the structure.

Drainage on the north side of the building should be improved. Elimination of one lane of the roadway would allow for the construction of a drainage swale and improve the drainage away from the building. If the roadway can not be moved, the existing trench drain will need to be cleaned regularly and improved if needed. [See photographs E-4, E-5, E-50, E-52, E-56, E-57, E-58 and E-64]

Drainage of the landscaped areas on the east and south sides of the platform should be improved. A minimum slope of 10% in the first 5 to 10 feet should be provided to move water away from the foundations. [See photograph E-5]

Historic Landmark District Cultural Landscape Report Treatment Recommendations

The following are the treatment recommendations from the Historic Landmark District Cultural Landscape Report for the Railroad Area:

Natural Systems and Features

- Maintain and protect the slopes of the Bright Angel Wash. Take measures to prohibit visitors and staff from walking down the slopes, rather than using authorized paths and stairs.

- Engage a qualified natural resource specialist to assess the ditch for its ability to accommodate current drainage needs, the potential need for dredging and/or slope stabilization, and whether the vegetation in the ditch is exotic, invasive, or requires protection. Avoid removing, channelizing, or filling-in the ditch, as it is a contributing resource.

Spatial Organization

- Retain all contributing, character-defining spaces. Avoid new development within, or between, these spaces that would permanently alter special organization.

Vegetation

- Retain all contributing vegetation, particularly south of the railroad tracks and within the wye space.

Circulation

- Retain and maintain all contributing circulation features, particularly the railroad tracks, asphalt parking near the Railroad Depot, asphalt path along the southern edge of the character area, and the median. Avoid removing the railroad tracks, even if rail service is suspended.
- Remove the gravel parking lot south of the tracks. This parking lot is not historic, detracts from the character area, and is likely detrimental to surrounding natural resources.

2.1.3 ARCHITECTURE

2.1.3.1 ARCHITECTURAL RECOMMENDATIONS

In managing the Depot interior, all ground floor interior spaces should be considered historic spaces not subject to any adaptive redesign and subject to constraints on any remodeling. All finishes, materials, and colors should be retained. This includes the storm vestibule entrance and office, the waiting room, the offices, the baggage room, and the freight room, and includes all cabinets, shelves, bulletin boards, counters, desks, and other built-in furniture which is original to the building. Both the Men's and Women's Restrooms have been modified over the years but much of the historic fabric remains including the bead board stall partitions, doors, wall and floor finishes, and the lavatories. The restrooms currently do not meet ABAAS requirements. Modernization of the restrooms to meet current health and safety codes should retain as much of the historic fabric in these rooms as possible.

The decision between repair or replacement in kind of the material in the Depot should be made on a case by case basis. None of the materials in the structure present a problem of lost technology or scarce materials. Logs, plaster, moldings, trim, and structural members are all constructed with standard techniques of available materials. The exterior log work joint detailing is unique, but can be replicated. It is important to retain historic fabric whenever possible therefore repair is typically recommended over replacement in kind unless the material has deteriorated beyond the point where repair is feasible. But other consideration may make replacement the preferred alternative. In the case of deteriorated logs on the exterior of the Depot the options are replacement in kind or repair with epoxy. Epoxy repair

would preserve more of the original log. However, epoxy repairs often stand out from the adjoining natural wood material. This could result in a degradation of the historic visual character of the building. A determination would be required for each particular log, replacement it in kind in order to maintain visual character or repair in order to retain historic material. If epoxy repairs are considered they should be performed by qualified personnel with extensive experience in epoxy work.

The exposed rafter ends are a unique situation relative to repair or replacement of deteriorated logs in that the rafter ends in most of the roofs are non-structural so repair of these items could be as simple as sliding the lookout forward and cutting off the deteriorated portion.

The log slab wainscoting and trim in the interior spaces of the first floor are in good shape and should require only minimal repairs. Where the slabs have been abraded the best treatment would be to re-stain the member without filling the holes. The recommended treatment for the log slabs of the interior is cleaning and touch up. The slabs still retain the original "smoke" color and should not be painted.

The limitation on adaptive redesign of the second floor interiors are less than the first floor. The second floor never contained public spaces and contains no unusually significant elements. The recommended use for the second floor, general office, should be accommodated in the existing layout of rooms. The existing materials should be retained. Modifications necessary for office function, new lighting, data and electrical outlets, et cetera, should be sensitive to the character of the second floor and the Depot as a whole. Paint colors should also be fit the character of the building. To the extent possible changes on the second floor should be made so as to be not visible from the exterior. The only exception to this is the windows which should be repaired or replaced in kind as noted below.

The windows and for that matter the doors of the Depot are a defining part of the historic character. Any proposed treatment of the structure will have to include retention of these elements. Existing window frames should be repaired rather than replaced if at all possible. Repair of the existing sash will involve scraping, sanding, priming and painting. In most cases the existing sash should be removed and the joints pulled apart and reglued. In some more severe cases, replacement of a side or bottom rail of the sash may be required. Where casement sash are replaced outright, the new sash should match the existing. New sash should match in all dimensions including depth, width of rails and muntins, and size of glazing panels.

Interior wood frame screens, on the second floor, should be repaired as necessary. Where torn, the screens should be repaired or replaced. The wooden frames should be repaired following the method used for the casement sash. All frames should be scraped, sanded, primed and painted.

Existing signs on the Depot should be preserved and repaired as necessary. If additional signs are necessary in connection with operation of the railway, any such signs should meet the relevant "Santa Fe Standards" appropriate for the 1927-1934 period (generally wooden, black on white with a border, with letters of specific style and sizes).

In the areas visible to the public on the ground floor, such as the Waiting Room and the offices, furnishings such as chairs, desks, tables, and filing cabinets should be compatible and harmonious with the historic interior spaces, which is to say that neither original historic furnishings nor reproductions of such furnishings are necessary, but modern designs of office furniture of materials such as glass, aluminum and plastic which clash with the historic interiors are inappropriate. The furnishings should be of materials, design, and colors that blend with the existing historic character of the building.

2.1.3.2 RECOMMENDATIONS FOR FURTHER INVESTIGATION

A geotechnical investigation should be done to determine the potential for further settlement of the foundation. A through material analysis should be done including paint and plaster analysis. A hazardous materials survey should also be done prior to any major construction work.

2.1.4 STRUCTURAL CONCLUSIONS AND RECOMMENDATIONS

The following recommendations are based on our limited visual survey:

Foundation

A geotechnical engineer should investigate the soil immediately adjacent to the foundations to determine the potential for additional settlement. Underpinning of the foundations with micro-piles may be needed to stabilize the foundations. Re-leveling of the foundation should only be contemplated where doing so would not cause additional damage to the structure.

The crawlspace under the platform contained an unreasonable amount of construction debris. This debris and a small amount of debris in the crawlspace under the freight room should be removed.

Timber

Most of the timber appeared to be structurally adequate to support the Depot with its historic occupancies. The deteriorated portions of the log walls should be repaired or replaced with new materials to match the existing. [See photograph E-39] All concrete is porous and capable of holding water that is the key element in the deterioration of the logs. The new logs or partial replacement logs in contact with concrete foundations should be isolated from the foundations with water impermeable flashings, such as asphalt, metal or plastic. The deteriorated false log crowns should be repaired. The log repairs made with cementitious materials should be removed and the logs replaced or repaired. [See photographs E-55 and E-64]

The deteriorated portions of the log columns should be repaired or replaced with new materials to match the existing. Impermeable flashing should be installed to isolate the columns from the concrete foundations. [See photographs E-22, E-27, E-33, E-35, E-51, E-57 and E-58]

Concrete filled steel pipe bollards, installed in 2007, now protect the log columns and roof overhangs located near vehicle traffic and will help to prevent future damage from vehicle impacts. These bollards should be maintained in place unless and until adjacent traffic is eliminated or set further back from the building.

The crack in the log roof beam on the north side of the shelter should be monitored for any changes. If the crack gets worse, the beam should be evaluated and strengthened as needed. [See photograph E-79]

The slope in the second floor framing is not a structural concern at this time. Any re-leveling of the floor should only be considered if it will not do further damage to the interior finishes.

The roof framing is not required to be strengthened by the International Existing Building Code (IEBC) unless the use of the building changes or it is significantly remodeled. No remedial work is recommended at this time. Should any excessive deflection or cracking of the ceilings be observed during periods of heavy snow loads, the snow should be immediately removed from the roof.

The deteriorated log rafters and log rafter lookouts should be repaired or replaced to match the existing. We recommend that metal flashing be added to the top side of all timber exposed to wetting. The flashing will divert the water and reduce the amount of water absorbed by the timber. [See photographs E-28, E-60 and E-72]

The gutters, downspouts, and collection boxes should be repaired and maintained so that water is quickly and efficiently drained from the roof. This will require routine maintenance to clear away pine needles and other debris that frequently blocks the drains. The drain pipes that are fed by the downspouts should be flushed and inspected for damage. Any damage or blockage of the pipes should be repaired. [See photographs E-22, E-25, E-38, and E-54]

Lateral System

The existing structure appears to have adequate capacity to protect human life and resist lateral loads. No remedial work is recommended at this time.

2.1.5 MECHANICAL SYSTEM RECOMMENDATIONS

2.1.5.1 RECOMMENDED TREATMENTS FOR EXISTING PLUMBING SYSTEMS

It is recommended that all plumbing fixtures located within the ground level Men's and Women's restroom, while historically significant, be replaced with modern plumbing fixtures. This is mainly due to their maintenance issues, but new fixtures would also use much less water than the 20's era plumbing fixtures. Due to the brick construction of the bathrooms the plumbing would have to remain exposed or routed in a furred wall. It is recommended that the plumbing fixtures in the Family ADA restroom remain, but that the plumbing under the lavatory be brought up to current ADA standards. Depending upon the NPS's wishes the

additional men's restroom could remain blocked off, other wise all plumbing fixtures would have to be replaced with new plumbing fixtures.

With the upstairs space being transitioned to office use, the upstairs bathroom will need to be renovated. The lavatory and water closet, while aesthetically outdated, could be left in for cost savings on the project. If the water closet was replaced, it would be by a similar 1.6 GPF tank type porcelain ADA water closet. If the lavatory was replaced, it would also be replaced by a similar wall-mounted porcelain lavatory and three-hole trim. The bathtub should be removed from the bathroom, and the exposed plumbing removed and capped. However, the fixture could be left in place for cost savings. If so desired by the NPS, a urinal could be put in place of the former bathtub, as a urinal would provide more of a benefit to the bathroom as opposed to a bathtub given the proposed office type occupancy. Due to the age of the plumbing system and the original design basis, it is recommended that if a urinal is to be provided, a waterless urinal be installed. A static pressure of 80 psi was measured at the depot which may be sufficient for modern plumbing systems, but would probably not be adequate given the original plumbing design constraints and the inevitable scaling that has occurred within the domestic plumbing.

The waste system appears to be in good working condition, but it is recommended that the sewer system be scoped so that it can be determined if there are any leaks or breaks in the system. The best location for this would be to scope the system from the lift station.

It is recommended that the existing abandoned electric tank type water heater be removed. The only fixtures that could require hot water will now be the lavatories in the ground level restrooms and the upstairs bathroom. These ground level lavatories have never had hot water serving them, so the NPS will need to decide if it is in their best interest to bring hot water to these fixtures. If so desired, it is recommended that hot water be provided to these fixtures via instantaneous electric water heaters that would be installed in adjacent rooms.

It is recommended that all plumbing groups that are not required to remain active be decommissioned with the fixtures remaining in place. Piping should be capped at the active mains and removed where possible. Cap and abandon pipes imbedded in existing walls to avoid disturbing historic fabric. Capping also prevents the pipes becoming travel paths for rodents, insects and sound transfer. It is recommended that all domestic water piping be insulated due to condensation concerns. In addition it is recommend that all water piping the crawlspace be both fully insulated and wrapped with heat tape to avoid potential pipe freezing issues.

It is recommended that the gutter downspouts be cleaned and repaired since they are of historical significance. Additionally, it is recommended that heat trace be added to the down spouts to prevent freezing and splitting in the future.

2.1.5.2 RECOMMENDED TREATMENTS FOR EXISTING HVAC SYSTEMS

The cove heaters currently heating the depot are adequate to meet the heating load, so if the heaters were to be removed it would be for aesthetic reasons. If the heaters were to remain in place there would need to be some sort of heat shield above the heaters or a protective paint over the ceiling area above the heater. If the heaters were to be removed a viable alternative would be to heat the depot in a similar fashion, with modular distributed electric heaters, but using floor mounted electric ribbed radiators. The radiators are electric resistance fluid type and are made to appear like old-fashioned ribbed steam radiators.

The building will continue to be cooled with operable windows. This was largely decided due to the impact that a mechanical cooling system would have on the historical character of the depot. Given occupancy type and the weather data of the depot, operable windows should be sufficient for maintaining a reasonable comfort level.

It is recommended that the ground level restrooms be mechanically exhausted to meet the 2003 International Mechanical Code (IMC) requirements. This can be accomplished by installing an inline fan in the attic space above the bathrooms that currently houses the wooden ventilation ducts. The exhaust fan discharge can then terminate through the bathroom ventilation stack already present while maintaining the historical character of the building exterior. The existing exhaust grille penetrations in the ground level restrooms can be used for new exhaust grilles. An additional penetration would have to be made in the Family ADA restroom to mechanically exhaust this room.

With the upstairs space being transitioned to a office space, the ceiling mounted exhaust fan in the bathroom will need to be replaced. The replacement exhaust fan would be a ceiling mounted unit controlled by a wall switch. To meet 2003 IMC requirements, the capacity of the fan would be 75 CFM if there was only a water closet present, and 150 CFM if there was an additional urinal present (see 2003 IMC section 403.3). Additionally, some form of electric radiation heat would need to be provided. This heating equipment should match what is present in the rest of the facility.

2.1.5.3 RECOMMENDED TREATMENTS FOR EXISTING FIRE SUPPRESSION SYSTEMS

The fire sprinkler system is relatively new and modifications would only be required if any wall/ceiling changes are made.

2.1.6 ELECTRICAL SYSTEM RECOMMENDATIONS

Electrical distribution should have a main disconnect with proper overcurrent protection located near utility transformer. Install a new utility meter to replace the existing meter. The new fused disconnect and meter should be located near the utility transformer to avoid placing them on the side of the building. Install new NEMA 3R panelboard on building exterior to replace existing outdated panelboard "A". Replace conductors from transformer to new fused disconnect and from disconnect to new NEMA 3R panelboard. Replace service entrance

ground to meet NEC article 250. Remove exterior wireway and place feeder breakers in new panel to feed existing panels “B”, “C”, and “D” to help clean up building exterior. Replace feeders to panels as necessary. Replace panels “B” and “D” with new panels to match manufacturer of new exterior panel “A”. All panels should be fully rated for the available fault current at the site. Replace all branch circuit conductors. Existing conductor insulations should be verified by qualified personnel to determine if there are any hazmat issues that will need to be addressed. Install disconnects on all mechanical equipment as required by the current edition of the NEC. All devices (receptacles, switches, etc.) should be replaced. All new devices shall be grounding type. Install GFI type receptacles in locations required per the NEC.

Remove original period luminaires and inspect for deficiencies. All existing luminaires original to the building should be sent to a UL certified shop to be refurbished. Install screw in compact fluorescent lamps in place of incandescent lamps. All existing luminaires not original to the building should be replaced and have new lamps installed. All replacement ballasts should be electronic type. Existing fluorescent lamp ballasts should be surveyed by qualified personnel to determine if there are any PCB disposal issues that will need to be addressed. Clean and re-lamp exterior luminaires. Exterior luminaires should be removed for inspection and wiring and lamp bases replaced as necessary. Lighting levels shall be verified and additional lighting installed if necessary to meet IES recommendations. Add emergency egress lighting throughout the building to meet IBC and NFPA requirements. Add exterior emergency egress lighting at each exit from the building to meet IBC requirements. Emergency lighting could be provided by installing an emergency lighting inverter system placed in a storage area. The inverter system would provide power to lighting circuits to meet NFPA requirements.

Replace damaged smoke detectors with new detectors compatible with new fire alarm control panel. Perform functional system test of entire fire alarm system once detectors have been replaced.

Remove existing telephone service to building and remove telephone pole located outside building to restore view shed. Remove all surface telephone and data cabling and install wireless phone and Internet system.

Install lightning protection system per National Park Standards.

Install wireless security system per National Park Standards.

2.1.7 SAFETY

2.1.7.1 FIRE SAFETY PLAN

Introduction

Structural Fire Management is defined as the protection of people, contents, structures, and resources from the effects of a structural fire. Structural fires have caused deaths, injuries and

extensive damage to buildings in the National Park system. It is essential that fires be prevented, in order to protect life and personal property, as well as the irreplaceable cultural resources within the parks.

At the park level, the best way to achieve this goal is with a fully implemented and well-documented structural fire prevention program. Effectively addressing structural fire prevention involves a wide variety of topics and issues, including:

- Building design.
- Building construction.
- Installation and maintenance of fire detection, alarm and suppression systems.
- Regular fire and life safety inspections of building and fire systems.
- Training.
- Establishing and maintaining fire agreements.
- Developing, maintaining and operating a firefighting force

Applicable Codes

The development of the Fire Safety Plan was prepared in conformance with applicable codes and NPS policies including: 2003 International Building Code, the 2003 International Existing Building Code, the 2001 NFPA 914 Code for Fire Protection of Historic Structures, NPS Director's Order No. 28 Cultural Resource Management Guidelines, NPS Director's Order No. 58 Fire Detection, Suppression and Post Fire Rehabilitation and Protections, The Secretary of the Interior's Standards for the Treatment of Historic Properties (March 1996), The Secretary of the Interior's Guidelines and Standards for Archaeology and Historic Preservation, and the Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines (May 2006).

All National Park Service structural fire activities shall also comply with the requirements of: 5 U.S.C. §7902 (Safety Program); 15 U.S.C. §2225 (Fire Prevention and Control); 29 U.S.C. §668 (Occupational Safety and Health); 40 U.S.C. §619; (Construction, Alteration, and Acquisition of Public Buildings); 29 CFR Part 1910 (Occupational Safety and Health Standards); 29 CFR Part 1926 (Safety and Health Regulations for Construction); 29 CFR Part 1960 (Program Elements for Federal Employee Safety and Health); 43 CFR Part 28 (Fire Protection Emergency Assistance); 411 DM (Museum Property Handbook, Volume 1, Preservation and Protection of Museum Property); National Historic Preservation Act, Section 106, and 36 CFR 800; 485 DM 19 (Fire Safety); and Executive Order 13058 ("Protecting Federal Employees and the Public from Exposure to Tobacco Smoke in the Federal Work Place," August 9, 1997).

Director's Orders #12: Conservation Planning, Environmental Impact Analysis, and Decision-making; #28: Cultural Resource Management; #48: Concessions Management; and #58: Structural Fire Management, must also be considered.

Fire Protection/Life Safety Approach

The approach of this program is to develop, implement and maintain a level of structural fire protection and suppression capability that meets the building's unique requirements. The program has several goals:

- To ensure that all areas within the building have an appropriate level of protection.
- To ensure that protection is provided in a safe and cost-effective manner.
- To ensure that the most effective and appropriate concepts, techniques, and equipment will be used for structural fire protection.

General Fire Resistive Construction Aspects

The Grand Canyon Depot currently meets code requirements for Construction Type VB with Occupancy Group B (Business). The fire-resistance rating requirement for all building elements under this classification is zero hours. The fire separation distance is greater than 30 feet so the fire-resistance rating requirement for the exterior walls is also zero hours.

Occupancy Classifications

The first floor of the Depot is primarily Occupancy Group B with a Group A-3 accessory use area, the Waiting Room, which is less than 750 square feet. Per Section 302.2.1 of the 2003 IBC "Accessory assembly areas are not considered separate occupancies if the floor area is equal to or less the 750 square feet."

The second floor currently is not used. See 2.2 REQUIREMENTS FOR TREATMENT.

Fire Resistive Separations

No fire resistive separations are required. The building complies with the requirements of Section 302.3.1 Nonseparated Uses of the 2003 IBC.

Doors and Windows

Protected openings are not required. Unlimited unprotected openings are allowed per Table 704.8 of the 2003 IBC when the fire separation distance is greater than 30 feet.

Interior Wall, Ceiling and Floor Finishes

All interior wall and ceiling finishes shall be at least Class C: Flame spread 76-200, smoke-developed 0-450 per Table 803.5 of the 2003 IBC.

Interior floor finishes shall be at least Class II, 0.22 watts/cm² or greater per Section 804 of the 2003 IBC. The existing concrete and wood floors are excepted per Section 804.1.

Decorative Structures within Buildings

There are no flame resistance requirements for decoration and trim in the Depot.

Egress

The Depot is currently in compliance with egress requirements. See 2.2 REQUIREMENTS FOR TREATMENT, LIFE SAFETY.

Emergency Signage

Exit signs are not required in the Depot for the following reasons: Exit signs are only required where the exit or the path of egress travel is not immediately visible to the occupants. All exits are visible in the Depot. Exit signs are not required in rooms or areas which require only one exit, which applies to all rooms in the Depot.

Suppression Systems

The building is currently protected by an automatic sprinkler system. This is not a requirement.

Fire Department Access

There is Fire Department access to all sides of the building.

Fire Detection and Alarm System

A fire alarm system is currently installed in the Depot. See 1.5.6.3.1 ELECTRICAL SYSTEM DEFICIENCIES for evaluation.

2.2 REQUIREMENTS FOR TREATMENT

This section outlines applicable laws, regulations and functional requirements. Specific attention is given to issues of human safety, fire protection, energy conservation, abatement of hazardous materials, and handicapped accessibility.

Codes, Policies and Regulations

The development of the ultimate treatment recommendations were prepared in conformance with applicable codes and NPS policies including: the 2003 International Building Code, the 2003 International Existing Building Code, the 2001 NFPA 914 Code for Fire Protection of Historic Structures, NPS Director's Order No. 28 Cultural Resource Management Guidelines, NPS Director's Order No. 58 Fire Detection, Suppression and Post Fire Rehabilitation and Protections, The Secretary of the Interior's Standards for the Treatment of Historic Properties (March 1996), The Secretary of the Interior's Guidelines and Standards for Archaeology and Historic Preservation, and the Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines (July 2004).

Life Safety

The 2003 International Building Code (IBC) for new construction was used to analysis the Grand Canyon Depot for code compliance. Since the building is in compliance with the 2003 IBC, except as noted below for the second floor, it was not necessary to use the 2003 International Existing Building Code for this analysis.

The building currently meets code requirements for Construction Type VB and Occupancy Group B (Business). The waiting room falls into Occupancy Group A-3 but per Section 302.2.1 "Accessory assembly areas are not considered separate occupancies if the floor area is equal to or less the 750 square feet." The Waiting Room is approximately 370 square feet. R-3 Occupancy (Residential) could be included in the building under Section 302.3.1 Nonseparated Uses, Group B is the more restrictive.

The second floor is compliant with the requirements of R-3 Occupancy (Residential – permanent occupants, no more than two dwelling units) under the 2003 IBC. Group R-3 is allowed to have only one means of egress (Section 1018.2, paragraph 2). Stairways serving an occupant load of less than 50 shall have a width not less than 36 inches (Section 1009.1 Exception 1). The occupant load of the second floor based on residential is 6 occupants and the existing stairs are approximately 41 inches wide. Stairs with winders are permitted within a single dwelling unit (Section 1009.8). The second floor would be a single dwelling unit as defined by the 2003 IBC. Group R Occupancy also requires provisions for emergency escape and rescue (1025.1). The second floor windows comply with the requirements of this section except for the West Bedroom. The second floor has no accessible means of egress but an accessible means of egress is not required in alterations to existing buildings (Section 1007.1, Exception 1).

The second floor is not compliant with any other occupancy types including B Occupancy (Business) and S Occupancy (Storage) only because of the use of winders in the stairway. Winders are not allowed in stairways serving as a means of egress except as noted above for a dwelling unit. Otherwise Group B (Business) or Group S (Storage) is allowed to have only one means of egress (Section 1018.2 – 2 stories, less than 30 occupants). The occupancy load under business would be 12 occupants, or 4 occupants for storage, so the stairway width still need not be more than 36 inches (Section 1009.1 Exception 1). Since the recommended use for the second floor general office and it is in compliance for B and S Occupancy except for the stair treads it is recommended that an exception be requested from the National Park Service Authority Having Jurisdiction (AHJ).

The building is fully sprinklered though this is not required by the 2003 IBC.

Fire Protection

The building is currently protected by an automatic sprinkler system. See 1.5.5.2.3
ASSESSMENT OF EXISTING FIRE SUPPRESSION SYSTEMS.

Hazardous Material

For the purpose of producing this report, neither lead paint nor asbestos testing was performed. It is quite common to find both lead and asbestos in historic buildings. Lead was used in paint to improve its durability and colorfast qualities. Asbestos had proven fire resistive, thermal and chemical resistance and high tensile strength properties and was woven into a broad range of building materials from around the 1920s to the 1980s.

The presence of either lead or asbestos in an historic building will increase rehabilitation costs if mitigation is required.

Lead Containing Paint

If paint tests positive for any amount of lead concentration/contamination: mitigation (removal or encapsulation), construction worker personal protection/air monitoring, and disposal of construction waste as hazardous materials may be required in the course of rehabilitation, restoration and even demolition.

The triggers for mitigation include:

OSHA's lead standard protects construction workers. Contractors are required to provide training for workers and to perform air monitoring to document exposure levels in buildings where lead containing material has been identified and construction activities are planned.

HUD and State of Arizona regulations protect building occupants. For instance, a day care center for children will demand a much higher level of mitigation than an office building, due to the fact that children are more likely to ingest paint and because children are more seriously affected by lead poisoning.

EPA regulations protect the environment and require testing of lead waste so that lead will be disposed of properly and won't leach out into ground water.

Asbestos

From the 1920s to the 1980s, there were many materials that incorporated asbestos, but among the most common were:

- Fireproofing
- Roofing/flashings materials
- Exterior coating systems (a paint-like coating that usually has a textured surface)
- Asbestos/cement shingles and exterior wall panels (Transite)
- Roofing shingles and shingle siding
- Glazing putty at windows
- Pipe and pipe fitting insulation
- Vinyl sheet and tile flooring
- Plaster
- Construction adhesives
- Building insulation

"Friable" and "non-friable" are the two terms applied to asbestos with "friable" evoking the most concern and the greatest level of care in removal and disposal. "Friable" means that when the material is disturbed in any way, (sawn, moved, removed, cut, etc.) it will introduce asbestos fibers into the air that could be inhaled by unprotected workers and building users. Pipe and building insulation typically fall into this category and therefore require the highest degree of worker protection and controlled handling during the abatement process.

Non-friable materials tend to maintain their compositional integrity during abatement and therefore may not pose the same health risks. Abatement still requires proper methods, monitoring and disposal to meet EPA, OSHA, and State of Arizona regulations.

It is important to identify all asbestos-containing materials as even non-friable materials may become friable under certain conditions (e.g. if asbestos-containing floor adhesive is sanded).

Creosote

Creosote was specified to be used to coat the logs of the exterior walls. Creosote is known carcinogen. This does not need to be mitigated but proper precautions must be taken during any action that may disturb this material.

The Park performed an asbestos investigation of the Depot building on 5/15/2003. It is recommended that this report be reviewed and additional hazardous material surveys be completed prior to any work on the building.

Accessibility

It is the National Park Service's policy to provide persons with disabilities the highest feasible level of physical access to historic properties that is reasonable and consistent with the preservation of each property's significant historical features. The National Park Service will evaluate accessibility according to Architectural Barriers Act Accessibility Standard (ABAAS) requirements.

The Grand Canyon Depot is not currently fully accessible. The first floor, containing the main public areas, is accessible except for the Men's and Women's Restrooms and the Freight Room. An accessible unisex restroom has been added on the first floor. There is no accessible means of access to the second floor.¹⁹ Rehabilitation of the second floor for office use may necessitate one of the following:

1. the installation of an elevator to meet ABAAS requirements.
2. determination that the allowable exception under ABAAS is applicable.
3. application for a waiver.

Construction required to meet ABAAS requirements will need to be done so as to meet the Secretary of the Interior's "Standards for Rehabilitation." Any changes should be done so as to be compatible with the historic environment, minimize loss of historic fabric, and constructed so as to be a reversible effect.

It is recommended that once the proposed use for the Depot is better defined, particularly for the second floor, an accessibility study should be prepared in conjunction with the park architect, the State Historic Preservation Office (SHPO), and an accessibility consultant. Conditions pertaining to site and building access and parking, as well as primary interior circulation paths will need to be studied for compliance with ABAAS. Modifications to public seating, door entries and hardware, signs, business counters, bulletin boards, drinking fountains, and communication systems to serve vision and hearing impaired visitors will be needed and ambulatory accessible toilet compartments must be provided.

¹⁹ Application can be made to waive the requirements for accessibility per the Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines section F103 Modifications and Waivers. Also exception 1 of ABAAS F206.2.3 Multi-Story Buildings and Facilities could apply to the second floor, if the occupant load can be shown to be five or fewer. Note that the advisory to F206.2.3 states that a change in level cannot be considered a story, so this exception probably does not apply to the Freight Room.

Structural

Foundation

A geotechnical engineer should investigate the soil immediately adjacent to the foundations to determine the potential for additional settlement. Underpinning of the foundations with micro-piles may be needed to stabilize the foundations. Re-leveling of the foundation should only be contemplated where doing so would not cause additional damage to the structure.

Drainage on the north side of the building should be improved. Elimination of one lane of the roadway would allow for the construction of a drainage swale and improve the drainage away from the building. If the roadway can not be moved, the existing trench drain will need to be cleaned regularly and improved if needed. [See photographs E-4, E-5, E-50, E-52, E-56, E-57, E-58 and E-64]

Drainage of the landscaped areas on the east and south sides of the platform should be improved. A minimum slope of 10% in the first 5 to 10 feet should be provided to move water away from the foundations. [See photograph E-5]

Timber

Log Walls

The deteriorated portions of the log walls should be repaired or replaced with new materials to match the existing. [See photograph E-39] The new logs or partial replacement logs in contact with concrete foundations should be isolated from the foundations with water impermeable flashings, such as asphalt, metal or plastic. The deteriorated false log crowns should be repaired. The log repairs made with cementitious materials should be removed and the logs replaced or repaired. [See photographs E-55 and E-64]

Log Columns

The deteriorated portions of the log columns should be repaired or replaced with new materials to match the existing. Impermeable flashing should be installed to isolate the columns from the concrete foundations. [See photographs E-22, E-27, E-33, E-35, E-51, E-57 and E-58]

Floors

The slope in the second floor framing is not a structural concern at this time. Any re-leveling of the floor should only be considered if it will not do further damage to the interior finishes.

Attic

The attic should not be used for storage of any kind.

Roof

The roof framing is not required to be strengthened by the International Existing Building Code (IEBC) and no remedial work is recommended at this time. Should any excessive deflection or cracking of the ceilings be observed during periods of heavy snow loads, the snow should be immediately removed from the roof.

The deteriorated log rafters and log rafter lookouts should be repaired or replaced to match the existing. We recommend that metal flashing be added to the top side of all timber exposed to wetting. The flashing will divert the water and reduce the amount of water absorbed by the timber. [See photographs E-28, E-60 and E-72]

The gutters, downspouts, and collection boxes should be repaired and maintained so that water is quickly and efficiently drained from the roof. This will require routine maintenance to clear away pine needles and other debris that frequently blocks the drains. The drain pipes that are fed by the downspouts should be flushed and inspected for damage. Any damage or blockage of the pipes should be repaired. [See photographs E-22, E-25, E-38, and E-54]

Mechanical

To comply with the 2003 International Mechanical Code ventilation requirements (section 403.3) the bathrooms will need to be supplied with mechanical exhaust capable of 75 CFM per water closet, urinal or shower. The unisex bathroom on the first level will need to have the plumbing under the lavatory brought up to ADA standards. If replaced, plumbing fixtures will have to meet the maximum flow water requirements detailed in section 604.4 of the 2003 International Plumbing Code.

Electrical

To comply with the 2008 National Electrical Code, the electrical service will need to be replaced. Egress lighting will have to be added to the building. This includes emergency and exit lighting. International Energy Conservation Codes (2006 Edition) should be followed when selecting/replacing luminaires.

2.3 ALTERNATIVES FOR TREATMENT AND USE

The only viable use for the first floor is continued use for railroad related activities. No other alternatives were considered.

Alternative uses for the second floor include residential and storage. Residential is not recommended due to the adverse affect from moisture due to cooking and washing. Overnight/transient residential, while not analyzed in this report, is probably not allowed by code without major modifications to the building and adverse affect on the historic fabric. Second floor use as storage is not desirable as the floor structure most likely is not capable of handling storage loads and the new sprinkler system may not have been designed for the fire

hazard associated with storage use. Storage also increases the risk of building problems going undetected for longer periods.

Relative to accessibility, residential use is more 'compatible' as ABAAS does not require 100% of all housing units to be accessible. For the 2nd floor use physically, office use is still the most viable. However the National Park Service and/or the concessioner may be at 'greater risk' of lawsuit under the Architectural Barriers Act. and/or ADA with an office use, unless the waiver process under Americans with Disabilities Act and Architectural Barriers Act Accessibility Guidelines section F103 Modifications and Waivers is enacted.

Alternative for Treatment

	Alternative 1 Construct new inlets and larger storm sewer drain. (Recommended)	Alternative 2 Construct concrete pan and drain to existing inlets at west end.	Alternative 3 Removes south traffic lane, regrade area between the Dept and existing traffic island. (Recommended)	Alternative 4 No Action
Drainage/Traffic Alternatives. See Section 4.5 "Drainage Report" for detailed description, concept plans and additional description of advantages for each alternative .				
Advantages	Reduced maintenance cost. Improved reliability.	Lower cost. Reduced maintenance cost. Improved reliability.	Reduced maintenance cost. Improved reliability. Improved aesthetics.	No advantages.
Disadvantages	Poor aesthetics.	Poor aesthetics.	Highest cost alternative.	Continues damage to Depot. High level maintenance of inlets and lines required to ensure they remain open.
Second Floor Use/Occupancy Alternatives	Office (Recommended)	Residential	Storage	No Action- 2 nd floor currently vacant
Advantages	Combined function with depot or additional space for park staff. Least potential for damage to historic fabric.	Follows historic use of space.	No Advantages	No Advantages
Disadvantages	Could require addition of elevator for accessibility.	Greater potential for damage to historic fabric from moisture and daily wear.	Could be high cost and disturb historic fabric pending extent of structural intervention required. May require fire sprinkle systems depending on hazard level.	Unoccupied space could allow damage condition to develop and go unchecked for extended period.

2.4 ASSESSMENT OF EFFECT FOR RECOMMENDED TREATMENTS

In general modifications for purposes of compliance and functional improvements will have only minor impact on the historic integrity of the structure. These changes will not result in alteration to the exterior appearance and will not result in loss of historic integrity to the interior from loss of character defining spaces, architectural details or fabric. As a result there will be no adverse effects created as a result of recommended work on the Grand Canyon Depot.

The ultimate determination of the use for the second floor and the result of the recommended accessibility study have the potential for significant impact on the historic integrity to the interior and the potential for loss of historic fabric. These changes should be made so as to minimize the adverse effect on the Depot.

3.0 RECORD OF TREATMENT (Place Holder)

4.0 APPENDIXES

4.1 BIBLIOGRAPHY

Borjes, Richard. Grand Canyon Railway Depot. Historic Structure Report. Architectural Data Section. San Francisco: National Park Service, 1984

Chappell, Gordon. The Railway at Grand Canyon: A History of the Grand Canyon Depot and Yard Structures. History Section Historic Structure Report. San Francisco: National Park Service, 1984

Internet Sources

The Grand Canyon Railway. Grand Canyon Railway History.
<http://www.thetrain.com/history/>

Wikipedia. Grand Canyon Railway. http://en.wikipedia.org/wiki/Grand_Canyon_Railway

Harrison, Laura Soullière. Architecture in the Parks, Excerpts from a National Historic Landmark Theme Study. Grand Canyon Depot.
http://www.nps.gov/history/history/online_books/harrison/harrison7.htm

(The following bibliography has been taken, essentially verbatim, from the earlier 1984 Historic Structure Report by Gordon Chappell cited above)

Records and Files of the Atchison, Topeka and Santa Railway

General Offices, Railway Exchange Building, 80 East Jackson Boulevard (224 South Michigan Avenue), Chicago, Illinois

Correspondence regarding Grand Canyon, Public Relations Department [now renamed "Corporate Communications" of Santa Fe Industries"]

System Public Timetables, 1905-1971 (bound volumes erroneously labeled on the spine "System Brochures"), Public Relations Department

Weidel, Joseph, "Santa Fe Splinters," 34 Volumes [typescript]; Public Relations Department

General Offices, 900 Jackson Street, Topeka, Kansas

Selected Contracts, Office of the Secretary

Selected information from Valuation files

Microfilm copies of Topeka General Office files on the Grand Canyon Railway and its predecessors in the Arizona Historical Foundation Library, Arizona State University Library, Tempe, Arizona

File	Subject
534-1	Capital Stock - General
534-1a	Capital Stock - Acquisition [of] Outstanding Shares
534-2	First Mortgage, July 1, 1924
534-3	Meetings – General
534-3a	Meetings - Copies of minutes - Jan. 3, 1903 - Dec. 16, 1936
534-4	Monthly Statement of Total Payrolls 1907-21
534-5	Reorganization 1901 of The Santa Fe and Grand Canyon RR Co. - General
534-5a	Reorganization 1901 of The Santa Fe and Grand Canyon RR Co. - Receivership
534-5b	Reorganization 1901 of The Santa Fe and Grand Canyon RR Co. - Depository Receipts
534-6	Advances - Certificates of Indebtedness
534-7	The Santa Fe and Grand Canyon RR Co. Settlement, Atchison bills against Lombard, Goode & Co., and Tusayan Development Company account construction, etc.
534-8	The Santa Fe and Grand Canyon RR Co. - Agreements account construction, etc.

General Officer, One Santa Plaza, 8200 East Sheila Street, Los Angeles (Commerce City), California

Building Record. Albuquerque Division, Grand Canyon Railway (Includes Grand Canyon Railway beginning in 1905. Engineering Department

Employees' [sic] Time Tables. Albuquerque Division, 1897-1974 (includes Grand Canyon Railway beginning 1905, Grand Canyon District beginning 1925)

Correspondence regarding Grand Canyon line abandonment, Public Relations Department File BE-59052, Grand Canyon

Pamphlet File of railway advertising material, Public Relations Department

Engineering Department, 4100 South Kedzie Avenue, Chicago, Illinois (records obtained by request by mail through the Public Relations Department in Chicago.

Plans for proposed Grand Canyon Depot, 1903 (1 sheet)

Plans for proposed Grand Canyon Depot, 1907 (4 sheets)

Plans for Grand Canyon Depot, 1909 (3 sheets of plans and 3 sheets of details)

Plans for Grand Canyon Depot, Revised as of 1919 and 1949

Plans for El Tovar (9 sheets)

Plans of railroad yard at Grand Canyon

Plan of fence at Grand Canyon Depot, 1929

Plan of Sanitary Can Wash House at Grand Canyon, 1929

Valuation Maps, Grand Canyon Railway

Albuquerque Division Offices, East Second Street, Winslow, Arizona

Office of the Division Engineer

- Building Record, Albuquerque Division

- Water Service Record, Albuquerque Division

- Index to Drawings

- Drawings File

- Record of Contracts (manuscript version)

- Record of Contracts (typescript version)

- Operation Authority card file

Office of the Division Superintendent

- Correspondence files:

 - AJ 13100 - Grand Canyon - Closing of Depot

 - AJ 69024 - Retirement of Railroad Facilities Grand Canyon Line

 - AL 69079 - Grand Canyon - Retirement of Trackage

 - AU 13100 - Grand Canyon

 - C415 - Grand Canyon - Fred Harvey - Part I

 - C415 - Grand Canyon - Fred Harvey - Part II

 - C 8509 - Grand Canyon - Fred Harvey

 - C 11350 - Grand Canyon

 - T 00.49 - Changes in Schedule, local Grand. Canyon freight service

 - T60027 - Passenger Service, Grand Canyon

Record of Accidents

Dispatcher's Train Sheets

Office of the Field Engineer A.T.&S.F.Ry. Depot, Williams, Arizona

Files of Form 1928 Standard engineering field notes for the Grand Canyon Railway and Grand Canyon District

Employees' Time Tables, Albuquerque Division, scattered issues. 1920s through 1940s

Plans for Escalante Hotel, Ash Fork (Van Dyke copies)

Data on rail weights and types

Rail Record, Albuquerque Division

Side Track Record. Grand Canyon Railway

Profile, Grand Canyon Railway

Sketches of Station Facilities, Grand Canyon District

Records and Files of the National Park Service

Grand Canyon National Park

Grand Canyon National Park Collections

Correspondence Files
A.T.& S.F. Railway

Subject Files:
Buckey O'Neill
Fred Harvey
Grand View Hotel
Grand View Mine
Mining
Orphan Mine
Railroad

Grand Canyon National Park Library
File on proposal to use railroad cars for accommodations
Superintendent's Annual Reports
Superintendent's Monthly Narrative Reports

Western Regional Office, San Francisco
Correspondence Files, Grand Canyon
H-2215 Historical Data Files

Atchison, Topeka & Santa Railway Advertising Department Publications

These publications all were published by the Passenger Department, Santa Fe System, in Chicago, although the exact manner of listing varies over a period of time. Many of them carried an advertising code, publication date, and the quantity published, each thousand expressed by the Roman numeral "M". Individual issues have been studied in the author's own files and in a wide range of libraries and depositories. A comparison of the information contained in different issues provides useful data on approximate dates of various

developments, thus examination of as many different editions as possible of each of these is necessary. It would be useful to examine a complete run of them, but no such file has been located and it is unlikely that any such file still exists if ever it did. These publications are listed below chronologically rather than alphabetically, and in a format especially tailored to the purposes of this study rather than in a standard bibliographical format. Furthermore, because each title came out in a number of different editions over a period of years, there is, of course, considerable chronological overlap among some of the titles.

C.A. Higgins, Grand Canon of the Colorado River Printed by the Henry O. Shepard Company, Chicago.

Editions consulted: 1892*, 1893**, 1897, 1900, 1901

*This edition only, believed to-be the first, illustrated with photographs rendered as halftones.

**This and all subsequent editions illustrated with drawings and paintings.

The Grand Canyon of Arizona

Editions consulted:

1902 (hard cover and paper cover)
1906 (hard cover and paper cover)
1909 (hard cover) Ad. 394. 3-19-09 3M.

Titan of Chasms, The Grand Canyon Arizona

Editions consulted:

1903 Ad. 57—12-23-02. 5M
1903 Ad. 71--2-3-03. 10M.
1904 Ad. 152—7-5-04. 10M.
1905 Ad. 189—6-20-05. 5M.
1907 Ad. 310—11-29-07.—5M.
1909 Ad. 377. 1-30-09.—10M
1909 Ad. 475. 8-25-09. (20M)
1910 Ad. 496. 9-23-10. (20M)
1911 Ad. 565.—5-17-11. (10M)
1912 Ad. 720.—1-25-12. (10M)
1913 Ad. 751. 5-22-13. (10M)
1914 Ad. 807.—2-19-14. (20M)
1915 Ad. 875 3-27-15. (25M)
1915 Ad. 903 5-17-15. (25M)
1916 Ad. 998 12-12-16 (25M)

El Tovar

Editions consulted:

1908 Ad. 370. 12-12-08 5M.
1909 Ad. 383. 2-16-09 5M.
1909 Ad. 413. 6-4-09
1910 Ad. 483. 4-27-10 20M.
1914 Ad. 813. 3-16-14. 10M.

Trail Drives and Saddle Horses

Editions consulted: 1912 Adv. 695. 11-23-12 10M.

Hermit Rim Road and Trail

Editions consulted: 19

Grand Canyon Outings

Editions consulted:

1915 Ad. 885. 4-16-15 50M.
1923 November 1923 35M
1924 February 1924 25M
1925 April 1925 40M
1927 March 1927 (45M)
1928 March 1928 (45M)
1930 March 1930 (50M)
1930 July 1930 50M.
1931 January (30M.)
1933 November 1933 25M.
1935 May 1935 - 25M.
1935 November 1935 - 35M.
1936 May 1936 - 20M.
1937 May 1937 5M.

Books

Books about The Atchison, Topeka and Santa Fe Railway

Armitage, Merle, Homage to the Santa Fe (Yucca Valley: Manzanita Press, 1973)

Armitage, Merle, Operations Santa Fe (New York: Duell, Sloan & Pearce, 1948)

Bryant, Keith L., Jr., History of the Atchison, Topeka & Santa Railway (New York: MacMillan Publishing Company, Inc., 1974)

Duke, Donald, and Stan Kistler, Santa Fe . . . Steel Rails Through California (San Marino: Golden West Books, 1963)

Greever, William S., Arid Domain; The Santa Fe Railway and its Western Land Grant (Stanford: Stanford University Press, 1954)

Marshall, James, Santa Fe; The Railroad That Built Empire (New York: Random House, 1945)

Repp, Stan, The Super Chief . . . Train of the Stars (San Marino: Golden West Books, 1980)

Waters, L.L., Steel Trails Santa Fe (Lawrence: University of Kansas Press, 1950)

Worley, E.D., Iron Horses of the Santa Fe Trail (Dallas: Southwest Railroad Historical Society, 1965)

Books on Fred Harvey

Grattan, Virginia L., Mary Colter; Builder Upon the Red Earth (Grand Canyon History Association, 1992)

Henderson, James David, "Meals by Fred Harvey;" A Phenomenon of the American West (Fort Worth: Texas Christian University Press, - 1969) (No. 6 in the series Texas Christian University Monographs in History and Culture)

Thomas, Diane H., The Southwestern Indian Detours; The story of the Fred Harvey/Santa Fe Railway experiment in 'detourism' (Phoenix: Hunter Publishing Co., 1978)

Books on Railroad Depot Architecture

Alexander, Edwin P., Down at the Depot; American Railroad Stations from 1831 to 1920 (New York: Bramhall House, 1970)

Bartels, Michael M., and James J. Reisdorff, Railroad Stations in Nebraska; An Era of Use and Reuse (South Platte: South Platte Press, 1982)

Beauregard, Mark W., Railroad stations of New England Today; Vol. I., The Boston & Maine Railroad (Flanders: Railroad Avenue Enterprises, 1979)

Bohi, Charles W., and H. Roger Grant, The Country Railroad Station in America (Boulder: Pruett Publishing Company, 1978)

Bollinger, Edward T., Rails that Climb: A Narrative History of the Moffat Road (Golden: Colorado Railroad Museum, 1979)

Cevalier, Julian, Classic American Railroad Stations (San Diego: A.S. Barnes & Co., Inc., 1980)

Culp, Edwin D., Stations West (Caldwell: The Caxton Printers, Ltd., 1972)

Helmer, William F., Rip Van Winkle Railroads (Berkeley: Howell-North Books, 1970)

Hungry-Wolf, Adolf, Rails in the Canadian Rockies (Invermore: Good Medicine Books, 1979)

Johnston, Hank, Railroads of the Yosemite Valley (Corona del Mar: Trans-Anglo Books, 1963)

Meeks, Carroll L.V., The Railroad Station (New Haven: Yale University Press, 1956)

Nathan, Adele Gutman, with William C. Baker, Famous Railroad Stations of the World (New York: Random House, 1953)

Nolan, Edward W., Northern Pacific Views; The Railroad Photography of F. Jay Haynes, 1876-1905 (Helena: Montana Historical Society, 1983)

Pounds, Robert E., Santa Fe Depots; The Western Lines (Dallas: Kachina Press, 1984)

Renz, Louis Tuck, The History of the Northern Pacific Railroad (Fairfield: Ye Galleon Press, 1980)

Wood, Charles and Dorothy, The Great Northern Railway; A Pictorial Study (Edmonds: Pacific Fast Mail, 1979)

Books and Articles on Grand Canyon Region History

Babbitt, Bruce (Ed.), Grand Canyon; An Anthology (Flagstaff: Northland Press, 1978)

Corle, Edwin, The Story of the Grand Canyon (New York: Duell, Sloan and Pearce, 1951)

Herner, Charles, The Arizona Rough Riders (Tucson: The University of Arizona Press, 1970)

Hughes, J. Donald, In the House of Stone and Light; Human History of the Grand Canyon (Grand Canyon: Grand Canyon Natural History Association, 1978)

Hughes, J. Donald, The Story of Man at Grand Canyon (Grand Canyon: Grand Canyon Natural History Association, 1967) (Published as Grand Canyon Natural History Association Bulletin No, 14)

James, George Wharton, The Grand Canyon of Arizona; How to See It (Boston: Little, Brown, and Company - Kansas City: Fred Harvey, 1910)

Keithley, Ralph, Buckev O'Neill (Caldwell: The Caxton Printers, Ltd., 1949)

Kolb, Ellsworth L., Through the Grand Canyon from Wyoming to Mexico (New York: The Macmillan Company, 1914)

Pederson, Sarah, et. al., Emery Kolb; A Guide to the Kolb Collection in the NAU Libraries (Flagstaff: Northern Arizona University Libraries, 1980)

Schullery, Paul (Ed.), The Grand Canyon; Early Impressions (Boulder: Colorado Associated University Press., 1981)

Spamer, Earle E., et. al., Bibliography of the Grand Canyon and the Lower Colorado River, 1540-1980, (Grand Canyon: Grand Canyon Natural History Association, 1981) (Published as Grand Canyon Natural History Association Monograph No. 2)

Tinker, George H., Northern Arizona and Flagstaff in 1887; The People and Resources (Glendale; The Arthur H. Clark Company, 1969)

Walker, Dale L., Death Was the Black Horse; The Storys of Rough Rider Buckey O'Neill (Austin: Madrona Press, Inc., 1975)

Railroad Industry Reference Series

Official Guide to Railways and Steam Navigation Lines of the United States, Canada, Mexico, Cuba and Porto Rico (Published Monthly by the Official Railway Publications Company, 1870-present)

Official Railway Equipment Register (Published quarterly by the Official Railway Publications Company, 1886- present)

Pocket List of Railway Officials (Published quarterly by the Official Railway Publications Company, 1892- present)

Moody's Manual of Railroads (Published annual by the Co.)

Poor's Manual of Railroads (Publisher varies, usually Chicago: H.V. and H.W. Poor, published annually, 1869- 1932)

Newspapers

Arizona Champion (Flagstaff, Arizona)

Arizona Republic (Phoenix, Arizona)

Arizona Republican (Phoenix, Arizona)

Coconino Sun (Flagstaff, Arizona)

Williams News (Williams. Arizona)

Periodicals

Journal of Arizona History

Land of Sunshine

Santa Employes Magazine (later published as The Santa Fe Magazine), December 1906--July 1974. Not readily available in libraries, files of this magazine were borrowed from the Public Relations Department of The Atchison, Topeka and Santa Fe Railway Company General Offices at 112 Sansome Street in San Francisco. A peculiarity of this magazine is that those sets which the company had bound in beautiful leather hard cover sets with gilded page edges unfortunately were stripped of what the binder perceived as "advertising matter" at the front and rear of each issue of the magazine, which at the rear had the effect of stripping them of most of the local news columns in the "Among Ourselves" section, including most of those pertaining to Grand Canyon. It was therefore necessary to use also unbound partial sets of the magazine at the Colorado Railroad Museum Library, the Colorado Historical Society Library, the California State Railroad Museum Library, and the railway General Offices in Commerce City (Los Angeles) .

Scenic Southwest

Trains Magazine

Personal Informants

(Listed Alphabetically)

Informants on Railroad History, Architecture, and Technology

Alexander, Brian, Vice President. Railroad Resources, Inc., Phoenix, Arizona

Bartlett, Betty, former Grand Canyon resident and an officer of the Grand Canyon Pioneers' Society

Culpin, Mary Martha, Historian, Denver Service Center, National Park Service

Curry, George, Field Engineer, A.T.& S.F.Ry., Williams, Arizona

Harrison, Mike, park ranger at Grand Canyon, 1922-1931

Hauck, Cornelius, railroad historian and editor, Colorado Rail Annual

Hill, Ronald C., photographer of railroads

Hendricks, Lloyd, railroad historian

Kaiser, Dr. Harvey H., authority on log architecture, Syracuse University

Nix, George, former mechanical foreman, A.T.& S.F. Ry., Williams Junction, Arizona

Plesch, Sonny, clerk, Engineering Department, Albuquerque Division, A.T.& S.F.Ry., Winslow, Arizona

Pounds, Robert E., railroad Depot historian

Richardson, Robert William, Executive Director, Colorado Railroad Museum and railroad historian

Richmond, Al, graduate student at Northern Arizona University, author of proposed book on Grand Canyon line

Riker, David, Assistant to the Division Superintendent, Albuquerque Division, A.T.& S.F.Ry., Winslow, Arizona

Mastrogiuseppe, Agostino D., Photograph Librarian, Western History Department, Denver Public Library

Turner, Eloise Fain, widow of A.T.& S.F.Ry. station agent Samuel D. Turner, assigned to Grand Canyon 1940-1957

Photograph Collections Searched

Bibliographies normally do not list photograph collections; if listed at all in a work, generally they are listed in passing in a section of acknowledgements. Nevertheless, photograph collections are sources of much information, especially in historic preservation, though historians traditionally receive no special instructions in their use and no warnings regarding the pitfalls one may encounter. Photographic collections have been of such great importance to this study that it is considered necessary to specify by depository those consulted. They are arranged alphabetically under the city where located.

Chicago, Illinois

Atchison, Topeka & Santa' Fe Raiiway, Public Relations Department
photograph files

Denver, Colorado

Colorado Heritage Center Library (Colorado Historical Society)
Denver Public Library, Western History Department
U.S. Geological Survey Picture Library, Denver Federal Center

Flagstaff, Arizona

Museum of Northern Arizona Library
Museum of Northern Arizona Photograph Laboratory
Northern Arizona Pioneers' Historical Society Collection (in NAU Special

Collections Library)
Northern Arizona University Library, Special Collections Library

Golden, Colorado
Colorado Railroad Museum Library

Grand Canyon, Arizona
Bright Angel Lodge History Room
Grand Canyon National Park Collections
Grand Canyon National Park Library

Los Angeles, California
Southwest Museum Library

Phoenix, Arizona
Arizona State Library, State Capitol Building Phoenix
Public Library (Main Library), Arizona Room
Railroad Resources, Inc.

Prescott, Arizona
Sharlot Hall Museum Library

Sacramento, California
California State Railroad Museum Library

Santa Fe, New Mexico
Museum of New Mexico, Library

Tempe, Arizona
Arizona Historical Foundation Library
Arizona State University Library, Special Collections

Tucson, Arizona
Arizona Historical Society Library
University of Arizona Library, Special Collections

Washington, District of Columbia
Library of Congress, Prints and Photographs Division
National Archives, Still Photographs. Division

Winslow, Arizona
Atchison, Topeka & Santa Fe Railway, Albuquerque Division Offices

Individual photographers and collectors
Bartlett, Betty
Bufkin, Don
Cameron, Chris
Dunscomb, Guy L.

Geissinger, Dave
Harrison, Mike
Hauck, Cornelius
Hill, Ronald C.
Kindig, Richard
Melbo, Robert I.
Nix, George
Payne., Andy
Rees, David
Richardson, Robert W.
Werner, George

City Directories

Albuquerque, New Mexico

Chicago, Illinois

Los Angeles, California

Santa Barbara, California

4.1.1 STATION AGENTS AT GRAND CANYON, ARIZONA

Sept. 17, 1901 - Jan. 1, 1902 ----- Unknown
Jan. 2, 1901 - Sept. 1902? ----- Charles W. Teed
Oct. 1, 1902 - Unknown date- ----- J. F. Henderson*
Unknown date - Nov. 13, 1903 ----- Charles W. Teed
Nov. 14, 1903 - 1904 ----- John Mason Miller
1904 ----- J. F. Henderson*
1904 - Jan. 1, 1907 ----- John Mason Miller
1907 - 1908- ----- Seymour Horatio Fine
1909 - 1911 ----- R. H. Miller
1911 - 1914- ----- R. C. Bernard**
1915 - 1916 ----- T. H. Stahl
1916 - 1918- ----- Fred B. Grim
1918 - Mar. 9, 1920 ----- Wayland A. Brown
Mar. 10, 1920 - Nov. 30, 1940- ----- Lester G. Carr
Dec. 1, 1940 - Mar. 20, 1957- ----- Samuel D. Turner***
1957-1959 ----- H. P. Sullivan
June 10, 1959 - Jan. 1960- ----- L. H. Richards
Feb. 29, 1960 ----- W. E. Willingham*
1960 - Jan. 1961- ----- L. H. Richards
Jan. 7, 1961- June 1968 ----- F. W. Anderson
July 1968 - May 20, 1969 ----- D. L. Burns****

* These men probably were among the various "relief agents" substituting when a regularly assigned agent was ill or went on vacation; there may have been other relief agents.

** Also listed as N.C. Bernard

*** Samuel D. Turner was reportedly the last "Supervisory Agent"

**** The Atchison, Topeka & Santa Fe Railway officially closed its Grand Canyon Agency at the close of work at 6 p.m. on May 16, 1969, but Station Agent Burns remained on duty four more days to close out business.

4.2.1 HISTORIC PHOTOGRAPHS 1904 to 2005



H-1 “School Teacher” train in Grand Canyon Yard. Original Depot shack and boardwalk. c 1904. Photographer unknown. NPS Image # 5442



H-2 Grand Canyon Depot, first year of operation. Note spelling “Grand Canon”. June 17, 1910. From postcard, Fred Harvey Company. NPS Catalog # GRCA 16456



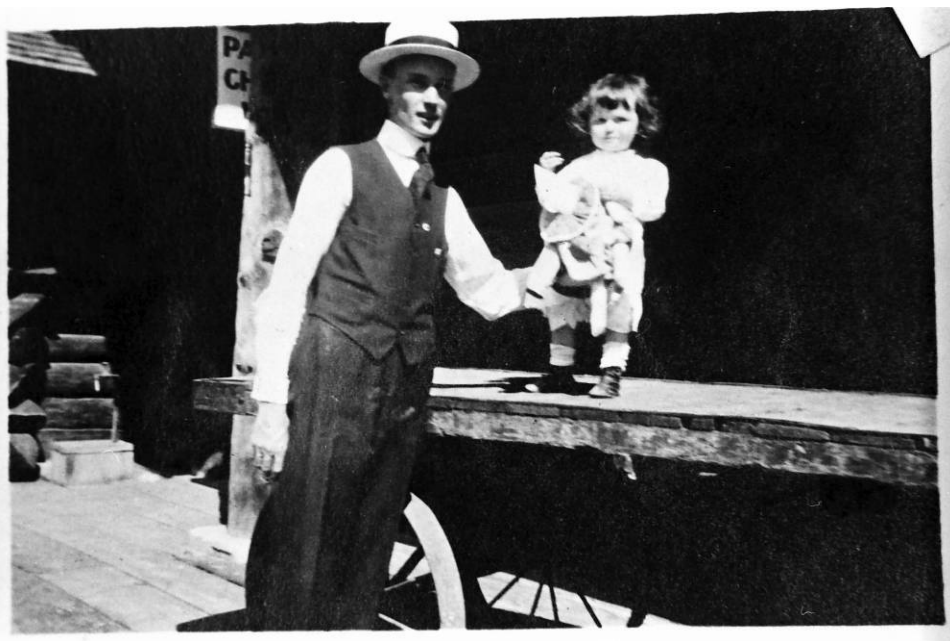
H-3 Grand Canyon Railway engine 1251 with passenger train in front of Depot at Grand Canyon, with train crew, station agent, telegrapher, and others, posted in front of locomotive. View is towards west, engine is eastbound. Date c 1915. Photographer unknown, possibly Emery Kolb. NPS Catalog # GRCA 07448



H-4 Grand Canyon Railroad Depot. View from southeast. April 1915. Note that the spelling of "Canon" has been changed to "Canyon". Photographer unknown. NPS Catalog # GRCA 11990



H-5 Santa Fe Railroad employees, from right to left: Nall, Nelson and Milton Madden in front of the Grand Canyon Depot. March 01, 1918. Photo by Madden.
NPS Catalog # GRCA 07536



H-6 Sante Fe Station Agent Wayland E. Brown with Elinor Hickey on Depot baggage cart. c 1918. NPS Image # 10320



H-7 Elinor Hickey as a child standing in front of the Grand Canyon Railroad Depot in winter. Date c 1918. The freight building is seen beyond the Depot. Photo by Hickey family. NPS Catalog # GRCA10331



H-8 Elinor Hickey as a child at the east end of the Grand Canyon Depot with passenger cars to left. Date c 1919. The Freight House (building no. 550) is to the right. The structure in the background is the old power house. Photo by Hickey family. NPS Catalog # GRCA 10319



H-9 A Hopi family with 4 children waiting at the Grand Canyon Railroad Depot. Date c 1919.
Photo by Hickey family. NPS Catalog # GRCA 10329



H-10 Elinor Hickey as a child standing in front of the Grand Canyon Railroad Depot in summer. Date c 1919. The Freight House (building no. 550) is seen beyond the Depot. Photo by Hickey family. NPS Catalog # GRCA 10330



H-11 Station Agent Lester G. Carr and wife Nellie (Agent 1920-40) standing in front of the Grand Canyon Railroad Depot. Note the plank depot platform. September 1920. Stanton Carr Photo Collection. NPS Catalog # GRCA 11452



H-12 Taxis lining up at the Grand Canyon Train Depot. Looking northwest from Depot. Date unknown (1920s based on buses). Photographer unknown. NPS Catalog # GRCA 13335



H-13 Looking west at five passenger trains filling the Grand Canyon Depot yard. Depot (right) and freight cars. Date 1925. Santa Fe Railroad photo. NPS Catalog # GRCA 06590



H-14 Grand Canyon Depot with several automobiles trackside. El Tovar Hotel in background. Date c 1925. NPS photo. NPS Catalog # GRCA 09548



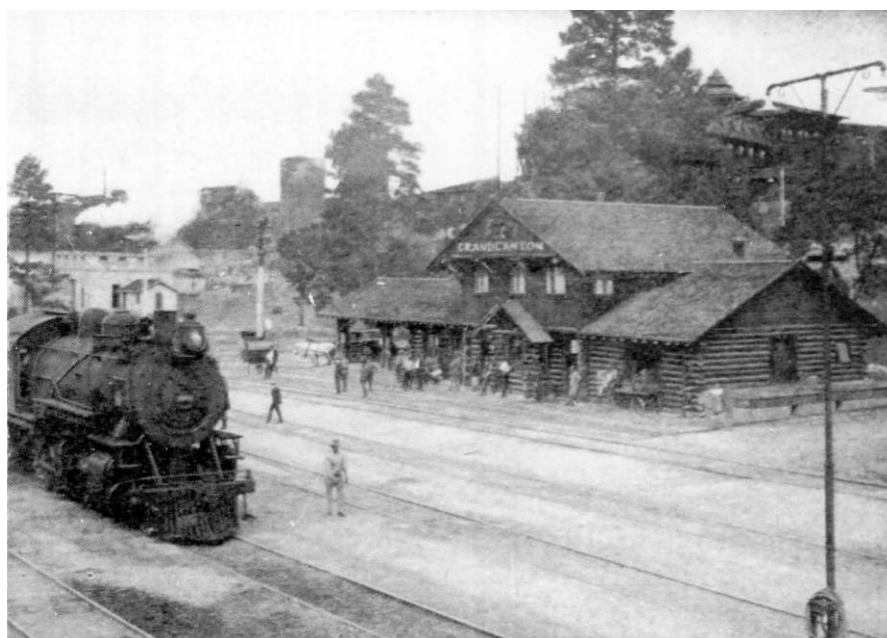
H-15 Jack Tooker (left) and Ray Stevens with dead mountain lion on horse, at Grand Canyon Depot. Date 1925. Photo by Elizabeth Hegmann. NPS Catalog # GRCA 15042



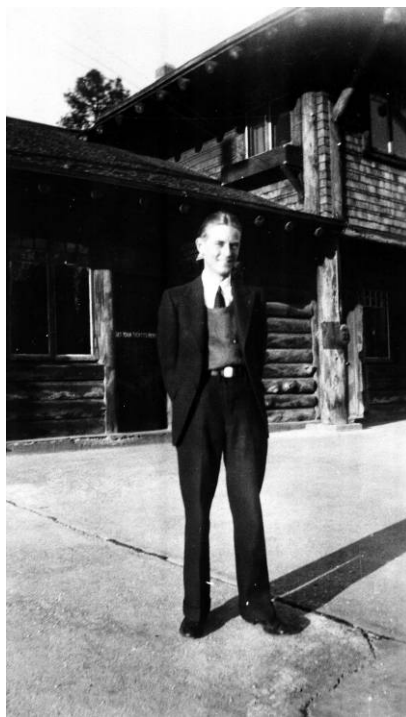
H-16 Station Agent Lester G. Carr and his family in front of the Grand Canyon Depot. Note the awning of the Agent's Office window. Date c 1928. Stanton Carr Photo Collection. NPS Catalog # GRCA 11442



H-17 Grand Canyon Depot. New concrete platform which replaced original made of 8"x12" logs. Note 4-wheeled baggage cart parked at baggage room. White round-domed ice cart parked by ice storage shed use to haul ice to Pullman cars for cooling drinking water. Date c 1928. Stanton Carr Photo Collection. NPS Catalog # GRCA 11454



H-18 Grand Canyon Railroad Depot, with train and visitors. From a Santa Fe/Fred Harvey promotional brochure. Date May 10, 1929. Photo by Santa Fe Railroad. NPS Catalog # GRCA 17041



H-19 Stanton Carr, son of Station Agent Lester G. Carr (agent from 1920-40), standing in front of the waiting room. West and south windows of living room above. Date c late 1920s, early 1930s. Stanton Carr Photo Collection. NPS Catalog # GRCA 11444



H-20 Nellie and Lester Carr (Station Agent) with their new Chevy, parked on the station platform in front of the baggage room of the Grand Canyon Railroad Depot. Date c 1930. Stanton Carr Photo Collection. NPS Catalog # GRCA 11449



H-21 Grand Canyon Depot at far left. Station platform and tracks under heavy snow in center. Station Agent Lester G. Carr (left) and son Stanton. Visible signs reads “Free Bus to Hotels” and “Western Union” and “Automobiles Not Allowed on Station Platform”. Yard behind are piled high with snow. Date c 1930. Stanton Carr Photo Collection.

NPS Catalog # GRCA 11434



H-22 View toward northeast on Railroad Depot parking area, separated from tracks on which photographer is standing by the iron fence. This fence was added in 1929. West end of Depot visible at right. Stairway at left leads from Depot to El Tovar Hotel. Village Loop Road which passed immediately north of Depot c 1934-35 has not been built yet. This view is c 1930.

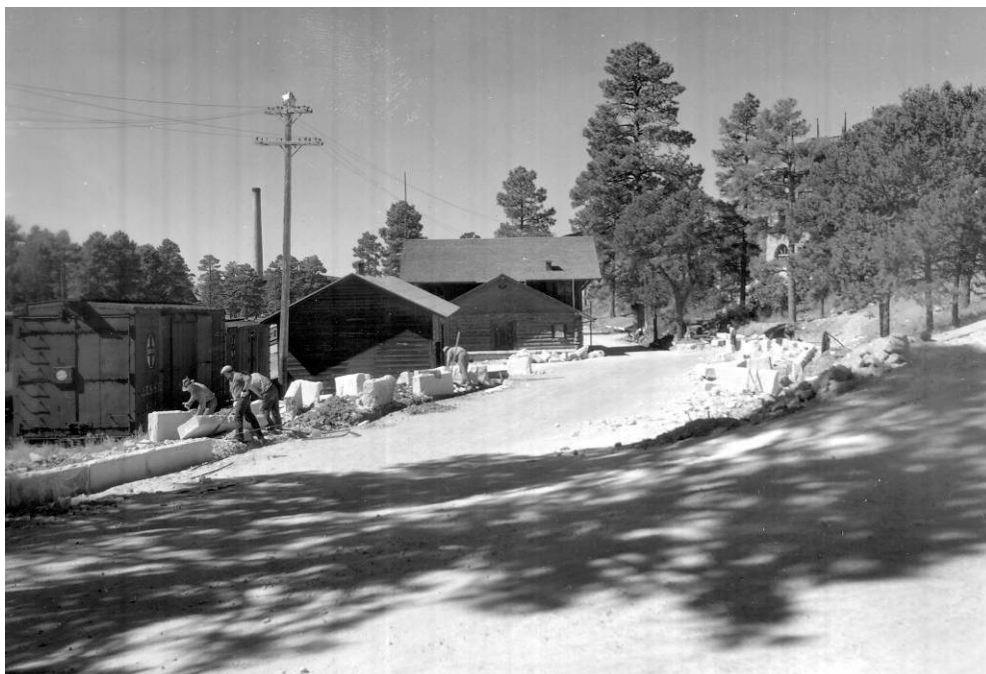
Photographer unknown. NPS Catalog # GRCA 35484



H-23 View eastward from Railroad Depot parking lot showing parking lot entrance with log depot of the Grand Canyon Railway at far right. Stairway at left leads from Depot to El Tovar Hotel. Village Loop Road was built through this area c 1934-35. This view is c 1930. Photographer unknown. NPS Catalog # GRCA 35485



H-24 Erosion control on the edge of the road at the west end of the boulevard, view includes the train station. Date unknown. Assumed 1930-34 based on the iron fence being in place at the parking lot but the Village Loop Road is not built. NPS photo. NPS Catalog # GRCA 09131



H-25 Men constructing flagstone retaining wall/curb along main road just east of train depot. Date July 10, 1935. The Freight House (building no. 550) is in front of the Depot. NPS photo. NPS Catalog # GRCA 09393



H-26 Grand Canyon Train Depot. Photo by Louis Purvis (employed at CCC Camp 818 at Phantom ranch from 1934-1936). NPS Catalog # GRCA 16656



H-27 Aerial view of Grand Canyon Village which includes part of West Rim Drive, El Tovar, Bright Angel Hotel, residential area, and Railway Depot. Buildings 80 & 90 of the CCC maintenance complex at the lower left of the image can be seen at the southwest and south central areas of the complex. Based on the construction date of these buildings the date this image as no earlier than 1936. Assumed Kolb photo. NPS Catalog # GRCA 30645



H-28 Atchison, Topeka, Santa Fe Railway Company Depot at Grand Canyon Village. Note that the window sash appear to have been painted a light color. Also note that the barge rafters at the gables are now missing though they are evident in the photo above on the bay window roof. Date August 01, 1939. NPS Photo. NPS Catalog # GRCA 00667



H-29 ATSF Railroad train depot. Note asbestos-cement shingles which were installed in 1940 and light colored window sash. Also note that the color of the letters spelling "Grand Canyon" appear to be much lighter than earlier photos. Compare also to existing condition photo E-1.
Date c 1940. Santa Fe Railroad photograph. NPS Catalog # GRCA 09465a



H-30 ATSF Railroad Depot with express baggage car. Verkamps Studio visible in the background, right. Date c 1940. Photo by Santa Fe Railroad. NPS Catalog # GRCA 09465b



H-31 Grand Canyon Depot. It is difficult to tell but it appears that the top rods on the iron fence are still in place. Date September 1943. Photo by Schellbach. NPS Catalog # GRCA 41309



H-32 ATSF Railroad Depot at Grand Canyon. Note that the rods above the top crossrail on iron fence have been cut off by this time. Also note the light colored awning over the ticket agent's window. Date November 27, 1945. NPS photo by George Grant. NPS Catalog # GRCA 08394



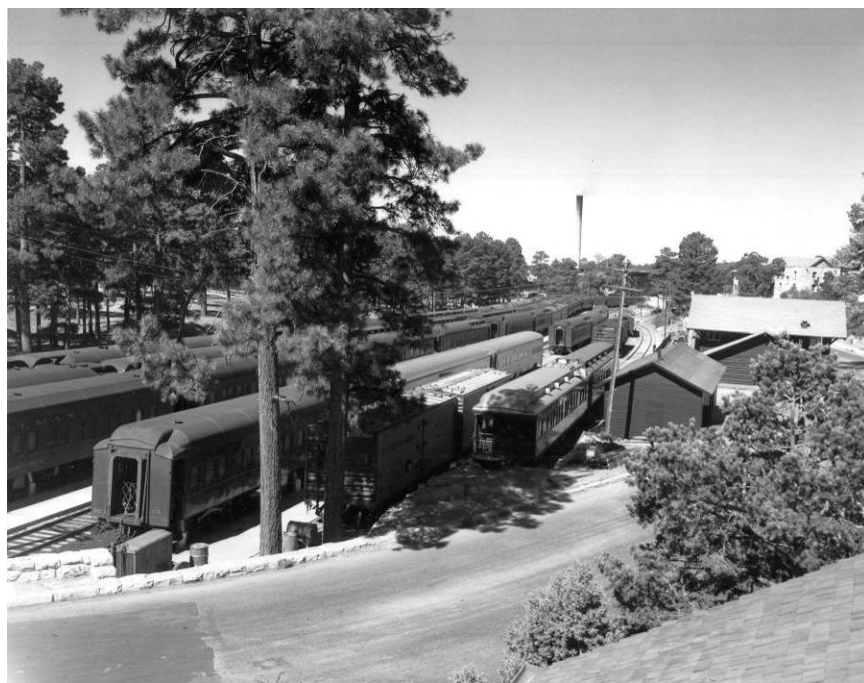
H-33 ATSF Railroad Depot at Grand Canyon. El Tovar Hotel at left. Date November 27, 1945. NPS photo by George Grant. NPS Catalog # GRCA 08441



H-34 ATSF Railroad Depot during winter snow, snow on roof, ground surrounding area. View from south looking north at front of building. Date 1930-1940 (or later) based on phone lines. Assumed Kolb photo. NPS Catalog # GRCA 30643



H-35 American youth hostel group arrived at Grand Canyon National Park, standing in front of the Santa Fe Passenger Depot by their bikes. Note dark colored awning at ticket agent's window. Date August 21, 1947. Photo by Virgil Gipson, NPS Photo.
NPS Catalog # GRCA 00998



H-36 Shriner's Special Trails in yards at Grand Canyon Station/Depot. Date June 17, 1950.
NPS Photo by J.M. Eden. NPS Catalog # GRCA 02051



H-37 Boy Scout Jamboree, special trains in Grand Canyon Depot Yard. Date July 1953. NPS
Photo by Steve Leding. NPS Catalog # GRCA 02574



H-38 Close up of aerial photograph. Date 1956. NPS Document 113-FL3



H-39 Train in Grand Canyon yard. Date 1963. Photograph by P. Risk.
NPS Catalog # GRCA 41306



H-40 Train in Depot yard. Note activity in front of Depot appears to be laying or removing asphalt. Date August 1964. Photograph by N. Fox. NPS Catalog # GRCA 41395



H-41 Woman in period clothing standing in doorway of Grand Canyon Depot. El Tovar behind Depot. Date 1968. NPS photo. NPS Catalog # GRCA 09549



H-42 Interior train depot with Nadine McKay (L) and Armetia Robert in period costume. Photograph probably of Waiting Room looking west. Window into Vestibule Office is on the right. Date 1968. NPS photo. NPS Image # 9550



H-43 Women dressed in period costumes talk with each other inside the Grand Canyon Depot. Photograph probably of the Waiting Room. Date 1968. NPS photo. NPS Image # 9551



H-44 Fire hose cart by gate at Grand Canyon Depot. Two women in period clothes. Note that gate appears to be operational. Date 1968. NPS photo. NPS Image # 9552



H-45 Interior of Grand Canyon Depot with some people in period costume. Photograph appears to be in the Waiting Room looking northwest. Date 1968. NPS photos. NPS Image # 9554



H-46 Overview of Grand Canyon Depot, trackside. A woman in period dress stands in a doorway. Date 1968. NPS photo. NPS Image # 9555



H-47 People standing outside of the Grand Canyon Depot. Some in period clothes. South elevation. Date 1968. NPS photo. NPS Image # 9556



H-48 Social in the Grand Canyon Depot. A woman in period dress talks with several people. Photographs appears to be of the Waiting Room. The ticket window to the Agent's Office is on the right. Date 1968. NPS photo. NPS Image # 9558



H-49 A woman in period clothes talks with a man at the counter inside the Grand Canyon Depot. The photograph appears to be of the Agent's Office looking southeast. Note the telephone on the wall and the ceiling mounted fluorescent lights. Date 1968. NPS photo. NPS Image # 9559



H-50 Santa Fe Railway Depot, front (south) side. Date November 15, 1971. NPS photo by Richard Rayner. NPS Catalog # GRCA 05410



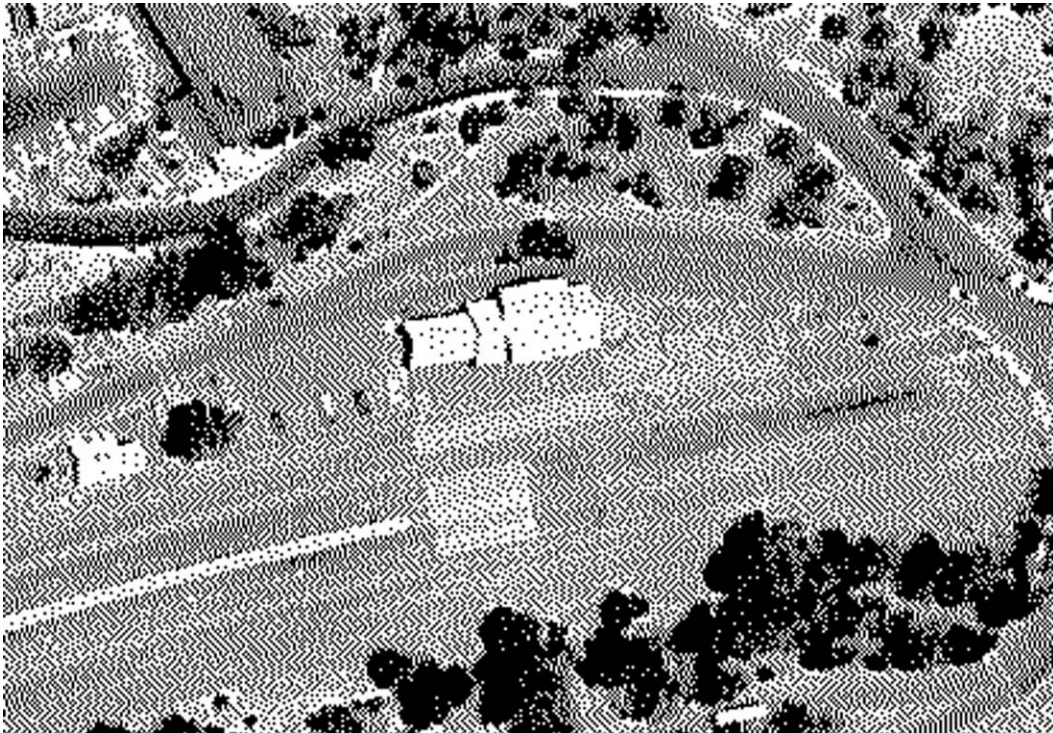
H-51 Santa Fe Railway Depot, front (south) side, with El Tovar Hotel in background. Date November 15, 1971. NPS photo by Richard Rayner. NPS Catalog # GRCA 05411



H-52 Santa Fe Railway Depot at Grand Canyon, street entrance (north) side. Date November 15, 1971. NPS photo by Richard Rayner. NPS Catalog # GRCA 05412



H-53 Santa Fe Railway Depot, east end (freight storage). Date November 15, 1971. NPS photo by Richard Rayner. NPS Catalog # GRCA 05414



H-54 Close up of aerial photograph. Date 1972. NPS Document 113-FL9



H-55 Santa Fe Railroad Depot, southern exposure. Note apparent deterioration of wood members of upper gable. Date 1976. NPS photo. NPS Catalog # GRCA 10736



H-56 Santa Fe Railroad Depot, southeast exposure. Note that asbestos-cement shingles are still in place. Date 1976. NPS photo. NPS Catalog # GRCA 10737



H-57 View to west, Railroad Station and Yard Tracks, Grand Canyon National Park. Date November 28, 1978. NPS photo. NPS Catalog # GRCA 25676a



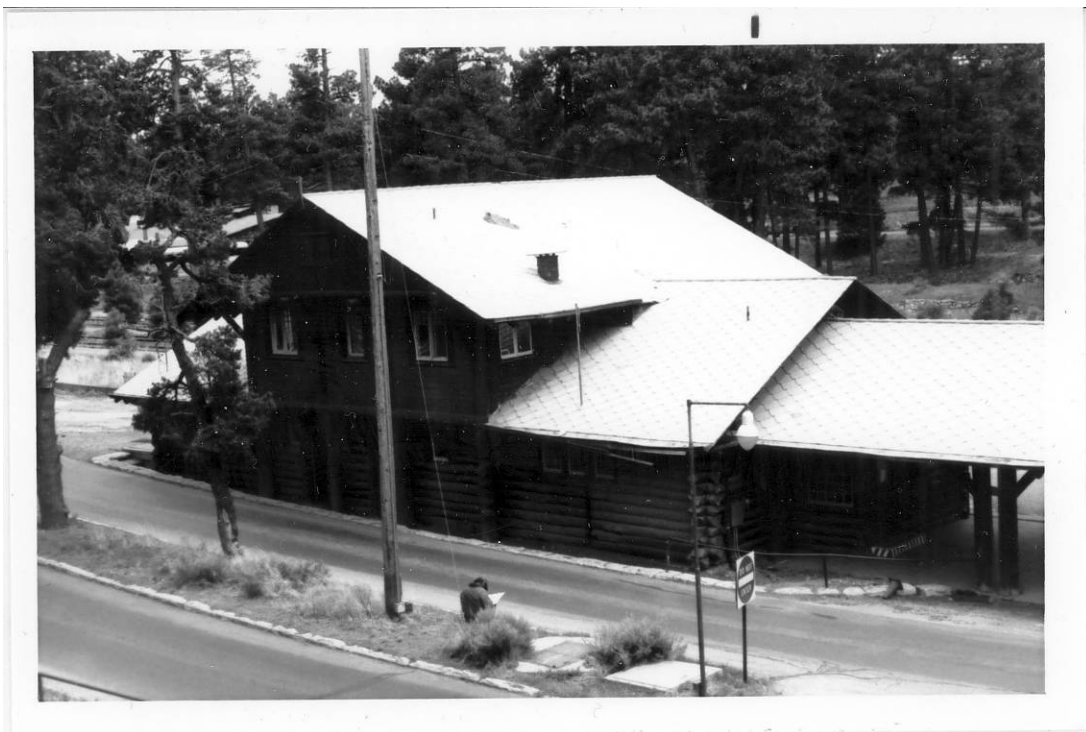
H-58 Winter snow scene of El Tovar, Santa Fe RR Depot, Colter Hall and Bldg #548. Date 1978. NPS Photo. NPS Image # 10999



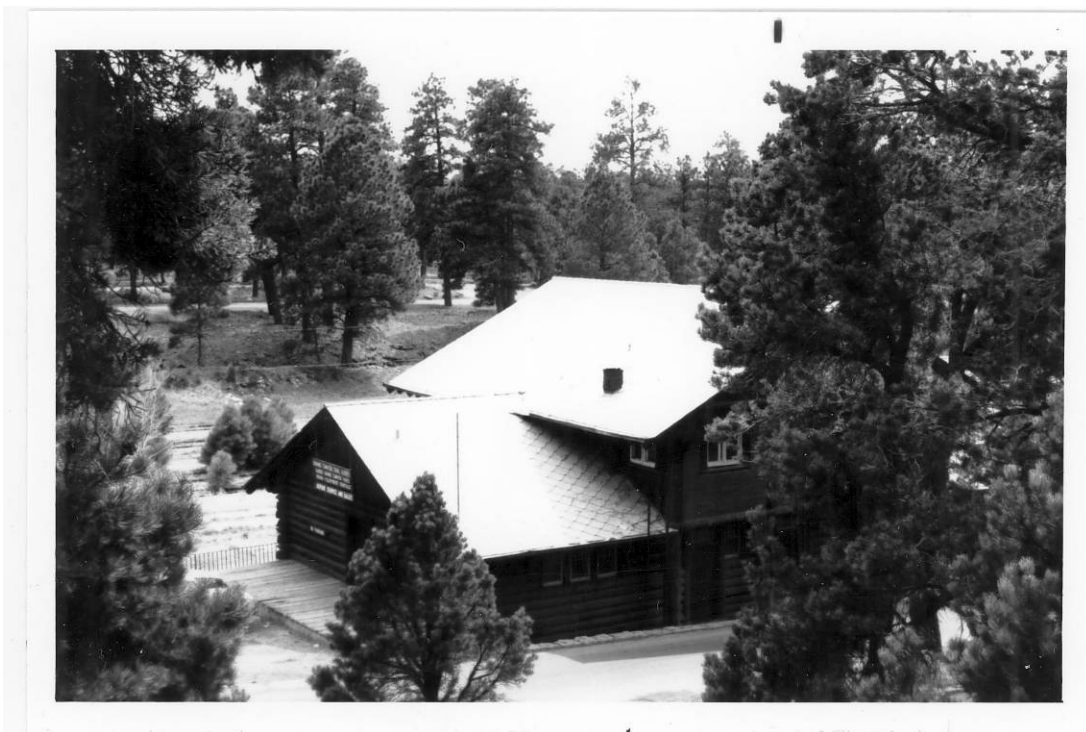
H-59 View to west, Railroad Station and yard tracks. Date July 21, 1980. NPS photo. NPS Catalog # GRCA 25676b



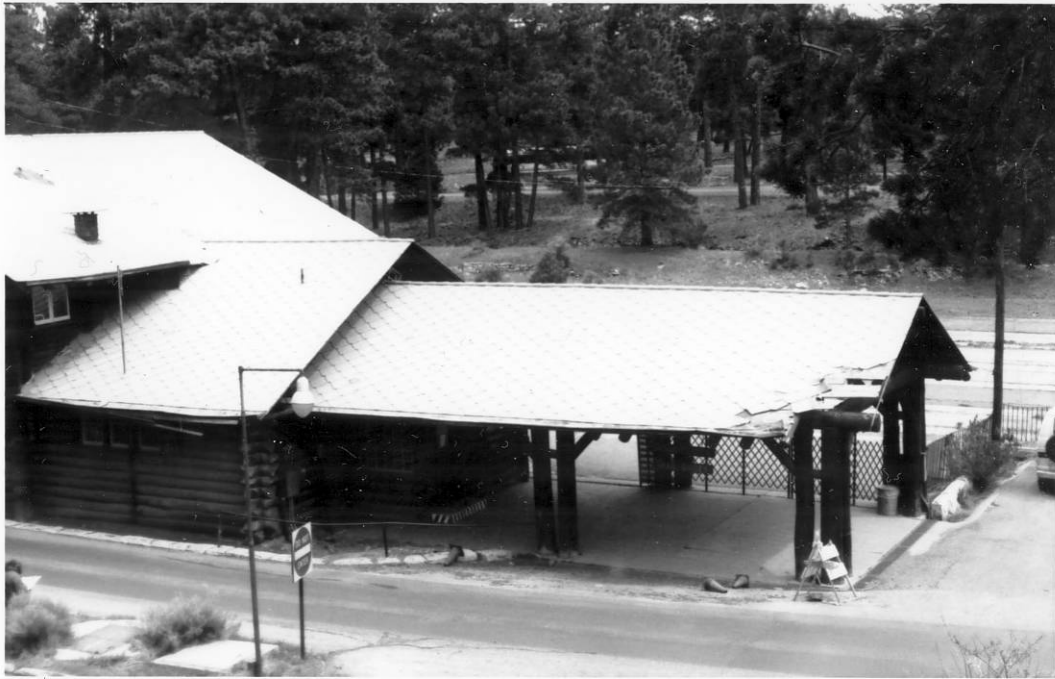
H-60 Grand Canyon Train Depot with El Tovar in background. Date 1983. NPS photo. NPS Image # 16830



H-61 Grand Canyon Depot, view from the northwest. Date May 1984. NPS Photo. NPS Catalog # GRCA 59384a



H-62 Grand Canyon Depot, rear view, east end. Date May 1984. NPS Photo. NPS Catalog # GRCA 59384b



H-63 Grand Canyon Depot, west end and covered waiting area, view from northwest. Note damage to eave. Date May 1984. NPS photo. NPS Catalog # GRCA 59385a



H-64 Grand Canyon Depot, west end and covered waiting area. Note damage to eave. Date May 1984. NPS photo. NPS Catalog # GRCA 59385b



H-65 Grand Canyon Depot, roof of covered waiting area. Note damage. Date May 1984. NPS photo. NPS Catalog # GRCA 59385c



H-66 Grand Canyon Depot, west end, north side, roof. Date May 1984. NPS photo. NPS Catalog # GRCA 59385d



H-67 Grand Canyon Depot. Close up of logs and roof detail. Date May 1984. NPS photo.
NPS Catalog # GRCA 59386a



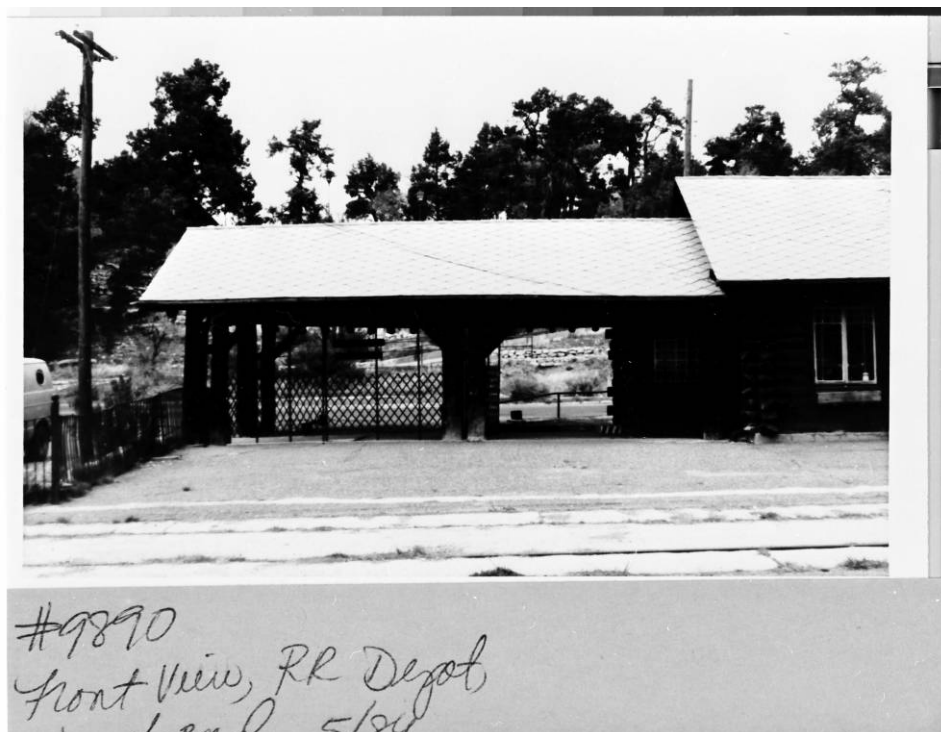
H-68 Grand Canyon Depot. Close up of log and window sill. Date May 1984. NPS photo.
NPS Catalog # GRCA 59386b



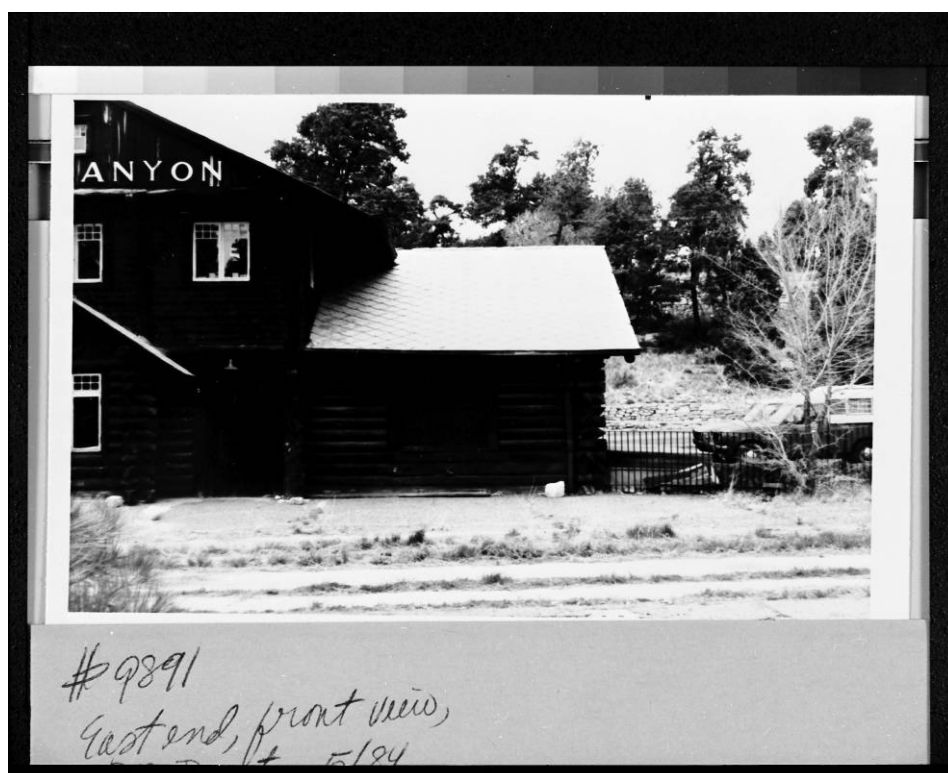
H-69 Grand Canyon Depot. Front view, east end. Freight door. Date May 1984. NPS photo.
NPS Catalog # GRCA 59387a



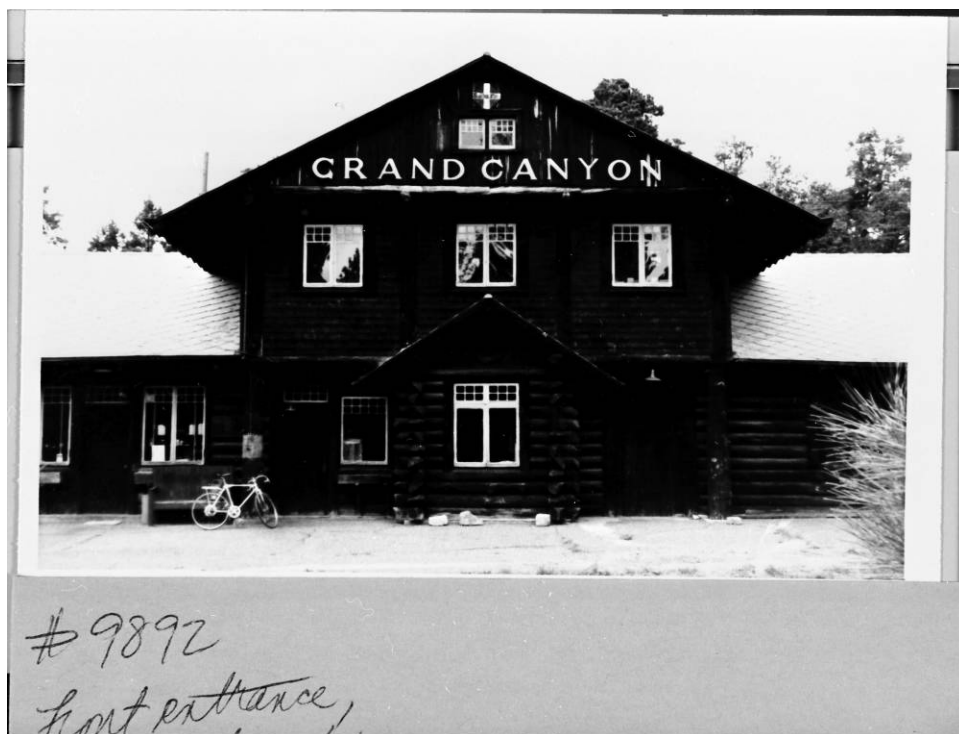
H-70 Grand Canyon Depot. Front view, west end and entrance. Note planter boxes in front of windows and asphalt covered platform. Date May 1984. NPS photo.
NPS Catalog # GRCA 59387b



H-71 AT&SF Railroad Depot front west end. Date May 1984. NPS photo. NPS Image # 9890



H-72 AT&SF Railroad Depot front east end. Date May 1984. NPS photo. NPS Image # 9891



H-73 AT&SF Railroad Depot front middle view. Date May 1984. NPS photo. NPS Image # 9892



H-74 Grand Canyon Depot, west end and covered waiting area during repair of roof damage. Date late summer-fall 1984. Scanned from building files.



H-75 Grand Canyon Depot, west end and covered waiting area during repair of roof damage.
Close up of eave. Date late summer-fall 1984. Scanned from building files.



H-76 Grand Canyon Depot, west end and covered waiting area during repair of roof damage.
Close up of eave. Date late summer-fall 1984. Scanned from building files.



H-77 Grand Canyon Depot east elevation. Date 1984-1986. Scanned from building files.



H-78 Grand Canyon Depot looking northeast. Date 1984-1986. Scanned from building files.



H-79 Grand Canyon Depot looking northwest with El Tovar beyond. Date 1984-1986. Scanned from building files.



H-80 Grand Canyon Depot south elevation. Date 1984-1986. Scanned from building files.



H-81 Grand Canyon Depot close up of log repair on south side brackets. Date 1984-1986.
Scanned from building files.



H-82 Grand Canyon Depot wrought iron gate at east end. Note that the fence finials are still in place on the east side of the gate. Compare to photos E-12 and E-13. Date 1984-1986.
Scanned from building files.



H-83 Grand Canyon Depot Freight Room looking southeast. Date 1984-1986. Scanned from building files.



H-84 Grand Canyon Depot Waiting Room looking southeast. Note that the ceiling light fixture is missing. Compare to photograph H-136. Date 1984-1986. Scanned from building files.



H-85 Grand Canyon Depot Agent's Office looking south. Date 1984-1986. Scanned from building files.



H-86 Grand Canyon Depot Womens' Restroom looking northwest. Date 1984-1986. Scanned from building files.



H-87 Grand Canyon Depot south elevation. Date assumed to be July 31, 1986 based on memo dated 8/5/86 from Historical Architect. NPS photos. Scanned from building files.



H-88 Grand Canyon Depot north elevation, east end. Note damage to roof eave. This may represent the beginning or roof demo. Date assumed to be July 31, 1986. NPS photos. Scanned from building files.



H-89 Grand Canyon Depot northwest corner. Date assumed to be July 31, 1986. NPS photos. Scanned from building files.



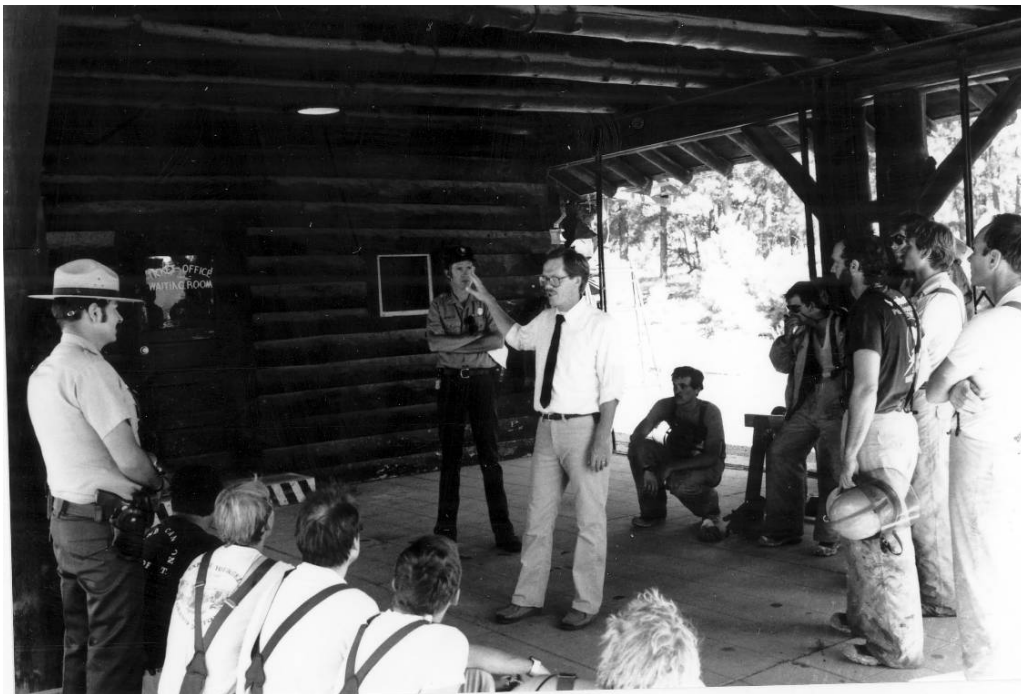
H-90 Grand Canyon Depot east end, loading dock. Date assumed to be July 31, 1986. NPS photos. Scanned from building files.



H-91 Grand Canyon Depot north side covered waiting area. Date assumed to be July 31, 1986. NPS photos. Scanned from building files.



H-92 Grand Canyon Depot north side. Note cracked concrete column bases. Date assumed to be July 31, 1986. NPS photos. Scanned from building files.



H-93 Grand Canyon Depot covered waiting area. Part of “Fire Drill and Wash Down” Note graphic on vestibule entry door. Date October, 1986. NPS photos. Scanned from building files.



H-94 Grand Canyon Depot south side, west end, covered waiting area. Photos H-94 through H-97 show “Fire Drill and Wash Down” at the Depot. Date October, 1986 NPS photos. Scanned from building files.



H-95 Grand Canyon Depot east end, loading dock. Date October, 1986. NPS photos. Scanned from building files.



H-96 Grand Canyon Depot north side, east end. Date October, 1986. NPS photos. Scanned from building files.



H-97 Grand Canyon Depot north side, west end. Date October, 1986. NPS photos. Scanned from building files.



H-98 Close up of aerial photograph. Note cement asbestos shingles still in place. Date 1986.
NPS Document 113-FL21



H-99 Santa Fe Railroad Depot with scaffolding – during historic renovation. Note that cement asbestos shingles have been replaced with wood. Date 1987. NPS photo. NPS Image # 16442



H-100 Santa Fe Railroad trackage. Project to determine growth of trees over a few years. Date 1988. Photograph by Greg Probst. NPS Catalog # GRCA 36098



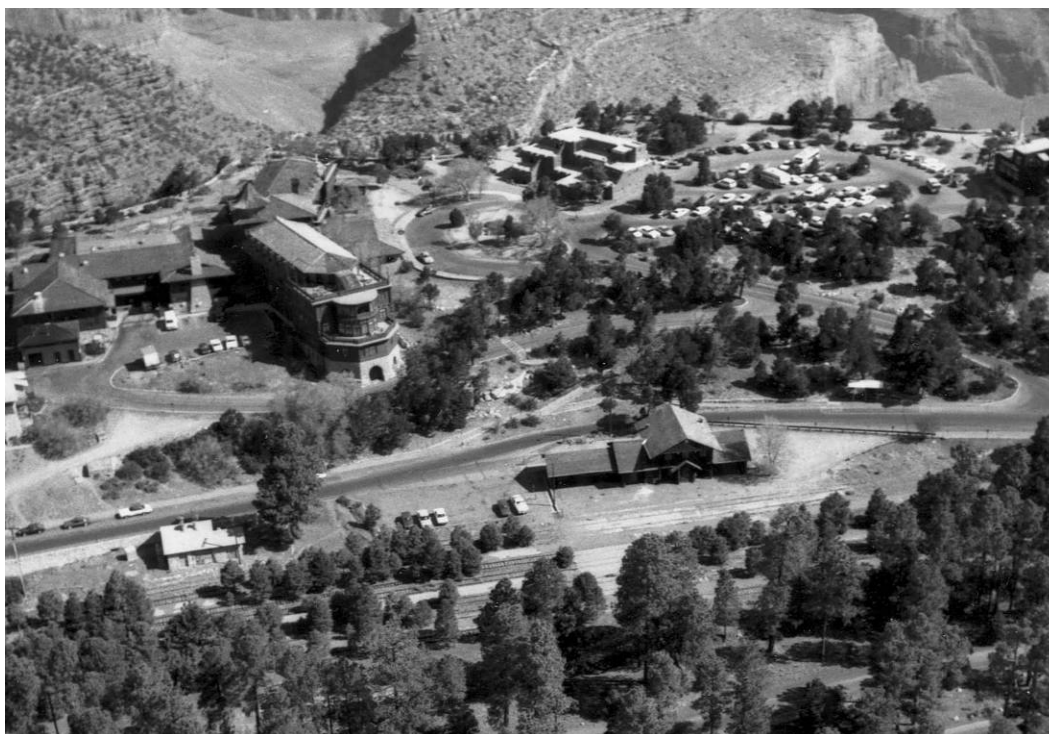
H-101 Grand Canyon Train Depot. East end. Note construction of guard rail in front. Also note that the iron fence on the south side is missing. Date March 23, 1988. NPS photo. NPS Image # 15911



H-102 Grand Canyon Train Depot. Construction of guard rail in front. Date March 23, 1988. NPS photo. NPS Image # 15911



H-103 Santa Fe Railway Depot at Grand Canyon. South elevation. Date 1989. NPS photo.
NPS Image # 16466



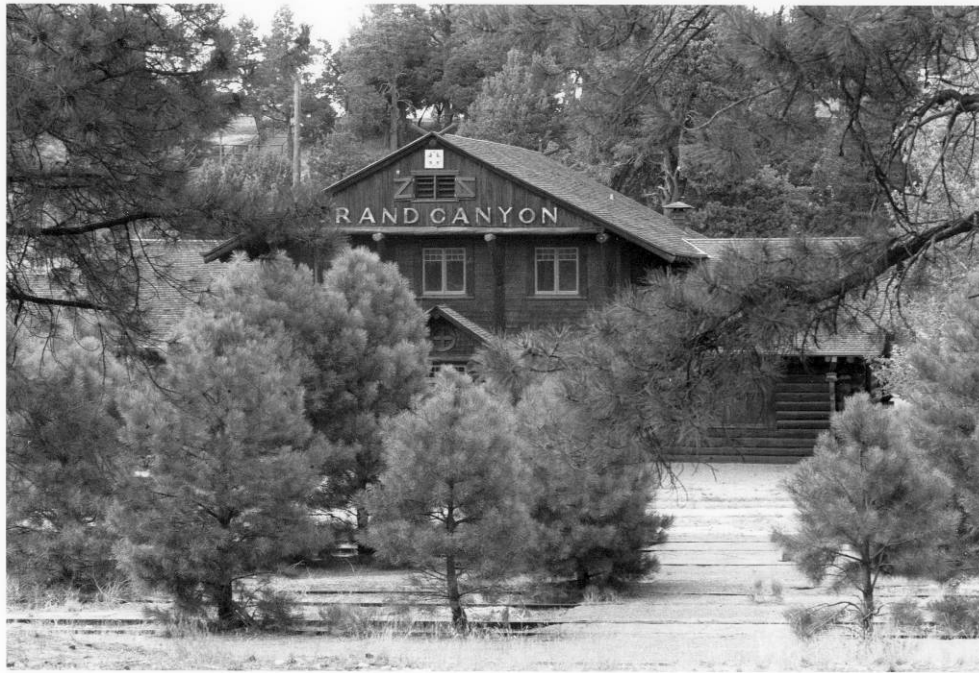
H-104 Aerial view of Grand Canyon Depot looking north. El Tovar to the upper left. Note trees still growing on tracks. Date 1989. NPS Image # 16479 (cropped)



H-105 Train tracks and Grand Canyon Depot prior to clearing by Grand Canyon Railway.
Date 1989. NPS photo. NPS Image # 16558



H-106 Train tracks near Grand Canyon Depot prior to clearing by Grand Canyon Railway.
Date 1989. NPS photo. NPS Image # 16560



H-107 Grand Canyon Depot prior to removal of trees that had been growing for 20 years.
Date 1989. NPS photo. NPS Image # 16690



H-108 Grand Canyon Depot with trees being cleared. Date 1989. NPS photo. NPS Image # 16561



H-109 Grand Canyon Depot after trees are cleared. Date 1989. NPS photo. NPS Image # 16566



H-110 Grand Canyon Depot after trees are cleared. Date 1989. NPS photo. NPS Image # 16567



H-111 Grand Canyon Depot yard. Date 1989. NPS Catalog # GRCA 62704m



H-112 Train in the Grand Canyon Depot yard. First passenger train to the Grand Canyon Depot from Williams. Date September 17, 1989. Photograph by Gordon Chappell.
NPS Catalog # GRCA 50591



H-113 Inaugural run of Grand Canyon Railway. Looking south at crowd around engine #18.
Date September 17, 1989. NPS photo. NPS Image # 16505



H-114 Inaugural run of Grand Canyon Railway. Grand Canyon NP Superintendent Jack Davis speaking during Depot ceremony. Date September 17, 1989. NPS photo. NPS Image # 16512



H-115 Steam locomotive leaving Grand Canyon Depot. Date September 18, 1989.
 Photograph by Gordon Chappell. NPS Catalog # GRCA 50597



H-116 First revenue passenger train stopped at the Grand Canyon Depot. View looking east.
 Depot is visible on the left. Date September 18, 1989. Photograph by Gordon Chappell. NPS
 Catalog # GRCA 50598



H-117 First revenue passenger train stopped at the Grand Canyon Depot. View looking northwest. Date September 18, 1989. Photograph by Gordon Chappell. NPS Catalog # GRCA 50599



H-118 First Lady Barbara Bush beside a train. Grand Canyon Depot in the background on the right. Date April 1991. NPS Catalog # GRCA 56001c



H-119 Cars of the “Special” American Orient Express train in front of the Depot. Date 1995.
NPS Image # 10336



H-120 Cars of the “Special” American Orient Express train in front of the Depot. Date 1995.
NPS Image # 10339a



H-121 Cars of the “Special” American Orient Express train in front of the Depot. Date 1995.
NPS Image # 10339b



H-122 Cars of the “Special” American Orient Express train in front of the Depot. Date 1995.
NPS Image # 10339c



H-123 Close up of aerial photograph. Date 1995. NPS Document 113-FL26-4



H-124 Flagstaff school kids at Grand Canyon Depot after President Clinton's speech. Date 1996. NPS Image # 15290



H-125 South elevation of Grand Canyon Depot during platform reconstruction. Date September 23, 2002. Scanned from building files.



H-126 South elevation of Grand Canyon Depot during platform reconstruction. Date September 23, 2002. Scanned from building files.



H-127 South elevation of Grand Canyon Depot during platform reconstruction. Date September 23, 2002. Scanned from building files.



H-128 South elevation of Grand Canyon Depot during platform reconstruction. Date September 23, 2002. Scanned from building files.



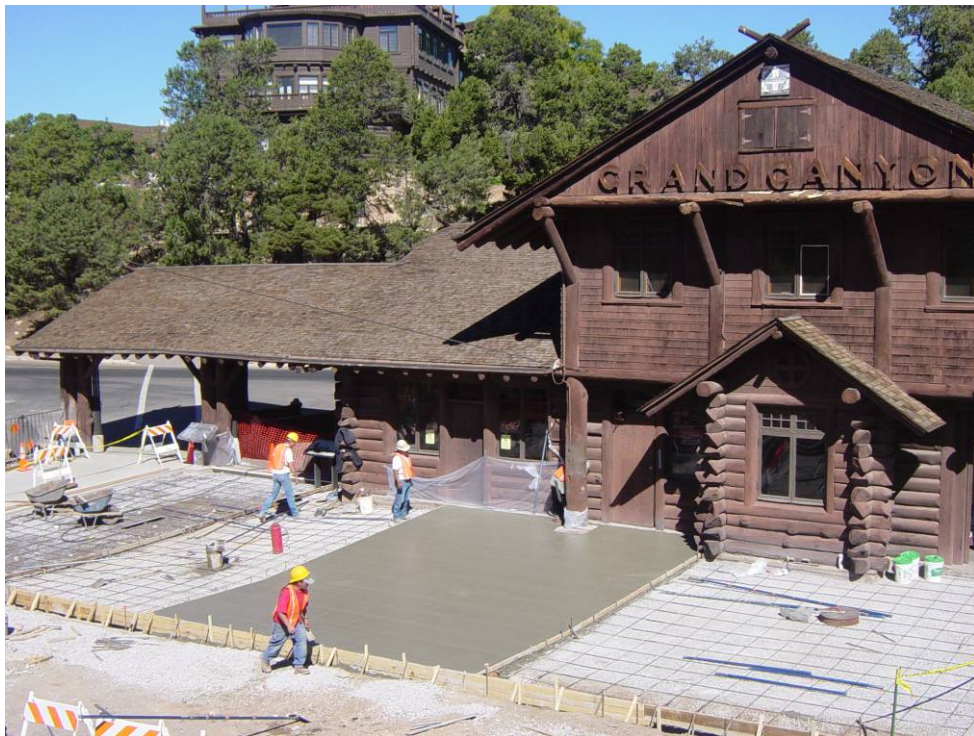
H-129 Grand Canyon Depot during platform reconstruction. Date September 23, 2002.
Scanned from building files.



H-130 Grand Canyon Depot during platform reconstruction. Date September 23, 2002.
Scanned from building files.



H-131 South elevation of Grand Canyon Depot during platform reconstruction. Date September 23, 2002. Scanned from building files.



H-132 South elevation of Grand Canyon Depot during platform reconstruction. El Tovar in background. Date September 23, 2002. Scanned from building files.



H-133 Grand Canyon Depot during platform reconstruction. Date September 23, 2002.
Scanned from building files.



H-134 South elevation of Grand Canyon Depot during platform reconstruction. Date September 23, 2002. Scanned from building files.



H-135 South elevation of Grand Canyon Depot during platform reconstruction. Date September 23, 2002. Scanned from building files.



H-136 Grand Canyon Depot Waiting Room looking south east. Note ceiling light fixture. Compare to photograph H-84. Date September 23, 2002. Scanned from building files.



H-137 Grand Canyon Depot Waiting Room looking northeast. Date September 23, 2002.
Scanned from building files.



H-138 Grand Canyon Depot prior to rehabilitation. South elevation. Date March 3, 2005.
Scanned from building files.



H-139 Grand Canyon Depot prior to rehabilitation. South elevation. Note deterioration of log beam. Date March 3, 2005. Scanned from building files.



H-140 Grand Canyon Depot prior to rehabilitation. South elevation. Note deterioration of log beam. Date March 3, 2005. Scanned from building files.



H-141 Grand Canyon Depot prior to rehabilitation. South elevation. Note deterioration of log beam. Date March 3, 2005. Scanned from building files.



H-142 Grand Canyon Depot prior to rehabilitation. South elevation. Date March 3, 2005. Scanned from building files.



H-143 Grand Canyon Depot prior to rehabilitation. South elevation. Date March 3, 2005.
Scanned from building files.



H-144 Grand Canyon Depot prior to rehabilitation. South elevation. Date March 3, 2005.
Scanned from building files.



H-145 Grand Canyon Depot prior to rehabilitation. South elevation. Close up of east central bracket logs. Date March 3, 2005. Scanned from building files.



H-146 Grand Canyon Depot prior to rehabilitation. South elevation. Close up of west bracket logs. Date March 3, 2005. Scanned from building files.



H-147 Grand Canyon Depot prior to rehabilitation. South elevation. Close up of east bracket logs. Date March 3, 2005. Scanned from building files.



H-148 Grand Canyon Depot during rehabilitation. Northwest corner of Covered Waiting Area. Date 2005. From building files. Photo by Craig Struble.



H-149 Grand Canyon Depot during rehabilitation. Deterioration of south gable beam and brackets. Date 2005. From building files. Photo by Craig Struble.



H-150 Grand Canyon Depot during rehabilitation. Deterioration of south gable beam and brackets. Date 2005. From building files. Photo by Craig Struble.



H-151 Grand Canyon Depot during rehabilitation. Replaced south gable beam and brackets. Date 2005. From building files. Photo by Craig Struble.



H-152 Grand Canyon Depot during rehabilitation. South elevation of completed gable beam and brackets. Date 2005. From building files. Photo by Craig Struble.



H-153 Grand Canyon Depot during rehabilitation. Photo of underside of gable after completion. Date 2005. From building files. Photo by Craig Struble.



H-154 Grand Canyon Depot during rehabilitation. New concrete paving at northwest corner. Date 2005. From building files. Photo by Craig Struble.



H-155 Rubble wall east of the Grand Canyon Depot prior to reconstruction. Date 2005. From building files. Photo by Craig Struble.



H-156 Rubble wall east of the Grand Canyon Depot prior to reconstruction. Date 2005. From building files. Photo by Craig Struble.

4.2.2 2007 CONDITION EXTERIOR PHOTOGRAPHS



E-1 View from southeast with El Tovar visible beyond on the left. Note that the sash color of the existing windows is much lighter than historic photographs taken after about 1940. See photographs H-29 and succeeding photos. October 3, 2007. Photograph by Martin/Martin.



E-2 View from south-southwest. October 3, 2007. Photograph by Martin/Martin.



E-3 View from southwest from parking area. October 3, 2007. Photograph by Martin/Martin.



E-4 View from northwest. Note repair to eave. October 3, 2007. Photograph by Martin/Martin.



E-5 View from northeast. Note that the barge rafter extensions are missing from the east gable. October 3, 2007. Photograph by Martin/Martin.



E-6 View of metal fence looking west along south side of parking area. October 3, 2007. Photograph by Chamberlin Architects.



E-7 Metal fence along south side of parking area. Note steel rail for support and buried bottom rail. October 3, 2007. Photograph by Chamberlin Architects.



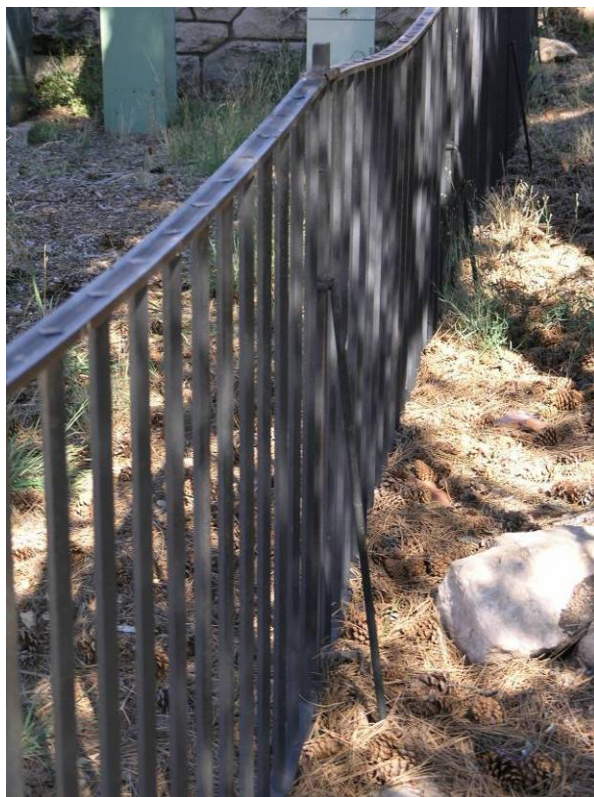
E-8 View of metal fence looking west. October 3, 2007. Photograph by Chamberlin Architects.



E-9 View of metal fence looking east. Note partially buried stone curb on the right side. October 3, 2007. Photograph by Chamberlin Architects.



E-10 Metal fence, southwest corner of parking area. Note sag in rails. October 3, 2007. Photograph by Chamberlin Architects.



E-11 Metal fence, west end of parking area. Note original bracing still in place. October 3, 2007. Photograph by Chamberlin Architects.



E-12 Gate on east side of Depot. October 3, 2007. Photograph by Chamberlin Architects.



E-13 Gate post. October 3, 2007. Photograph by Chamberlin Architects.



E-14 East end of metal fence and west end of rubble wall. October 3, 2007. Photograph by Chamberlin Architects.



E-15 View of rubble wall looking east. October 3, 2007. Photograph by Chamberlin Architects.



E-16 View looking west of railyard in front of the Depot. October 3, 2007. Photograph by Chamberlin Architects.



E-17 South elevation and view of platform. October 3, 2007. Photograph by Martin/Martin.



E-18 Center of South elevation. October 3, 2007. Photograph by Chamberlin Architects.



E-19 South elevation, east end. Door 104B to the left. October 3, 2007. Photograph by Chamberlin Architects.



E-20 West side of building. October 3, 2007. Photograph by Chamberlin Architects.



E-21 West elevation of covered waiting area. October 3, 2007. Photograph by Martin/Martin.



E-22 South side of covered waiting area. Note variation in gutter. October 3, 2007.
Photograph by Martin/Martin.



E-23 Center of north elevation. October 3, 2007. Photograph by Chamberlin Architects.



E-24 East side of building. October 3, 2007. Photograph by Chamberlin Architects.



E-25 South façade, southeast corner. Note reconstructed copper downspouts. October 3, 2007.
 Photograph by Chamberlin Architects.



E-26 South façade, southeast corner, below photo above. October 3, 2007. Photograph by
 Chamberlin Architects.



E-27 South façade, looking from east to west. October 3, 2007. Photograph by Chamberlin Architects.



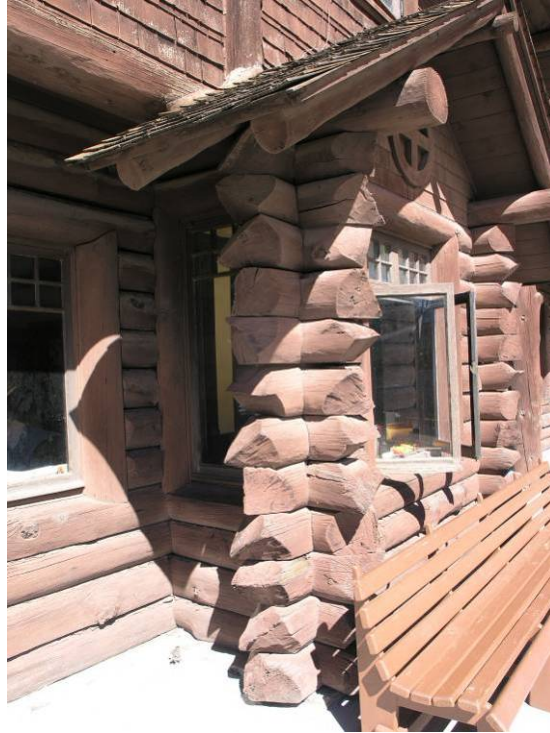
E-28 Same as photo above, but at top of column. October 3, 2007. Photograph by Chamberlin Architects.



E-29 South façade, door to freight room. Door 104B. Note wear on logs below the door.
October 3, 2007. Photograph by Chamberlin Architects.



E-30 South face of building, east window to office. Window 113. October 3, 2007.
Photograph by Chamberlin Architects.



E-31 South façade, looking northeast. Windows 114 to the right and 116 to the left. Window 115 is the shadow at center. October 3, 2007. Photograph by Chamberlin Architects.



E-32 South façade, door and windows to office. Door 101A and Window 116. Note deterioration of lower door casing. October 3, 2007. Photograph by Chamberlin Architects.



E-33 South façade. Doors 101A to the right and 102A to left. Windows 118 and 117. Note telephone cable coming into column. October 3, 2007. Photograph by Chamberlin Architects.



E-34 South façade. Door 102A to right. Note telephone cable and conduit attached to log column. These should be removed if possible. Also note discoloration of column. October 3, 2007. Photograph by Chamberlin Architects.



E-35 South façade, base of previous column. Note some deterioration around the base. October 3, 2007. Photograph by Chamberlin Architects.



E-36 South façade, southwest corner of building, covered waiting area beyond. Window 118 to right. October 3, 2007. Photograph by Chamberlin Architects.



E-37 South west corner. Note that leader is disconnected from gutter on the right. October 3, 2007. Photograph by Chamberlin Architects.



E-38 Same location as above, downspout/gutter detail. October 3, 2007. Photograph by Chamberlin Architects.



E-39 Southwest corner, base of downspout, covered terrace gate on the left, and Vestibule wall on left beyond gate. October 3, 2007. Photograph by Chamberlin Architects.



E-40 From the south looking northeast. Window 119. Collapsible gate is visible behind the column. October 3, 2007. Photograph by Chamberlin Architects.



E-41 West façade, south side. Note collapsible gate and track. October 3, 2007. Photograph by Chamberlin Architects.



E-42 West façade, south side. East end of collapsible gate. Note base track is covered. October 3, 2007. Photograph by Chamberlin Architects.



E-43 South side of covered waiting area looking northeast. At center is National Historic Landmark plaque. October 3, 2007. Photograph by Chamberlin Architects.



E-44 South side of covered waiting area looking south. Note collapsible gate and track. October 3, 2007. Photograph by Chamberlin Architects.



E-45 Southwest corner of covered waiting area. Note differential settlement of columns evident by the slope of the log spacer. October 3, 2007. Photograph by Chamberlin Architects.



E-46 Base of columns southwest corner of covered waiting area. October 3, 2007. Photograph by Chamberlin Architects.



E-47 Southwest corner of covered waiting area looking northeast. Roof drain leader, added in 1986, is not historic. Note wrought iron fence to the right. October 3, 2007. Photograph by Chamberlin Architects.



E-48 Northwest corner of covered waiting area, looking east. Note cracks in log columns. October 3, 2007. Photograph by Chamberlin Architects.



E-49 West elevation of vestibule. Door 111 and Window 120. October 3, 2007. Photograph by Chamberlin Architects.



E-50 Northwest corner of building, looking southeast. Window 201 is visible to upper left. October 3, 2007. Photograph by Chamberlin Architects.



E-51 Base of column on east side of covered waiting area. Note handrail attached to column, installed sometime after 1935. October 3, 2007. Photograph by Chamberlin Architects.



E-52 Handrail, looking to southwest corner of covered waiting area. October 3, 2007. Photograph by Chamberlin Architects.



E-53 Northwest corner of building. Window 121 on right. October 3, 2007. Photograph by Chamberlin Architects.



E-54 Northeast corner of building. Window 101. October 3, 2007. Photograph by Chamberlin Architects.



E-55 Northeast corner of building, base of downspout. October 3, 2007. Photograph by Chamberlin Architects.



E-56 North façade, northwest corner to right. October 3, 2007. Photograph by Chamberlin Architects.



E-57 North façade, looking east. Note deterioration at column bases. Also note the gaps between some of the wall logs. October 3, 2007. Photograph by Chamberlin Architects.



E-58 North façade, looking west. October 3, 2007. Photograph by Chamberlin Architects.



E-59 North façade, looking at second floor northwest corner. Windows 202 and 201. Window 214 is visible under the eave to the right. October 3, 2007. Photograph by Chamberlin Architects.



E-60 Looking southeast at second floor west wall. Windows 201 and 214. October 3, 2007. Photograph by Chamberlin Architects.



E-61 North façade, looking southwest. Window 205 is to the upper left. Note the wood piece nailed to the gable peak. This should be removed. October 3, 2007. Photograph by Chamberlin Architects.



E-62 Northeast corner of second floor. Windows 206 to far left, 205 and 204. October 3, 2007. Photograph by Chamberlin Architects.



E-63 North façade, looking at northeast corner of building. Note the large gapes between some of the logs. October 3, 2007. Photograph by Chamberlin Architects.



E-64 Northeast corner of building. Window 112 on left. October 3, 2007. Photograph by Chamberlin Architects.



E-65 East façade, gable vent. Note that the vent has been closed off. A suitable screen and louver should be installed. October 3, 2007. Photograph by Chamberlin Architects.



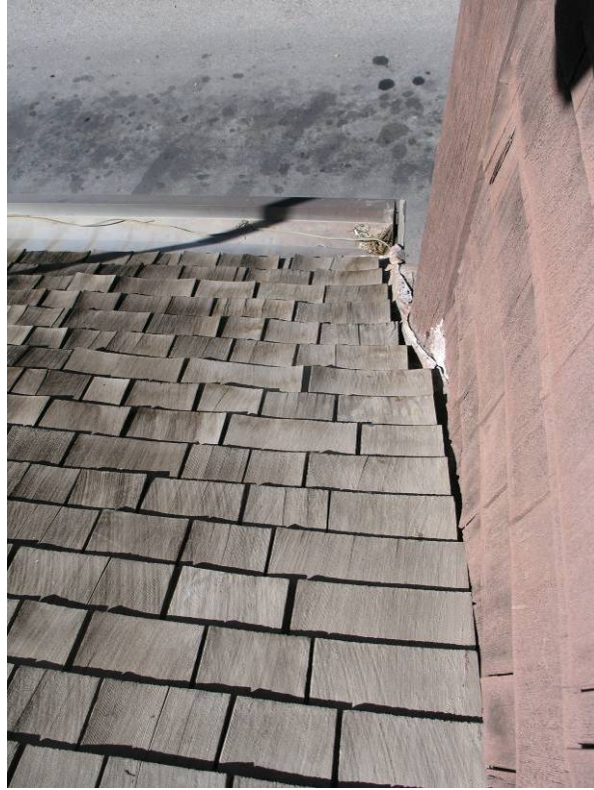
E-66 South facing roof over covered waiting area, looking west, taken from West Bedroom. October 3, 2007. Photograph by Chamberlin Architects.



E-67 North facing roof over covered waiting area, looking west, taken from West Bedroom through window screen. October 3, 2007. Photograph by Chamberlin Architects.



E-68 North facing side of roof, taken from Kitchen west window. October 3, 2007. Photograph by Chamberlin Architects.



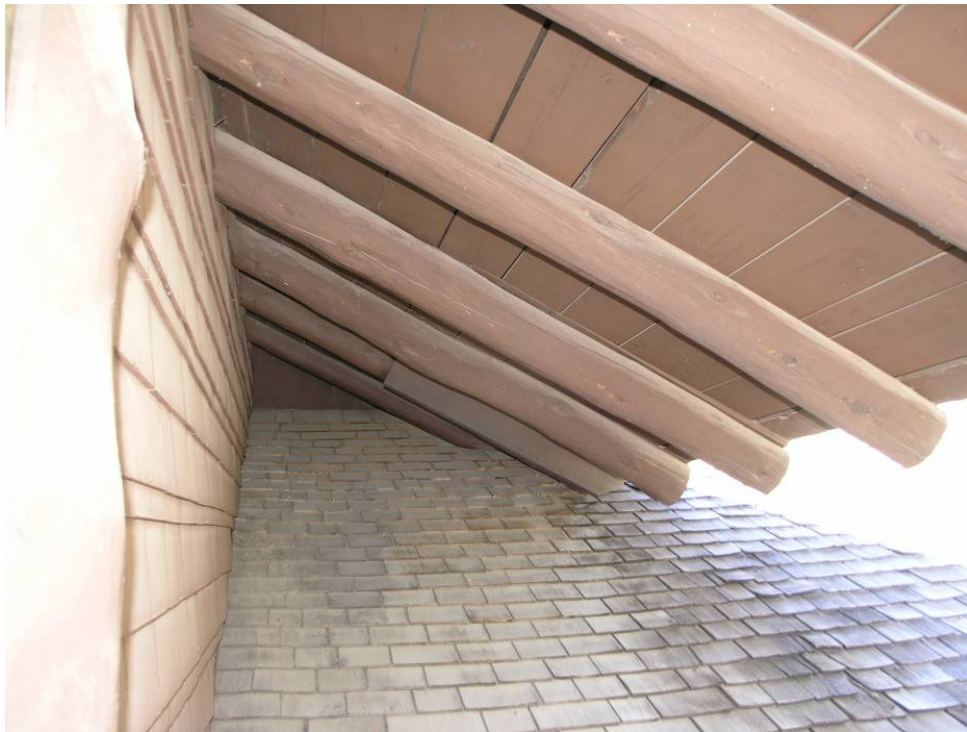
E-69 North facing side of roof, taken Kitchen window. October 3, 2007. Photograph by Chamberlin Architects.



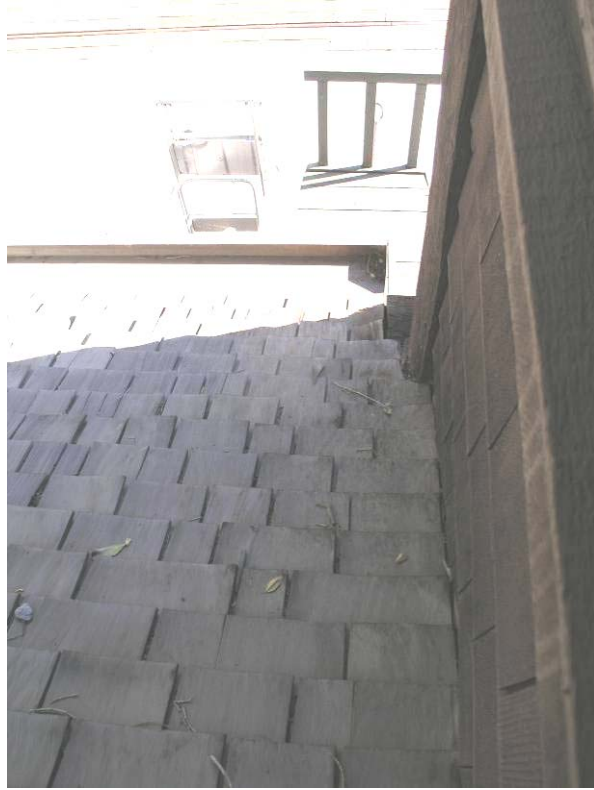
E-70 North facing side of roof, looking northeast, taken from North Bedroom. October 3, 2007. Photograph by Chamberlin Architects.



E-71 North facing side of roof, taken from North Bedroom window. October 3, 2007.
Photograph by Chamberlin Architects.



E-72 South facing side of roof, taken from South Bedroom window. October 3, 2007.
Photograph by Chamberlin Architects.



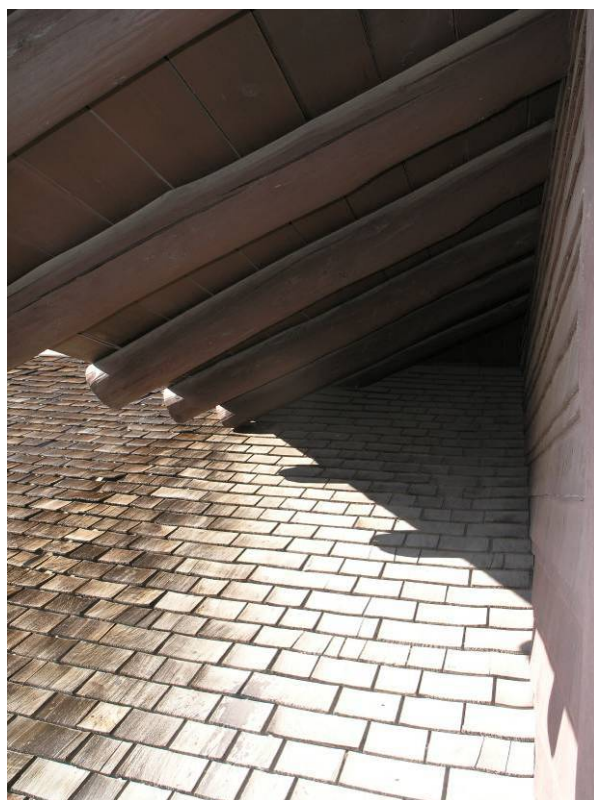
E-73 South facing side of roof, from South Bedroom window. October 3, 2007. Photograph by Chamberlin Architects.



E-74 South facing side of roof, looking east from South Bedroom, Eave of south bedroom roof above. October 3, 2007. Photograph by Chamberlin Architects.



E-75 Upper roof over South Bedroom, looking southeast. October 3, 2007. Photograph by Chamberlin Architects.



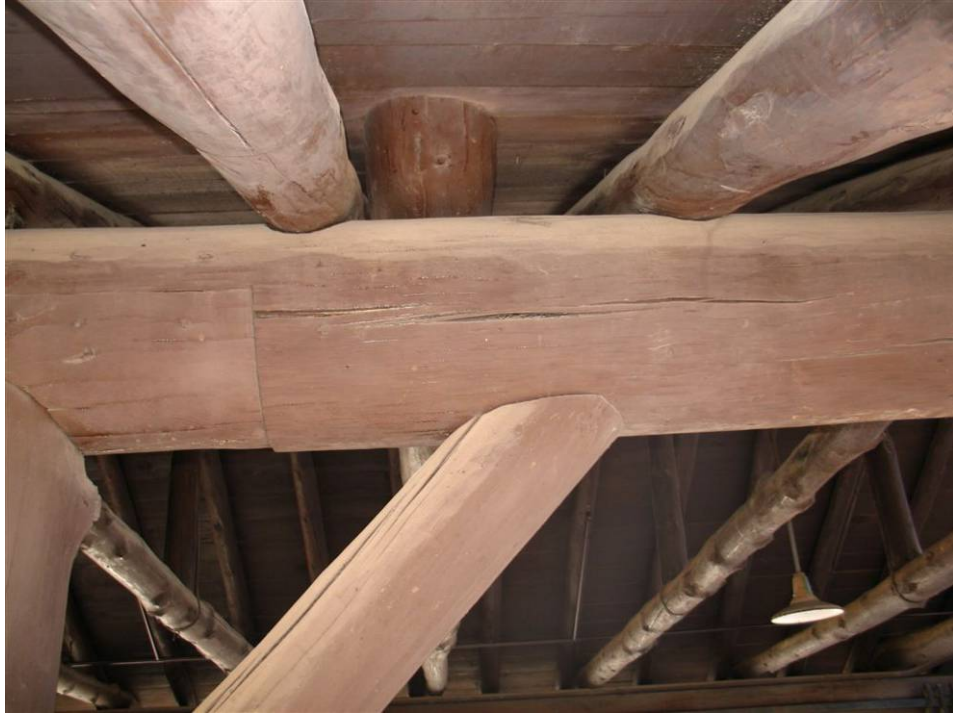
E-76 South facing side of roof, from Living Room window. October 3, 2007. Photograph by Chamberlin Architects.



E-77 South facing side of roof, from Living Room window. October 3, 2007. Photograph by Chamberlin Architects.



E-78 View of main roof looking west with west bedroom roof and covered waiting area roof beyond. Note damage to ridge boards. October 3, 2007. Photograph by Martin/Martin.



E-79 View of beam in Covered Waiting Area. Note longitudinal cracking. October 3, 2007.
 Photograph by Martin/Martin.



E-80 View of “Rubberoid” flashing. Note deterioration of exposed surface. October 3, 2007.
 Photograph by Chamberlin Architects.



E-81 Close up of restroom vent. Note deterioration of wood shingles October 3, 2007.
Photograph by Martin/Martin.



E-82 Top view of restroom vent. October 3, 2007. Photograph by Martin/Martin.



E-83 Close up of false barge rafter extensions at west roof. Note deterioration. October 3, 2007. Photograph by Martin/Martin.



E-84 West side of dormer at Pantry. Note loss of shingles. Also note cupping of roof shingles. October 3, 2007. Photograph by Martin/Martin.



E-85 Evidence of missing barge rafter extensions at east roof. October 3, 2007. Photograph by Martin/Martin.



E-86 Main upper roof looking south. Note deterioration of ridge board and cupping of the shingles, particularly on the east side. October 3, 2007. Photograph by Martin/Martin.



E-87 Main upper roof looking north. Note deterioration of ridge board and missing barge rafter extension. Note vertical board at gable end, possibly for radio antennae. October 3, 2007. Photograph by Martin/Martin.



E-88 Main roof, east side, looking north. Note cupping of roof shingles. October 3, 2007. Photograph by Martin/Martin.



E-89 Window 101. Note that the sash color of the existing windows is much lighter than historic photographs taken after about 1940. See photographs H-29 and succeeding photos. October 3, 2007. Photograph by Chamberlin Architects.



E-90 Windows 104, 103 & 102. Note the different type of glass in 104. October 3, 2007. Photograph by Chamberlin Architects.



E-91 Window 105. October 3, 2007. Photograph by Chamberlin Architects.



E-92 Window 106. October 3, 2007. Photograph by Chamberlin Architects.



E-93 Door 107A. October 3, 2007. Photograph by Chamberlin Architects.



E-94 Window 107. October 3, 2007. Photograph by Chamberlin Architects.



E-95 Door 106. October 3, 2007. Photograph by Chamberlin Architects.



E-96 Window 108. October 3, 2007. Photograph by Chamberlin Architects.



E-97 Window 109. October 3, 2007. Photograph by Chamberlin Architects.



E-98 Window 110. October 3, 2007. Photograph by Chamberlin Architects.



E-99 Window 111. October 3, 2007. Photograph by Chamberlin Architects.



E-100 Window 112. October 3, 2007. Photograph by Chamberlin Architects.



E-101 Door 104A. Note deterioration at base of casing. October 3, 2007. Photograph by Chamberlin Architects.



E-102 Door 104B. Note wear of logs below the door. Protection should be provided. October 3, 2007. Photograph by Chamberlin Architects.



E-103 Door 103A. Note traffic wear on door. October 3, 2007. Photograph by Chamberlin Architects.



E-104 Window 113. October 3, 2007. Photograph by Chamberlin Architects.



E-105 Window 114. October 3, 2007. Photograph by Chamberlin Architects.



E-106 Window 115. October 3, 2007. Photograph by Chamberlin Architects.



E-107 Window 116. October 3, 2007. Photograph by Chamberlin Architects.



E-108 Door 102A. Note deterioration at base of casing. October 3, 2007. Photograph by Chamberlin Architects.



E-109 Window 117. October 3, 2007. Photograph by Chamberlin Architects.



E-110 Door 101A. Note deterioration of door. October 3, 2007. Photograph by Chamberlin Architects.



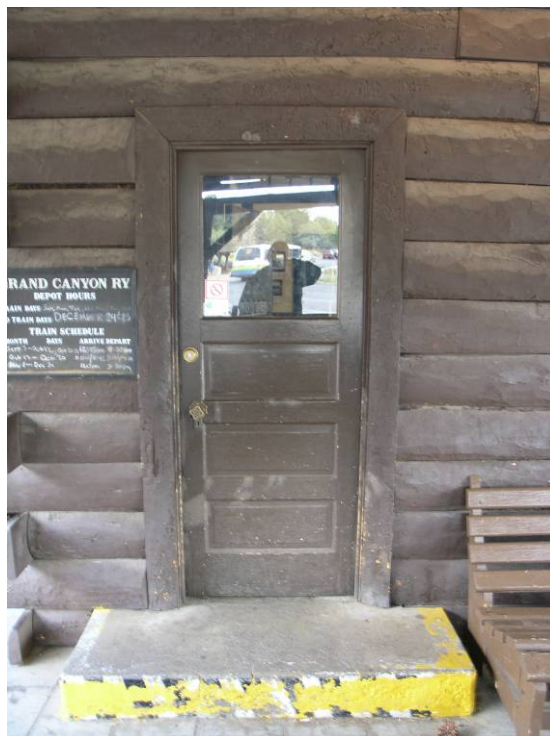
E-111 Window 118. October 3, 2007. Photograph by Chamberlin Architects.



E-112 Window 119. October 3, 2007. Photograph by Chamberlin Architects.



E-113 Window 120. October 3, 2007. Photograph by Chamberlin Architects.



E-114 Door 111. October 3, 2007. Photograph by Chamberlin Architects.



E-115 Door 101B. October 3, 2007. Photograph by Chamberlin Architects.



E-116 Window 121. October 3, 2007. Photograph by Chamberlin Architects.



E-117 Windows 201 & 214. October 3, 2007. Photograph by Chamberlin Architects.



E-118 Window 202. October 3, 2007. Photograph by Chamberlin Architects.



E-119 Window 203. October 3, 2007. Photograph by Chamberlin Architects.



E-120 Window 204. October 3, 2007. Photograph by Chamberlin Architects.



E-121 Window 205. October 3, 2007. Photograph by Chamberlin Architects.



E-122 Window 206. October 3, 2007. Photograph by Chamberlin Architects.



E-123 Window 208. October 3, 2007. Photograph by Chamberlin Architects.



E-124 Window 209. October 3, 2007. Photograph by Chamberlin Architects.



E-125 Window 210. October 3, 2007. Photograph by Chamberlin Architects.



E-126 Window 211. October 3, 2007. Photograph by Chamberlin Architects.



E-127 Window 213 & 212 (partial). October 3, 2007. Photograph by Martin/Martin.

4.2.3 2007 CONDITION INTERIOR PHOTOGRAPHS



I-1 Vestibule 111, northwest corner. Door 111 and Window 121. October 3, 2007.
Photograph by Chamberlin Architects.



I-2 Vestibule 111, Southwest corner. Window 121. October 3, 2007. Photograph by
Chamberlin Architects.



I-3 Vestibule 111, southeast corner. Door 101B October 3, 2007. Photograph by Chamberlin Architects.



I-4 Vestibule 111, northeast corner. Door 112 and 111. October 3, 2007. Photograph by Chamberlin Architects.



I-5 Vestibule Office 112, northwest corner. Door 112. October 3, 2007. Photograph by Chamberlin Architects.



I-6 Vestibule Office 112, northeast corner. Window 122. October 3, 2007. Photograph by Chamberlin Architects.



I-7 Vestibule Office 112, southeast corner. October 3, 2007. Photograph by Chamberlin Architects.



I-8 Vestibule Office 112, southwest corner. Windows 119 and 120. October 3, 2007. Photograph by Chamberlin Architects.



I-9 Waiting Room 101, East/South corner. October 3, 2007. Photograph by Chamberlin Architects.



I-10 Waiting Room 101, South wall, southwest corner. Windows 117 and 118. Door 101A. October 3, 2007. Photograph by Chamberlin Architects.



I-11 Waiting Room 101, west/north corner. Window 122 and Door 101B. October 3, 2007.
Photograph by Chamberlin Architects.



I-12 Waiting Room 101, northeast corner. Doors 101C and 101D. October 3, 2007.
Photograph by Chamberlin Architects.



I-13 Agent's Office 102, northwest corner. Doors 102B and 102C. October 3, 2007.
Photograph by Chamberlin Architects.



I-14 Agent's Office 102, north wall, northeast corner. Doors 102D and 107B. October 3, 2007. Photograph by Chamberlin Architects.



I-15 Agent's Office 102, east wall, northeast corner. Door 102E. October 3, 2007.
Photograph by Chamberlin Architects.



I-16 Agent's Office 102, southeast corner. Windows 113, 114 and 116. October 3, 2007.
Photograph by Chamberlin Architects.



I-17 Agent's Office 102, southwest corner of built in desk on south wall. Windows 114 and 115. October 3, 2007. Photograph by Chamberlin Architects.



I-18 Agent's Office 102, southwest corner. Window 115 and Doors 102A and 102B. October 3, 2007. Photograph by Chamberlin Architects.



I-19 Agent's Office 102 closet, centered on north wall of Agent's office. Door 102D. October 3, 2007. Photograph by Chamberlin Architects.



I-20 Agent's Office 102, from southwest corner of room, looking northeast at built in. October 3, 2007. Photograph by Chamberlin Architects.



I-21 Women's Restroom 110, south wall, southeast corner. Door 110. October 3, 2007.
 Photograph by Chamberlin Architects.



I-22 Women's Restroom 110, West wall. Window 101. October 3, 2007. Photograph by
 Chamberlin Architects.



I-23 Women's Restroom 110, southwest corner. Window 101. October 3, 2007. Photograph by Chamberlin Architects.



I-24 Women's Restroom 110, northwest corner. Windows 102 and 103. October 3, 2007. Photograph by Chamberlin Architects.



I-25 Women's Restroom 110, southeast corner. October 3, 2007. Photograph by Chamberlin Architects.



I-26 1st Floor Hall 109, North end. Window 104. Toledo scale. October 3, 2007. Photograph by Chamberlin Architects.



I-27 1st Floor Hall 109, south end. Door 101D. October 3, 2007. Photograph by Chamberlin Architects.



I-28 Accessible Restroom 109A, southwest corner. Door 109. October 3, 2007. Photograph by Chamberlin Architects.



I-29 Accessible Restroom 109A, southeast corner. October 3, 2007. Photograph by Chamberlin Architects.



I-30 Accessible Restroom 109A, northeast corner. Window 105. October 3, 2007. Photograph by Chamberlin Architects.



I-31 Men's Restroom West 106, south wall, southeast corner – door 105 to Men's restroom east. October 3, 2007. Photograph by Chamberlin Architects.



I-32 Men's Restroom West 106, southwest corner. October 3, 2007. Photograph by Chamberlin Architects.



I-33 Men's Restroom West 106, northwest corner. October 3, 2007. Photograph by Chamberlin Architects.



I-34 Men's Restroom East 105, northeast corner. Window 112. October 3, 2007. Photograph by Chamberlin Architects.



I-35 Men's Restroom East 105, northeast corner. October 3, 2007. Photograph by Chamberlin Architects.



I-36 Men's Restroom East 105, west wall, southwest corner on left. October 3, 2007. Door 105. Photograph by Chamberlin Architects.



I-37 Men's Restroom East 105, northwest corner. Door 105. Note floor access for steam pipes. October 3, 2007. Photograph by Chamberlin Architects.



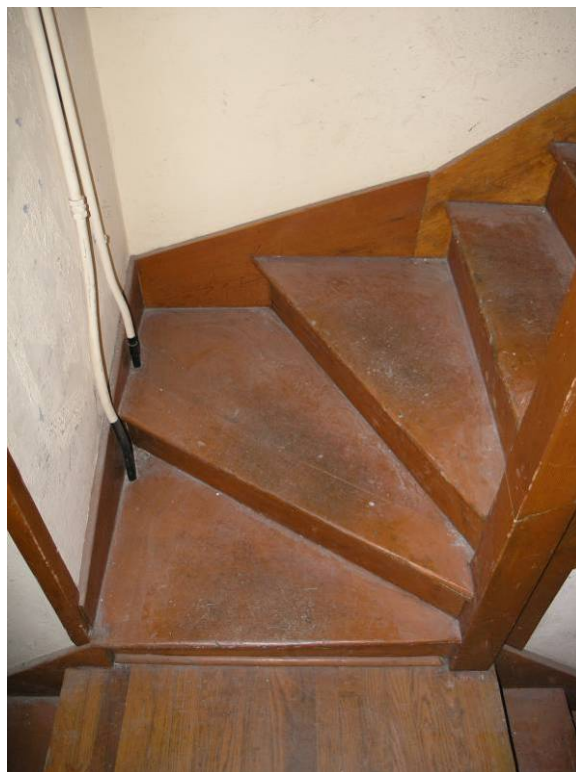
I-38 Stair 107, first floor north wall. Doors 108 and 107A. October 3, 2007. Photograph by Chamberlin Architects.



I-39 Stair 107, from outside looking toward Agent's Office 102. Door 108 to right and 107B beyond. October 3, 2007. Photograph by Chamberlin Architects.



I-40 Stair 107, from Agent's Office 102. Door 107B. October 3, 2007. Photograph by Chamberlin Architects.



I-41 Stair 107, West wall. October 3, 2007. Photograph by Chamberlin Architects.



I-42 Stair 107, northwest wall. October 3, 2007. Photograph by Chamberlin Architects.



I-43 Baggage Room 103, northwest corner. October 3, 2007. Photograph by Chamberlin Architects.



I-44 Baggage Room 103, northeast corner, door 103C to Freight Room. October 3, 2007. Photograph by Chamberlin Architects.



I-45 Baggage Room 103, southeast corner. Doors 103B and 103A. October 3, 2007.
Photograph by Chamberlin Architects.



I-46 Baggage Room 103, south wall, southwest corner, the open door to the right is door 102E. October 3, 2007. Chamberlin Architects Photo



I-47 Baggage Room 103, south end in cage looking northeast. October 3, 2007. Photograph by Chamberlin Architects.



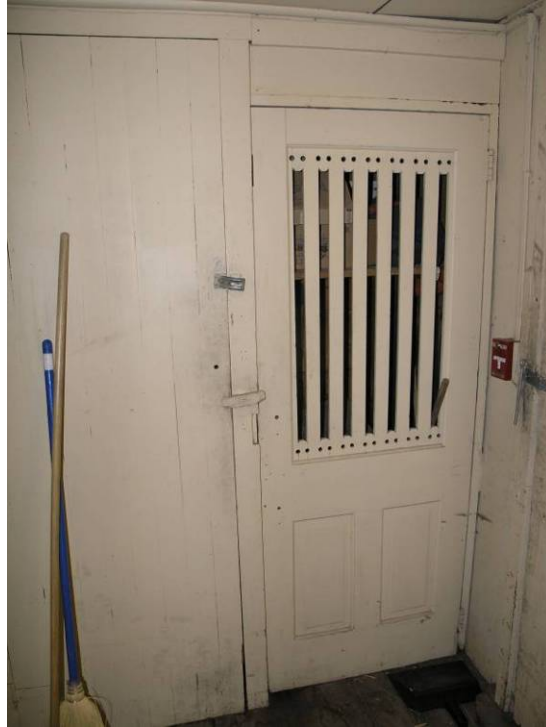
I-48 Baggage Room 103, south end in cage looking northwest. October 3, 2007. Photograph by Chamberlin Architects.



I-49 Freight Room 104, entry from Baggage room, looking east at northeast corner. October 3, 2007. Photograph by Chamberlin Architects.



I-50 Freight Room 104, east wall, northeast corner. Door 104A. October 3, 2007. Photograph by Chamberlin Architects.



I-51 Freight Room 104, northeast corner. October 3, 2007. Photograph by Chamberlin Architects.



I-52 Freight Room 104, southeast corner. October 3, 2007. Photograph by Chamberlin Architects.



I-53 Freight Room 104, southwest corner. October 3, 2007. Photograph by Chamberlin Architects.



I-54 Storage Room 108, southeast corner. October 3, 2007. Photograph by Chamberlin Architects.



I-55 Storage Room 108, southwest corner. October 3, 2007. Photograph by Chamberlin Architects.



I-56 Storage Room 108, northwest corner. Window 106. October 3, 2007. Photograph by Chamberlin Architects.



I-57 Storage Room 108, east wall, exit to stair. Door 108. October 3, 2007. Photograph by Chamberlin Architects.



I-58 Stair 107, north wall, northwest corner on left. Window 203 beyond. October 3, 2007. Photograph by Chamberlin Architects.



I-59 Stair 107, North Wall. Window 203. October 3, 2007. Photograph by Chamberlin Architects.



I-60 Stair 107, South wall, second floor to Hall. Door 205A. October 3, 2007. Photograph by Chamberlin Architects.



I-61 2nd Floor Hall 205, Doors 205A and 204. October 3, 2007. Photograph by Chamberlin Architects.



I-62 2nd Floor Hall 205, northeast corner. Doors 204 and 203. October 3, 2007. Photograph by Chamberlin Architects.



I-63 2nd Floor Hall 205, southeast corner. Doors 205B, 202A and 201. October 3, 2007.
Photograph by Chamberlin Architects.



I-64 2nd Floor Hall 205, southwest corner. Doors 202A and 201. October 3, 2007. Photograph
by Chamberlin Architects.



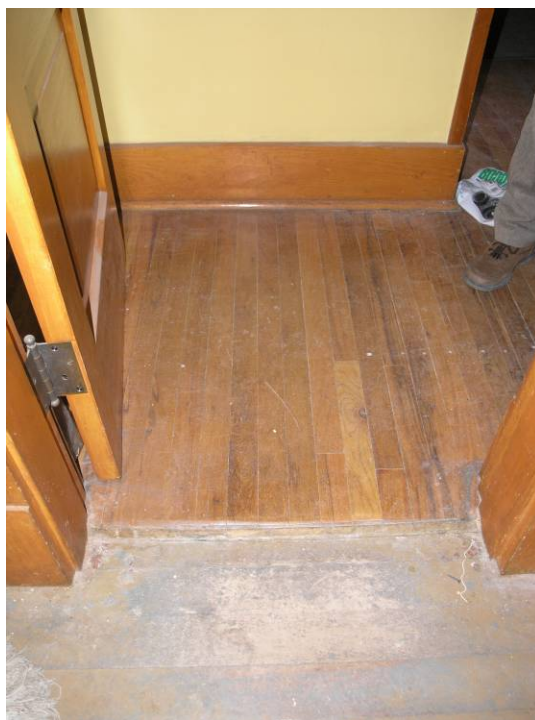
I-65 2nd Floor Hall 205 Closet, north wall. October 3, 2007. Photograph by Chamberlin Architects.



I-66 2nd Floor Hall 205 Closet, northeast corner. October 3, 2007. Photograph by Chamberlin Architects.



I-67 2nd Floor Hall 205 Closet, southeast corner – Fire Control Panel. October 3, 2007.
Photograph by Chamberlin Architects.



I-68 2nd Floor Hall 205 Closet, looking out into Hall 205. Note the change in floor level and material. Floor material in closet is possibly the original pine. May 2, 2008. Photograph by Chamberlin Architects.



I-69 Kitchen 206, southeast corner. Doors 206A and 206B. October 3, 2007. Photograph by Chamberlin Architects.



I-70 Kitchen 206, south wall, southwest corner. Door 206B. Note electric cove heater. October 3, 2007. Photograph by Chamberlin Architects.



I-71 Kitchen 206, north wall, northwest corner. Window 202. October 3, 2007. Photograph by Chamberlin Architects.



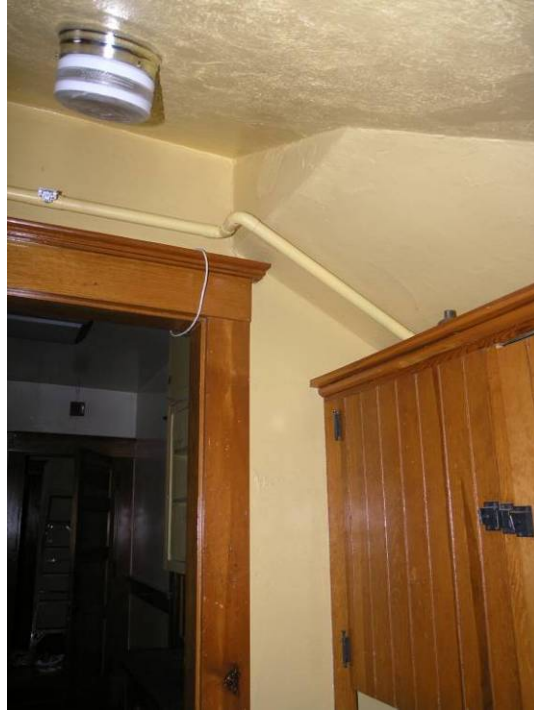
I-72 Kitchen 206, northeast corner. Window 202. October 3, 2007. Photograph by Chamberlin Architects.



I-73 Pantry 207, northwest corner. Door 208A and Window 214. October 3, 2007.
Photograph by Chamberlin Architects.



I-74 Pantry 207, northeast corner. Window 214 and Door 206C. October 3, 2007. Photograph
by Chamberlin Architects.



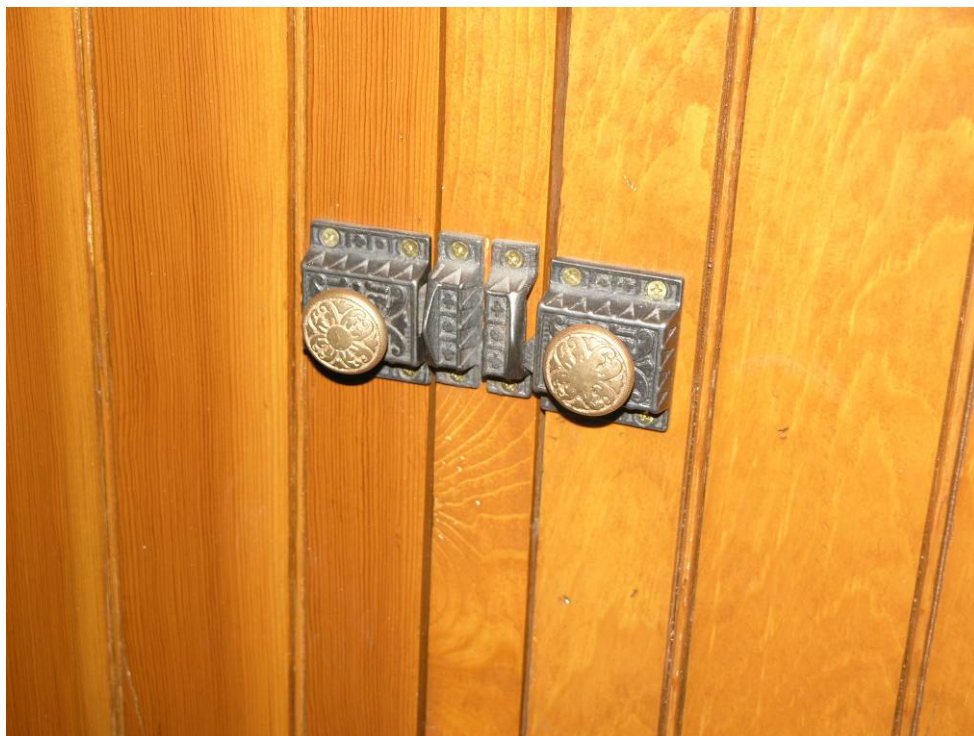
I-75 Pantry 207, southeast corner. Door 206C. October 3, 2007. Photograph by Chamberlin Architects.



I-76 Pantry 207, southwest corner. Door 208A. October 3, 2007. Photograph by Chamberlin Architects.



I-77 Pantry 207. Close up of hardware, possibly original. May 2, 2008. Photograph by Chamberlin Architects.



I-78 Pantry 207. Close up of hardware, possibly original. May 2, 2008. Photograph by Chamberlin Architects.



I-79 Living Room 201, southeast corner. Window 209. October 3, 2007. Photograph by Chamberlin Architects.



I-80 Living Room 201, southwest corner. Windows 210 and 211. Note electric cove heaters. October 3, 2007. Photograph by Chamberlin Architects.



I-81 Living Room 201, northwest corner, door to Kitchen. Door 206B. October 3, 2007.
 Photograph by Chamberlin Architects.



I-82 Living Room 201, looking north. Doors 206B and 201. October 3, 2007. Photograph by
 Chamberlin Architects.



I-83 West Bedroom 208, southwest corner. Window 212. October 3, 2007. Photograph by Chamberlin Architects.



I-84 West Bedroom 208, northwest corner. Window 213. October 3, 2007. Photograph by Chamberlin Architects.



I-85 West Bedroom 208, northeast corner, left wall of doors to attic, door 208a on right.
October 3, 2007. Photograph by Chamberlin Architects.



I-86 West Bedroom 208, east wall, southeast corner. Doors 208A and 208B. October 3, 2007.
Photograph by Chamberlin Architects.



I-87 West Bedroom 208 Closet, northeast corner. October 3, 2007. Photograph by Chamberlin Architects.



I-88 West Bedroom 208 Closet, southeast corner, door to attic. October 3, 2007. Photograph by Chamberlin Architects.



I-89 Attic Space from West Bedroom 208 Closet. October 3, 2007. Photograph by Chamberlin Architects.



I-90 North Bedroom 204, northeast corner. Windows 204 and 205. October 3, 2007. Photograph by Martin/Martin



I-91 North Bedroom 204, northwest corner. Window 204. October 3, 2007. Photograph by Martin/Martin.



I-92 North Bedroom 204, southwest corner. Door 204. October 3, 2007. Photograph by Martin/Martin.



I-93 North Bedroom 204, southeast corner. Window 205. October 3, 2007. Photograph by Martin/Martin.



I-94 South Bedroom 202, northwest corner. Door 202A. October 3, 2007. Photograph by Martin/Martin.



I-95 South Bedroom 202, northeast corner. Door 202B. October 3, 2007. Photograph by Chamberlin Architects.



I-96 South Bedroom 202, southeast corner. Windows 207 and 208. October 3, 2007. Photograph by Martin/Martin.



I-97 South Bedroom 202, southwest corner. Window 208. October 3, 2007. Photograph by Martin/Martin.



I-98 Bathroom 203, east wall. Window 206. October 3, 2007. Photograph by Chamberlin Architects.



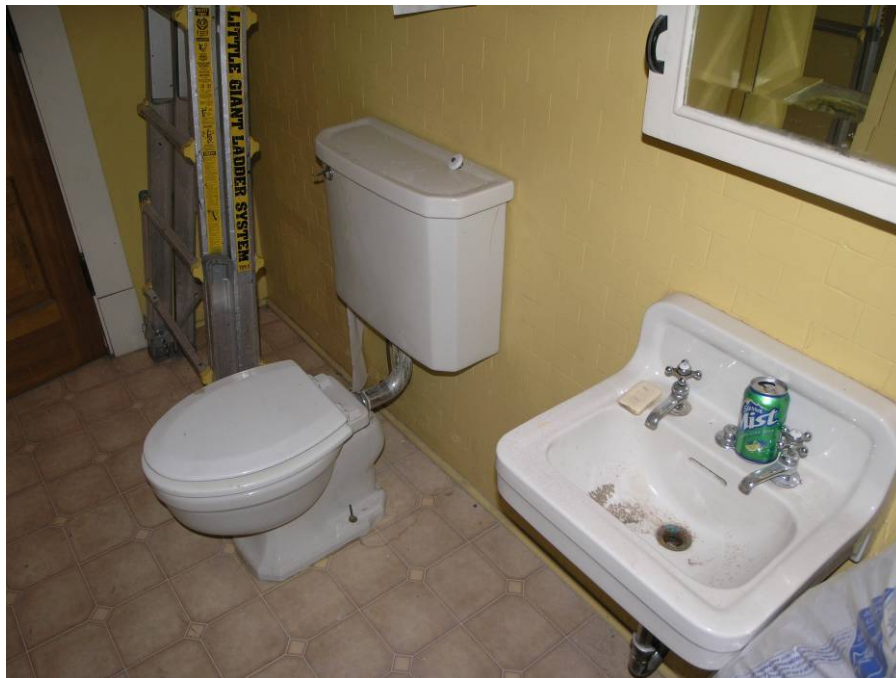
I-99 Bathroom 203, southeast corner. Note trim wrap around onto south wall. May 2, 2008.
 Photograph by Chamberlin Architects.



I-100 Bathroom 203, south wall. October 3, 2007. Photograph by Chamberlin Architects.



I-101 Bathroom 203, west wall. Door 203 and attic access hatch. October 3, 2007.
Photograph by Chamberlin Architects.



I-102 Bathroom 203, northwest corner. October 3, 2007. Photograph by Chamberlin Architects.



I-103 Attic space, accessed from second floor restroom, looking northwest. October 3, 2007.
 Photograph by Chamberlin Architects.



I-104 Northwest corner of attic space. October 3, 2007. Photograph by Chamberlin Architects.



I-105 North wall of attic space. Window 301. October 3, 2007. Photograph by Chamberlin Architects.



I-106 Northeast corner of attic space. October 3, 2007. Photograph by Chamberlin Architects.



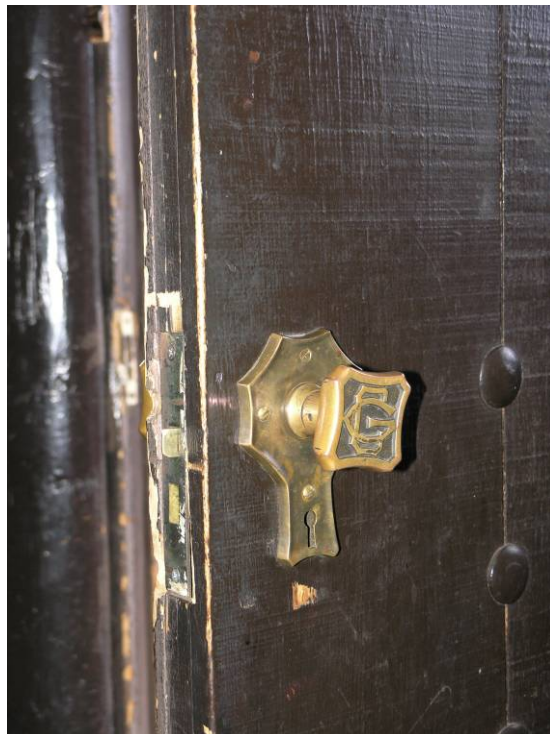
I-107 South end of attic, window to south façade of building. October 3, 2007. Photograph by Chamberlin Architects.



I-108 Attic space looking southwest. Note leak in fire sprinkler line. October 3, 2007. Photograph by Chamberlin Architects.



I-109 South wall of attic space. Window 302. October 3, 2007. Photograph by Chamberlin Architects.



I-110 Typical first floor "GC" hardware. October 3, 2007. Photograph by Chamberlin Architects.



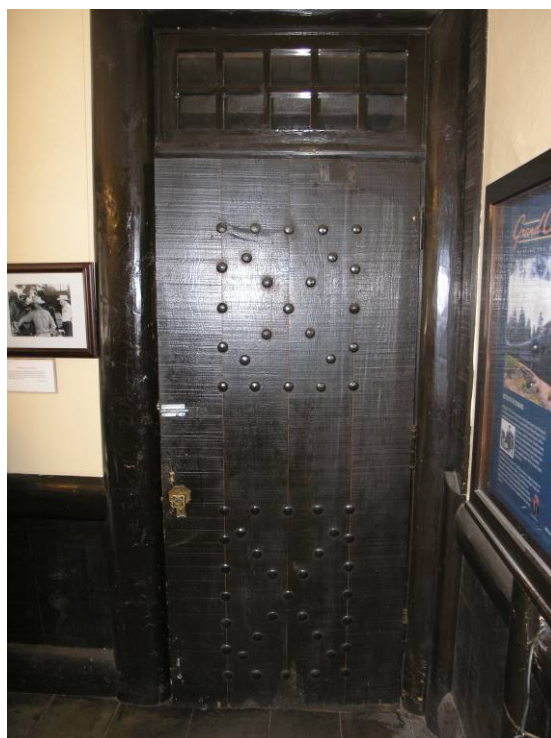
I-111 Door 111. October 3, 2007. Photograph by Chamberlin Architects.



I-112 Door 112. October 3, 2007. Photograph by Chamberlin Architects.



I-113 Door 101A. October 3, 2007. Photograph by Chamberlin Architects.



I-114 Door 101B. October 3, 2007. Photograph by Chamberlin Architects.



I-115 Door 101C. October 3, 2007. Photograph by Chamberlin Architects.



I-116 Ticket Window from Waiting Room 101. October 3, 2007. Photograph by Chamberlin Architects.



I-117 Ticket Window from Agent's Office 102. October 3, 2007. Photograph by Chamberlin Architects.



I-118 Door 102A. October 3, 2007. Photograph by Chamberlin Architects.



I-119 Door 102C. October 3, 2007. Photograph by Chamberlin Architects.



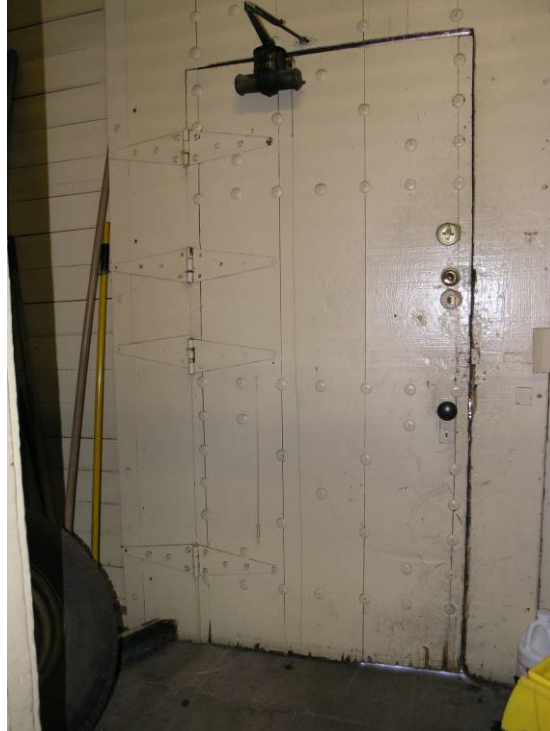
I-120 Door 102D. October 3, 2007. Photograph by Chamberlin Architects.



I-121 Door 107B (left) and partial door 102E. Note wood cabinets mounted on wall between the doors. Conflict with Door 107B. October 3, 2007. Photograph by Chamberlin Architects.



I-122 Door 102E. October 3, 2007. Photograph by Chamberlin Architects.



I-123 Door 103A. October 3, 2007. Photograph by Chamberlin Architects.



I-124 Door 103B. October 3, 2007. Photograph by Chamberlin Architects.



I-125 Door 103C. October 3, 2007. Photograph by Chamberlin Architects.



I-126 Door 104A. Note decorative cabinet door to the left. October 3, 2007. Photograph by Chamberlin Architects.



I-127 Door 104B. October 3, 2007. Photograph by Chamberlin Architects.



I-128 Door 105 from Men's Restroom West 106. October 3, 2007. Photograph by Chamberlin Architects.



I-129 Door 106. October 3, 2007. Photograph by Chamberlin Architects.



I-130 Door 107A. Door 108 to left. October 3, 2007. Photograph by Chamberlin Architects.



I-131 Door 109 to left, 101D center and 110 to right. October 3, 2007. Photograph by Chamberlin Architects.



I-132 Door 110. Door 101C to right. October 3, 2007. Photograph by Chamberlin Architects.



I-133 Typical second floor “GC” hardware. October 3, 2007. Photograph by Chamberlin Architects.



I-134 Door 204. Typical of second floor doors. May 2, 2008. Photograph by Chamberlin Architects.



I-135 Head of Door 208A. Note door head and casing are cut to match slope of ceiling. Also note vertical orientation of door panels. October 3, 2007. Photograph by Chamberlin Architects.

4.2.4 2007 CONDITION MECHANICAL PHOTOGRAPHS



M-1: Women's Restroom 110 Lavatories. Photograph by MKK.



M-2: Mens's Restroom 106 Water Closet. Compare to fixture in Women's Restroom [Photograph M-13] Photograph by MKK.



M-3: Men's Restroom 106 Urinals. Note marble floor, wainscot and partitions. Photograph by MKK.



M-4: Men's Restroom 106 Floor Drain. Photograph by MKK.



M-5: Women's Restroom 110 Lavatory Bowl and Trim. Note staining of bowl. Photograph by MKK.



M-6: Copper Downspouts. Photograph by Chamberlin Architects.



M-7: ADA Family Restroom. Photograph by MKK.



M-8: Freight Room Service Sink. Photograph by MKK.



M-9: Kitchen Sink. Photograph by MKK.



M-10: Cove Heater Unit-Mounted Thermostat. Photograph by MKK.



M-11: Cove Heater Discoloration. Photograph by MKK.



M-12: Wood Ventilation Duct. Photograph by MKK.



M-13: Womens's Restroom 110 Water Closet. Note that the women's fixtures appear to be more modern compared to men's [Photograph M-2. Photograph by Chamberlin Architects.

4.2.5 2007 CONDITION ELECTRICAL PHOTOGRAPHS



EL-1: Main Electrical Service. Photograph by MKK.



EL-2: Panel "B" in existing fuse box location. Photograph by MKK.



EL-3: Panel “C” in stair landing. Photograph by MKK.



EL-4: Replica Chandelier in Waiting Room. Photograph by MKK.



EL-5: One-Lamp Luminaire. Photograph by MKK.



EL-6: Luminaire in covered exterior waiting area. Photograph by MKK.



EL-7: Telecommunication cabling leaving closet. Photograph by MKK.



EL-8: Existing fire alarm control panel. Photograph by MKK.

4.3.1 1903 PROPOSED PASSENGER DEPOT DRAWING

DRAWING № 80—4054.

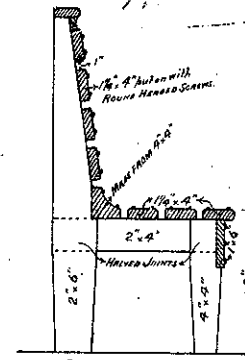
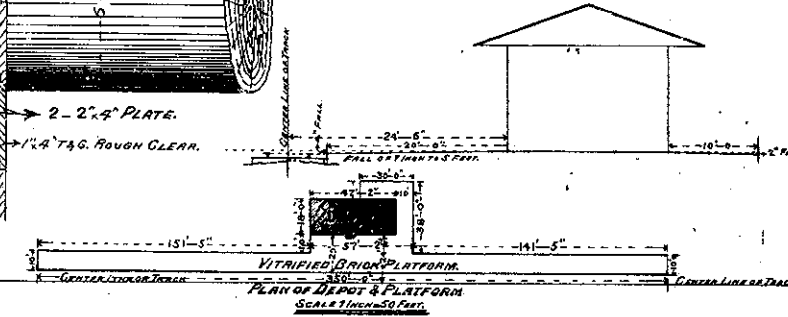
५५

SCALES $\frac{1}{4}$ INCH = 1 INCH & 1 FOOT
1 " = 50 FEET.

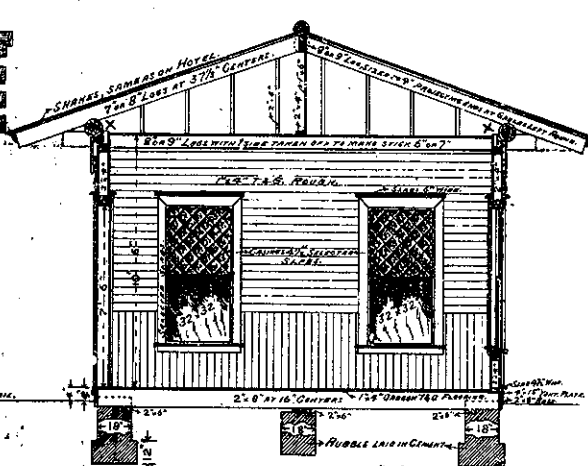
Approved

Chief Engineer

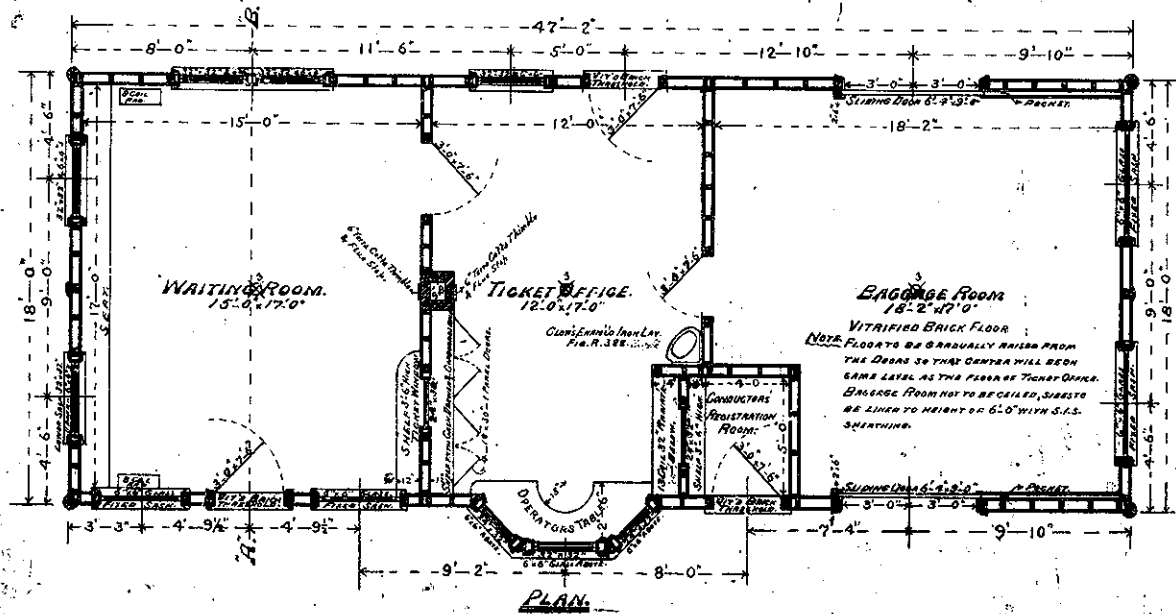
Sept 30th 1985.



SECTION OF SEAT
SCALE 1 INCH = 1 FOOT.

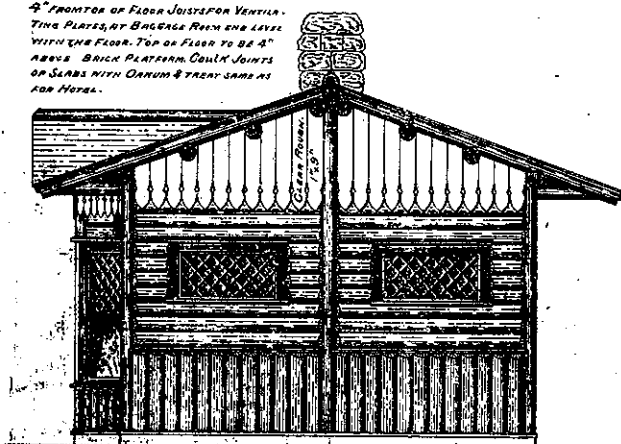


SECTION ON LINE "R"



Notes:

GARRY FOUNDATION WALLS UP TO WITHIN
4" FRONT OF FLOOR JOISTS FOR VENTIL-
ATING PLATE, AT BAGGAGE ROOM END LEVEL
WITH THE FLOOR. TOP OF FLOOR TO BE 4"
ABOVE BRICK PLATFORM. CONJ. JOINTS
OF SLABS WITH ORNAM. & TREAS. SAME AS
FOR HOTEL.



BAGGAGE ROOM END ELEVATION.

35	Cub Yds Stone Foundations	100.1 Yds.	\$5.00
500	Common Brick Flue	8,000 - lbs.	9.00
	Freight on above 1/4 Ton	6,375 - lbs.	7.97
2	Buchel's Lime (For Brick Flue)	20 - B.	.40
17	Bl. Zinc Cement	211 - B.	35.87
	Freight on above from Albuquerque 3.4 Tons	9,725 - lbs.	16.75
34	Cub Yds Filling Floor Baggage Room	1,000 - Y.	34.00
600	for Platform	1,000 - "	600.00
30000	Santa Fe N.M. Vitrified Brick for Baggage Room Platform	10,000 - "	300.00
	Freight on above 82.5 Tons	5,287.5 - lbs.	477.75
106	Cub Yds Sand	50 - Yds.	53.00
	Freight on above Haviland To Williams 132 1/2 Tons	2,530 - lbs.	354.00

LUMBER.						
24	Pieces 2" x 8" x 18' 0"	Arizona Pine	For Joists	576		
100	" 1" x 6" x 12' 0"	"	" Ties & Bracing for Piles	600		
24	" 2" x 4" x 12' 0"	"	" Cable Stays & Furring	192		
10	" 2" x 6" x 12' 0"	"	" Wall Plate	120		
				<u>1488</u>	15,000 L.M.	82.32
4000	FL.B.M. 8" x 12' 0"	"	" S.I.S. Sheathing	4000		
130	Pieces 2" x 4" x 12' 0"	"	" Sigs in 3/4" Studing & Plates	1040		
130	" 2" x 12' 0"	"	" Strips for Roof	320		
				<u>3320</u>	16,500 L.M.	88.11
50	" 1" x 9" x 12' 0"	"	" Choir for Samed Work	450		
2	" 2" x 8" x 20' 0"	"	" Outside Base	53		
2	" 2" x 8" x 18' 0"	"	"	48		
4	" 2" x 8" x 16' 0"	"	"	86		
				<u>637</u>	3000 L.M.	19.11
1	" 4" x 4" x 12' 0"	"	" S.A.S. Legs for Seat	16		
1	" 1" x 6" x 18' 0"	"	" S.A.S. Front of "	9		
10	" 1 1/2" x 4" x 18' 0"	"	" S.A.S. Slat for "	90		
1	" 4" x 4" x 18' 0"	"	" S.A.S. "	24		
2	" 2" x 6" x 12' 0"	"	" S.A.S. "	24		
1	" 2" x 4" x 16' 0"	"	" S.A.S. "	11		
1	" 1 1/2" x 12" x 14' 0"	"	" S.A.S. Shelving	21		
1	" 1 1/2" x 14" x 12' 0"	"	" S.A.S. "	21		
2	" 1" x 12" x 16' 0"	"	" S.A.S. " etc.	32		
2	" 1" x 8" x 16' 0"	"	" S.A.S. Cupboard	22		
1800	FL.B.M. 1" x 4" x 16' 0"	"	" T&G. Floor & Clear	1800		
300	" 1" x 4" x 12' 0"	"	" T&G. "	360		
				<u>2370</u>	34,500 L.M.	82.77
100	Pieces 9" x 3' 6"	"	" Selected Slabs	840		
30	" 9" x 3' 0"	"	"	135		
20	" 9" x 4' 0"	"	"	120		
20	" 9" x 5' 0"	"	"	150		
30	" 9" x 7' 0"	"	"	315		
100	" 9" x 9' 0"	"	"	1800		
				<u>2370</u>	15,000 L.M.	43.65
19	Loes Diams 9" x 21' 0"	"	" 2016 B.M. Ceiling Joists	374 L.A.		
19	" 9" x 16' 0"	"	" 1536 " Floor Bridge	288		
40	" 8" x 14' 0"	"	" 2364 " Floor Joist	564		
8	" 8" x 12' 0"	"	" 928 " Corner Posts etc	96		
				<u>5315</u>	22,000 L.M.	200.00
				<u>1322</u>		

Freight on above Flagstaff & Williams 18320 P.B.M.	27.75	172.50	290.25
3500 Full count Redwood or Cedar Shakes	3.50	1500.00	52.50
400 F.B.M. 1" x 4" 16.0" Oregon Pine T&G Flooring	7.00	38.40	26.40
300 " " 1" x 12.0" "	9.75	6.375	26.25
Freight on above Los Angeles to Williams	9.75	6.375	26.25

Los Angeles to Williams
MILL WORK.

[illegible]

Los Angeles to Flagstaff.
HARDWARE.

6	- 4 1/2 Ventilation Plates with Screens	6	.35		2.10
12	- 3x18 Anchor Bolts (nut or cone end)	12	.05		.60
12	- Coat Washers & 12 Coat Washers all for 1/2" Bolts		.40		
36	- 1/2 x 18 Drill Bolts	36	.05		1.80
400	- Lin. Fit 1/2" Pipe for Water Service	400'	.10		40.00
400	= 1/2" - 1/2" galvanized pipe	400'	.20		80.00
7	- 13 Coat 32 Moulders			97 1/2 Reel 15 ft	11.25
2	- " 32 "				2.25
	- Engineered Iron Corner Lintels R378, Clow's 1902 Cat.				6.25
	- 6 1/2" x 2 1/2" Lin. Feet Flanges Covering for 1/2" Pipe				16.25
3	- 3 Lin. Electric Fixtures & Wiring	9	7.00		63.00
4	- Workman Anchors 1/2" x 3 1/2" x 4" punched for 1/2" Lag Screws	60	.04		2.40
2	- Pair Manassah Bay Door Hangers, with Screens		1.65		3.30
2	- 12 Plans Q & B Down-Door Rail	24	.16		2.40
2	- Heavy Hinged Halls	2	.05		.10
2	- N°3 Extra Heavy Barn Door Pulls "	4	.05		.20
4	- A.T&S F.P. Standard Lockets with Chain's staples	2	1.00		2.00
3	- Front Doors Sets 3 1/2" N°3894 U.S.Bay Co. Cat. 6 page 213 with Screen	3	3.00		9.00
2	- Inside " " 3 1/2" N° 7893 "	2	.75		1.50
9	- Ives Sash Locks " " N° 650 "	8	.50		4.00
10	- " Lifts " " N° 638 "	362	.10		36.20
7 1/2	- Pair 4'x6' 1/2" Wat Steel Baths N°3. "	235	.74		174.10
4	- " 2' x 2' " N°30. "	4	.49		1.96
2	- 2" Yale Cupboard Locks N°3512. "	300	2	1.90	2.80
1	- 2" Secure Lever Inner Locks N°277. "	304	1	.70	2.70
4	- Galv. Rubber Cement Floor Paint (Dark Lead)	4	1.00		4.00
22	- Cobalt's Cressida Stains & Harmonics with those used on Hotel	22	1.00		22.00
100	- 1/4" 20 Nails Common		2.45		2.45
200	" 20 "		4.80		4.80
300	" 10 "		2.55		7.65
36	" 6 "		2.65		.95
2	- Ships 10xg Copper 20 wide x 8' 0" long for Valleys	17 1/2	.30		5.10
9	- Fields 4000 Spr. Ft Mutual Board, Flat Roofs Sigd 3 Ply Paper	8	1.25		10.00
1	- Grass N°12 - 2 1/2" Round Head Blood Steel Screws (for Seat)				1.50
2	- 6 Terra Cotia Thimble & 2 Flue Pipes				1.00
12	- 1/2 x 4" Lag Screws (for Angle Irons)	12	.05		.60
	Freight on above				100.00

LABOR. ^{As 23 1/2 % 3}

15	Out Yds Excavation (Building)	1.00	15.00
45	" " Steam & Water Pipes	1.00	45.00
35	" " Stone Foundations	3.50	122.50
12	Lin Feet Chimney	2.00	24.00
	30 M Brick for Platform	4.00	120.00
	Carpenter Labor on 1922 Ft Lumber	18.00	360.00
	135 Square Shingles	1.00	35.00
	16 Doors & Windows	1.00	18.00
	Caulking & Sealing		50.00
	Plumbing & Steam Fitting		100.00
	Painting - 600 Sq Yds	12	72.00

Add 10% for Supervision 54.75

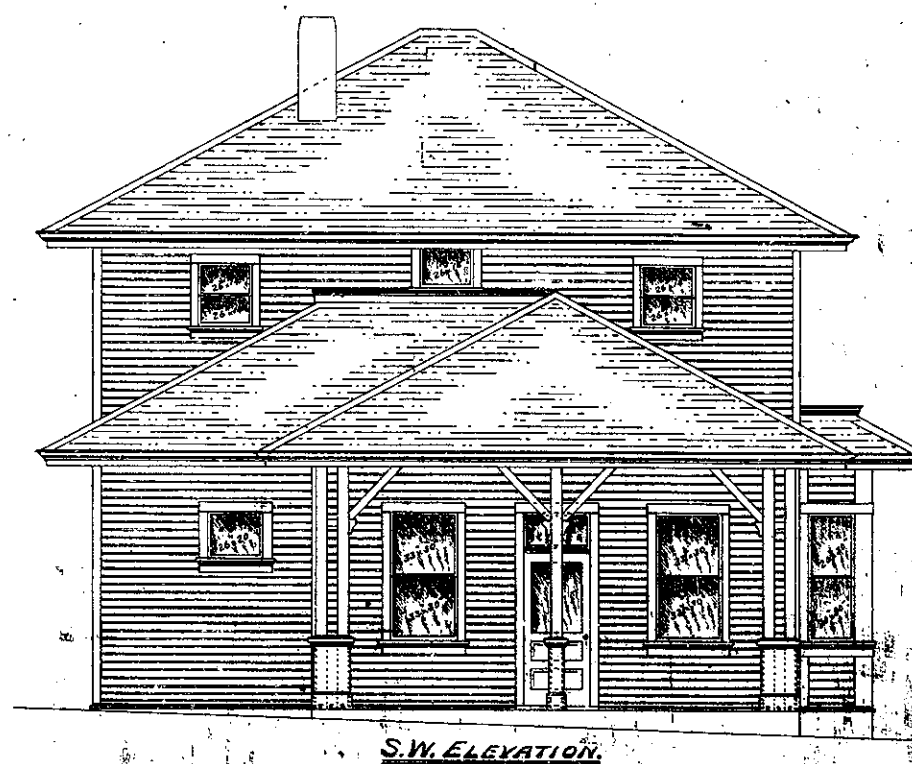
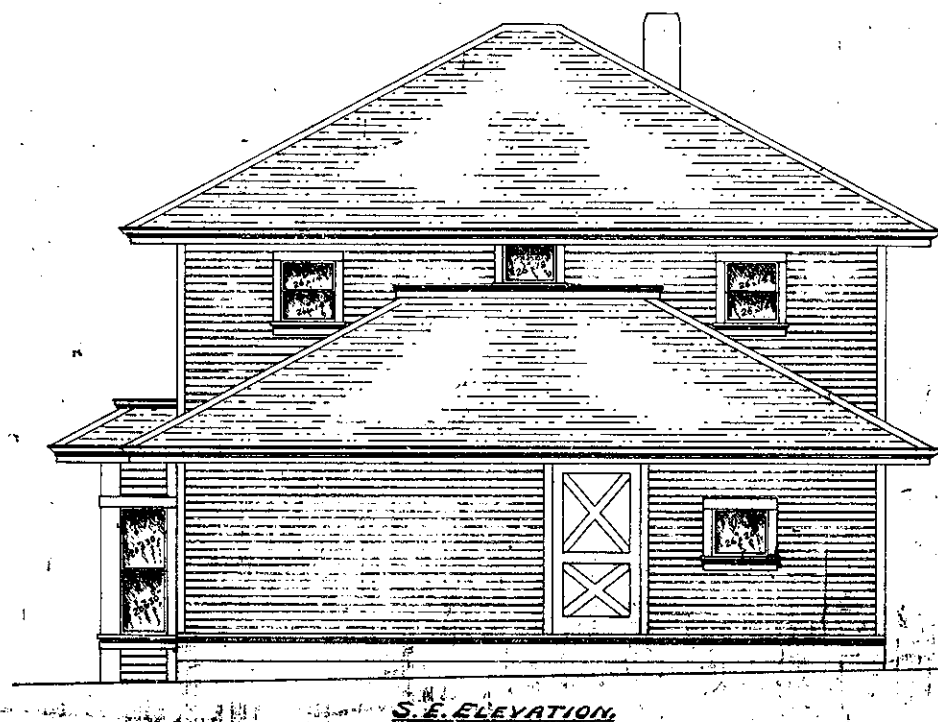
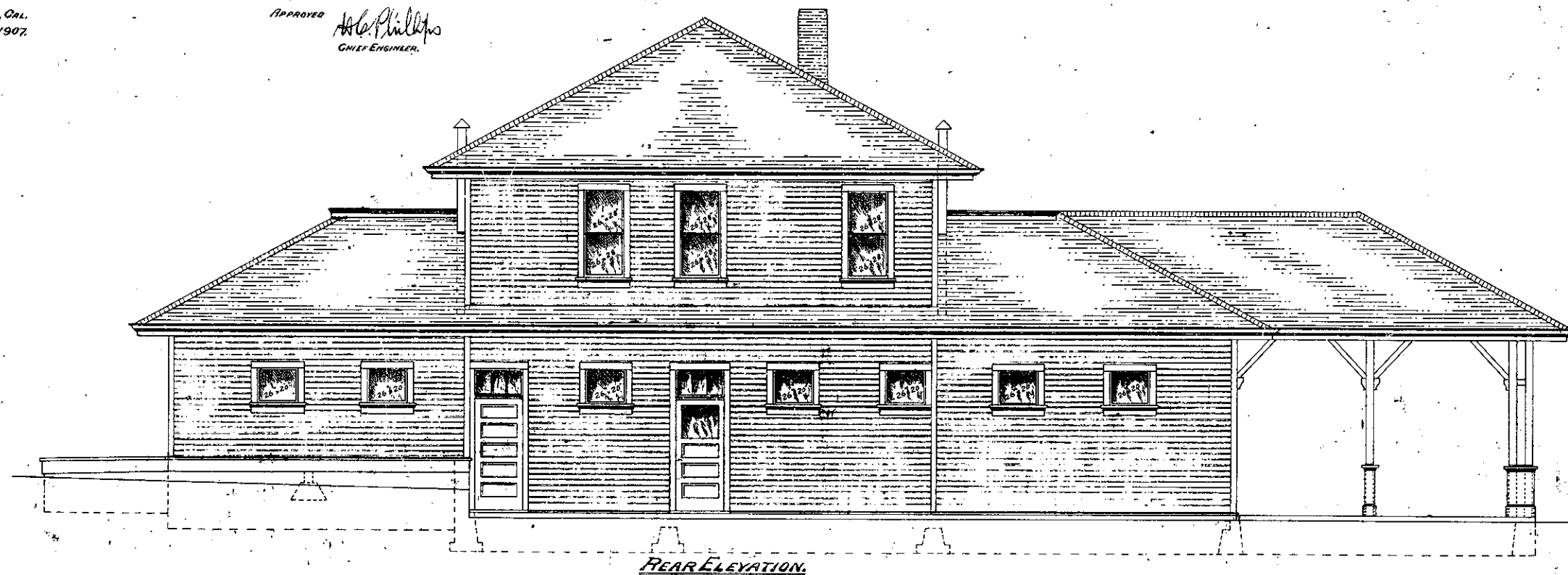
113/60624 1 of 5

4.3.2 1907 PROPOSED DEPOT DRAWINGS

THE GRAND CANYON RAILROAD CO.
4 SHEETS. DRAWING NO. 83-7770. SHEET NO. 2.
PROPOSED DEPOT
AT
GRAND CANYON, ARIZONA.
SCALE 1/4" = 1 FOOT.

LOS ANGELES, CAL.
SEPTEMBER, 1907.

APPROVED
H. Phillips
CHIEF ENGINEER.

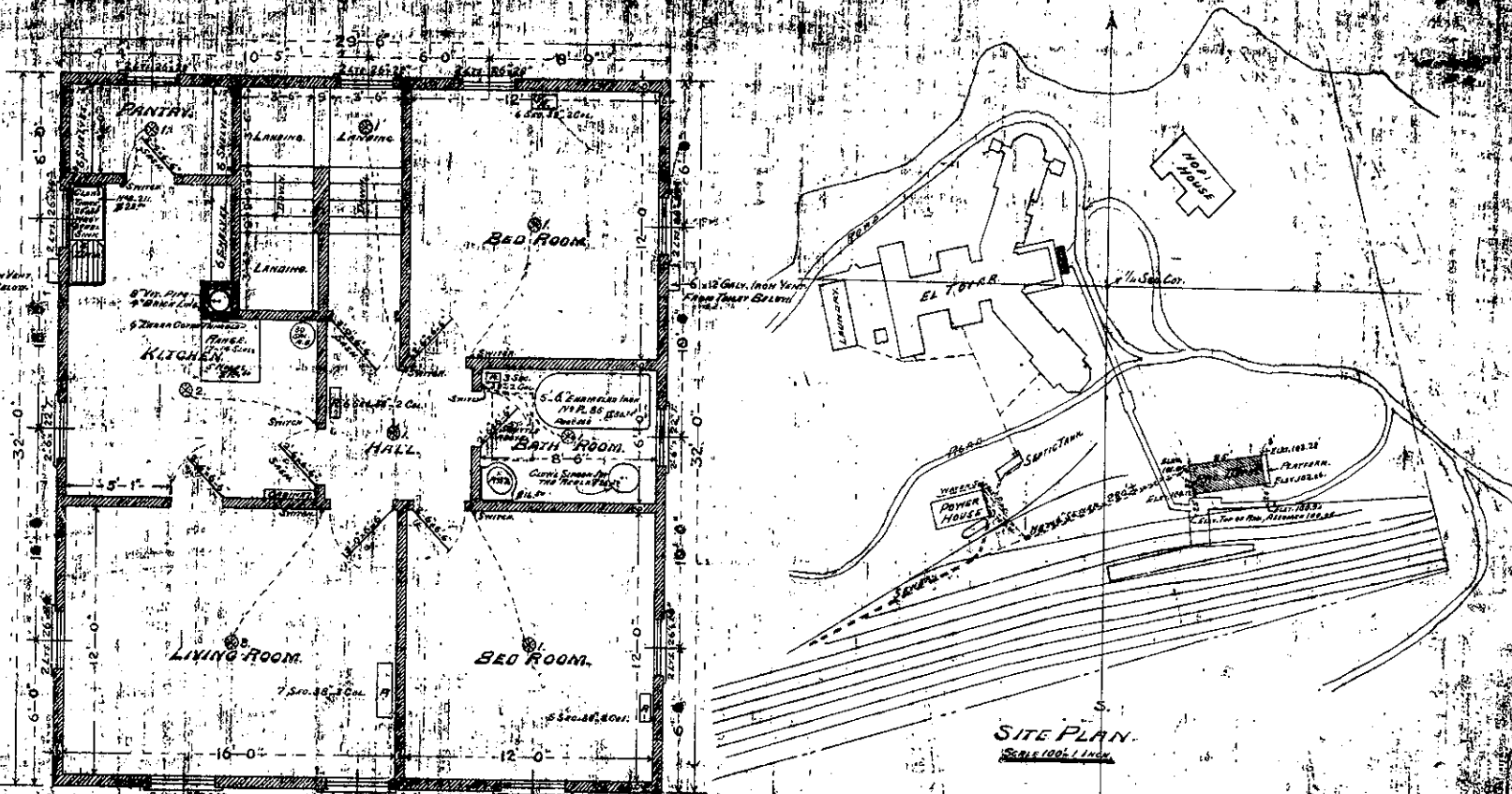


THE GRAND CANYON RAILROAD CO.
DRAWING NO. 83.7770 SHEET NO. 2
PROPOSED DEPOT
AT
GRAND CANYON, ARIZONA.
SCALE 1/4" INCH = 1 FOOT

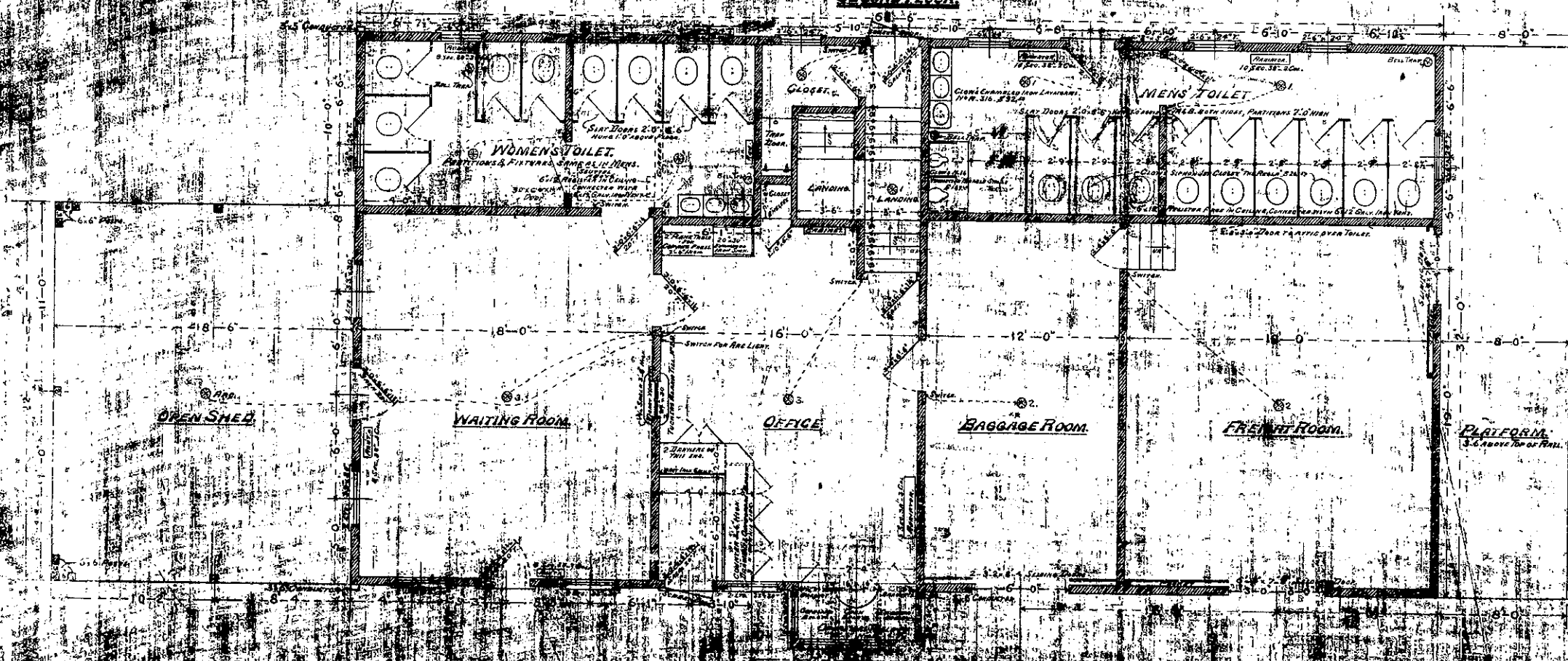
LOS ANGELES, CALIF.
SEPTEMBER, 1907

APPROVED
H. Phillips
CHIEF ENGINEER

6x12 Galvanized Iron
Pole Trolley Support



SECOND FLOOR

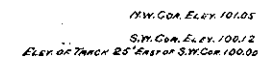


FIRST FLOOR

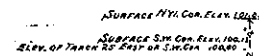
LOS ANGELES, CAL.
SEPTEMBER, 1907.

APPROVED

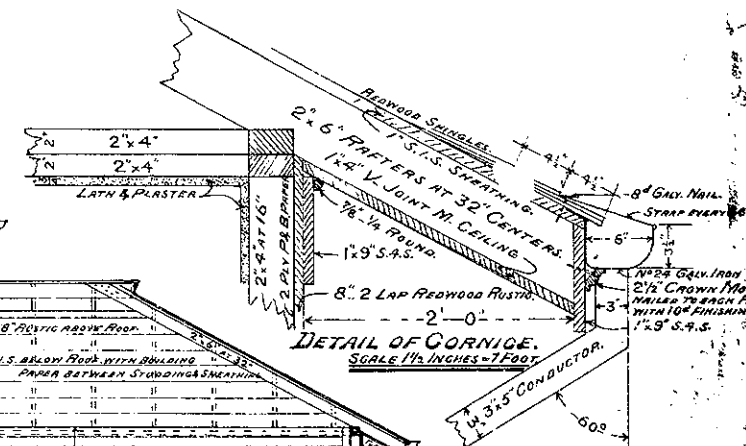
W. C. Phillips
CHIEF ENGINEER.



FRONT ELEVATION
SCALE 1/4" = 1 FOOT



SECTION ON LINE "A-B"



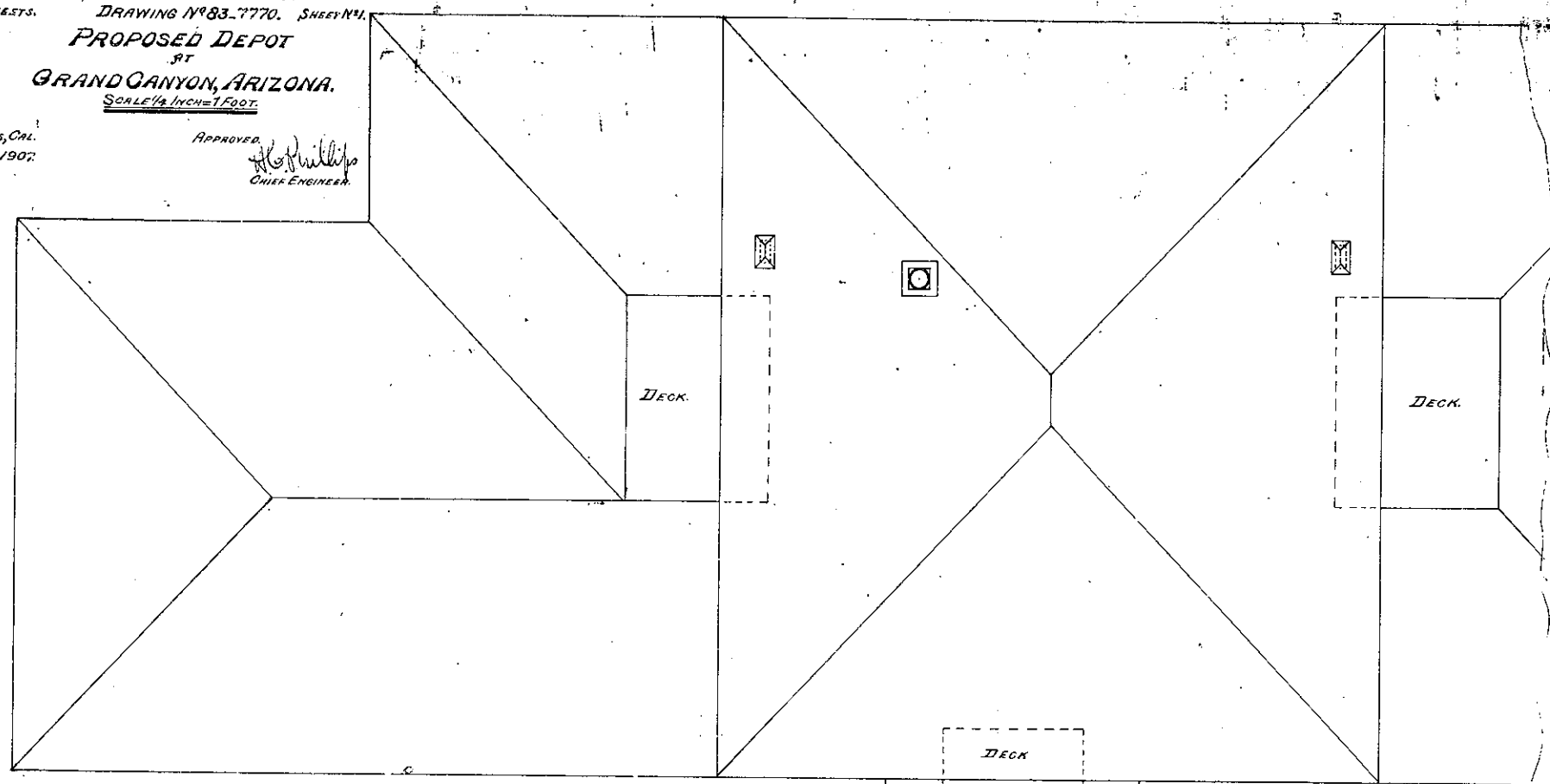
DETAIL OF CORNICE.
SCALE 1 1/2 INCHES = 7 FEET.

113/6062
4 of 5

THE GRAND CANYON RAILROAD CO.
 DRAWING NO. 83-7770. SHEET NO. 1
PROPOSED DEPOT
 AT
GRAND CANYON, ARIZONA.
 SCALE 1/4" = 1 FOOT.

LOS ANGELES, CAL.
 SEPTEMBER, 1907.

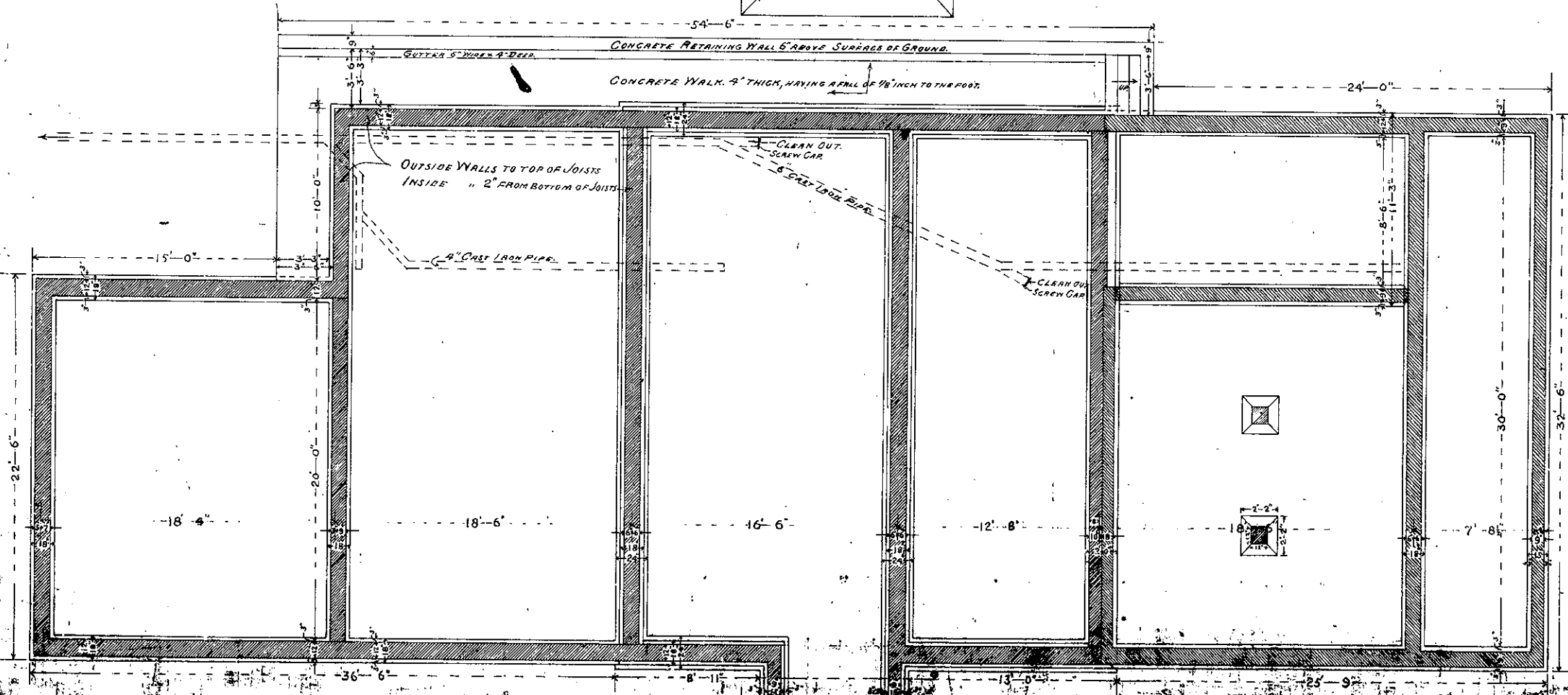
APPROVED
H. Phillips
 CHIEF ENGINEER



ROOF PLAN.

Bill of Material and Labor

Material		
53	Cub. Yds. of Concrete	@ 4.00 Yd. \$ 212.00
581	Sq. Plaster	14 - 123.34
500	Brick 8" x 8" x 16" of V.P. Pipe for Flue	22 - 9.20
24	Lin. Ft. 6" x 12" Galv. Iron Vent. with 2 Register & caps	12.00
135	Sq. Yds. of Cement finish on floors etc.	36 Yd. 18.60
14940	Mill Work	22.00 M. 22.00
7178	Surface	25.00 - 17.45
3366	1x4 2x6 T & G Flooring O.P.	33.60 - 111.07
3090	1x4 T & G Vd for Wainscoting, Partitions etc.	35.00 - 99.00
433	Rough Lumber R.W.	38.00 - 17.21
602	Surface R.W.	41.50 - 36.88
1000	1x4 1x6 Vd for Corbice R.W.	43.00 - 43.00
3000	8" x 12" Plaster for cornice etc.	24.25 - 129.00
975	Lin. All Mill Work (as per bid)	559.88
2	Screen Doors & Windows screens	4.50 M. 35.60
2800	Sq. Ft. of 3/8" 2 Ply Building Paper	2.65 Yd. 12.60
44	3 Ply Ruberoid Roofing	116.60
404	Lin. Ft. 3x6 Galv. Iron Gutter	25 Ft. 101.00
55	3x6 Galv. Iron Gutter	25 - 16.50
900	1000 G. Mill counter in office	75 - 26.25
	Nails	2.40 H. 21.60
	Iron Anchors & Bolts etc.	5.00
	All Hardware	346.82
	Plumbing (as per bid)	1.40 G. 13.00
	Steam Heating (as per bid)	350.00
	Electric fixtures and wiring	204.10
		\$ 4733.15
	Add 32% for Handling	\$ 1656.5
		\$ 4898.78
Labor		
To labor on placing		
53	Cub. Yds. Concrete	@ 5.00 Yd. \$ 265.00
581	Sq. Plaster	22 - 193.82
500	Brick 8" x 8" x 16" of V.P. Pipe	15.00
24	Lin. Ft. of Vent. Pipe etc.	5.00
135	Sq. Yds. of Cement finish	45 - 60.75
33964	Mill Work	25.00 M. 849.10
	Mill Work	179.00
	Screen doors & Screen Windows	7.00
2800	Sq. Ft. 3/8" 2 Ply Building Paper	12.00
44	3 Ply Ruberoid Roofing	1.35 Yd. 39.40
	Galv. Iron Gutter & Conductors	15.00
	Iron Gutter	3.00
1646	Sq. Yds. Painting	20 Yd. 329.20
	Plumbing & Heating work	800.00
	Electric work	84.00
225	Cub. Yds. Excavating	70 Yd. 168.75
		\$ 3048.52
	Add 10% for Supervision	\$ 304.85
		\$ 3353.37
		TOTAL \$ 8252.15



FOUNDATION PLAN.

113/60624
 5 of 5

4.3.3 1909 CONSTRUCTION DRAWINGS

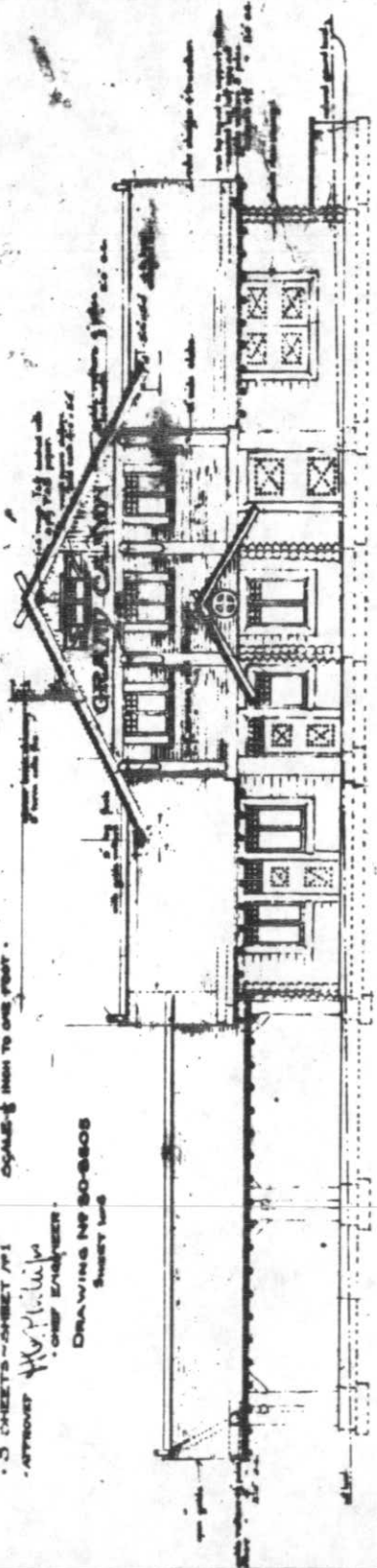
STATION TO BE BUILT AT GRAND CANYON.
 FOR THE GRAND CANYON RAILROAD COMPANY.
 FRANCIS W. WILSON
 ARCHITECT.

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

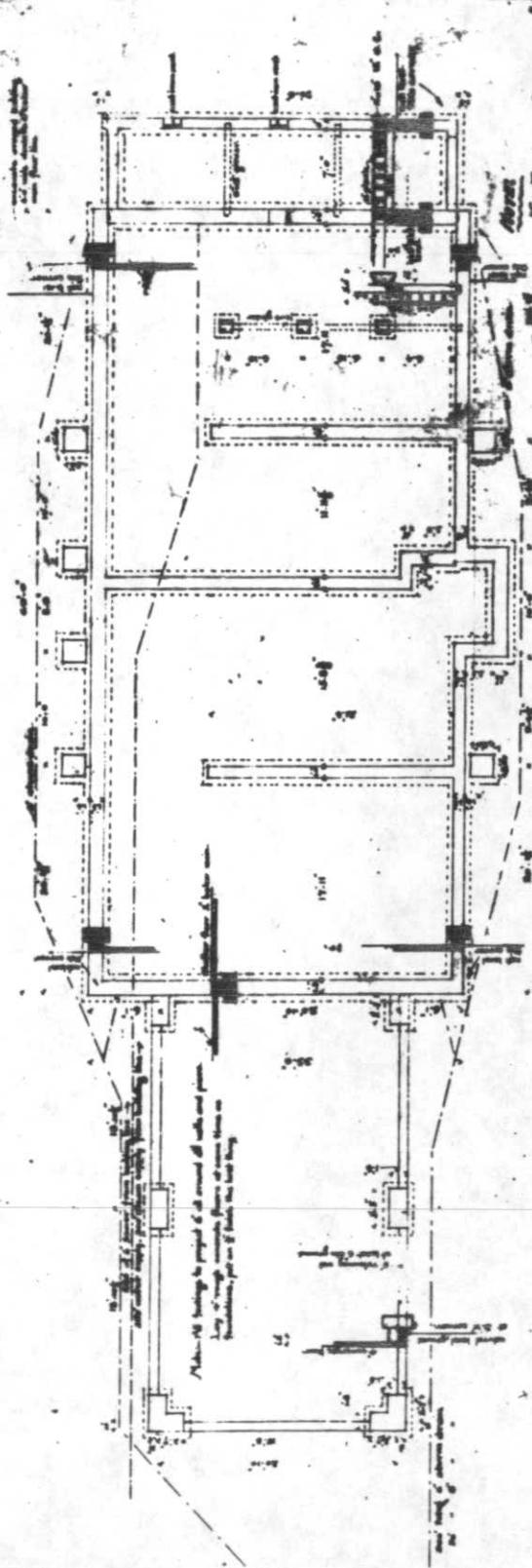
3 SHEETS - SHEET NO. 1

APPROVED *W. H. Wilson*
 CHIEF ENGINEER

DRAWING NO. 20-8808
 SHEET TWO



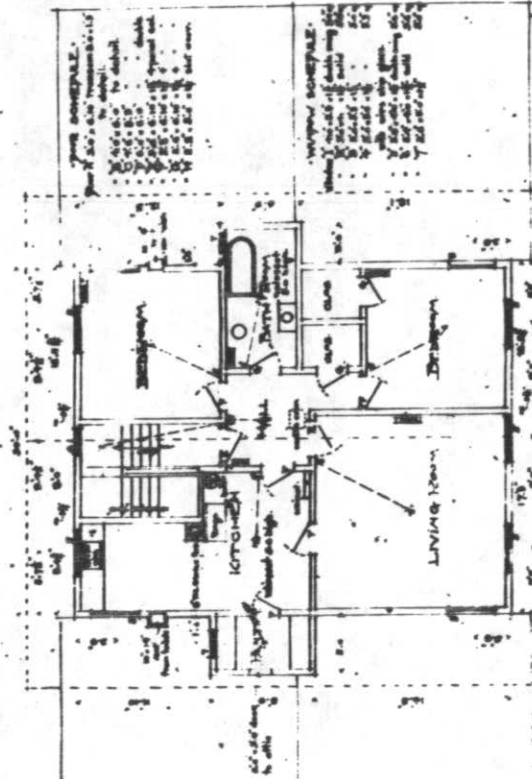
FRONT ELEVATION



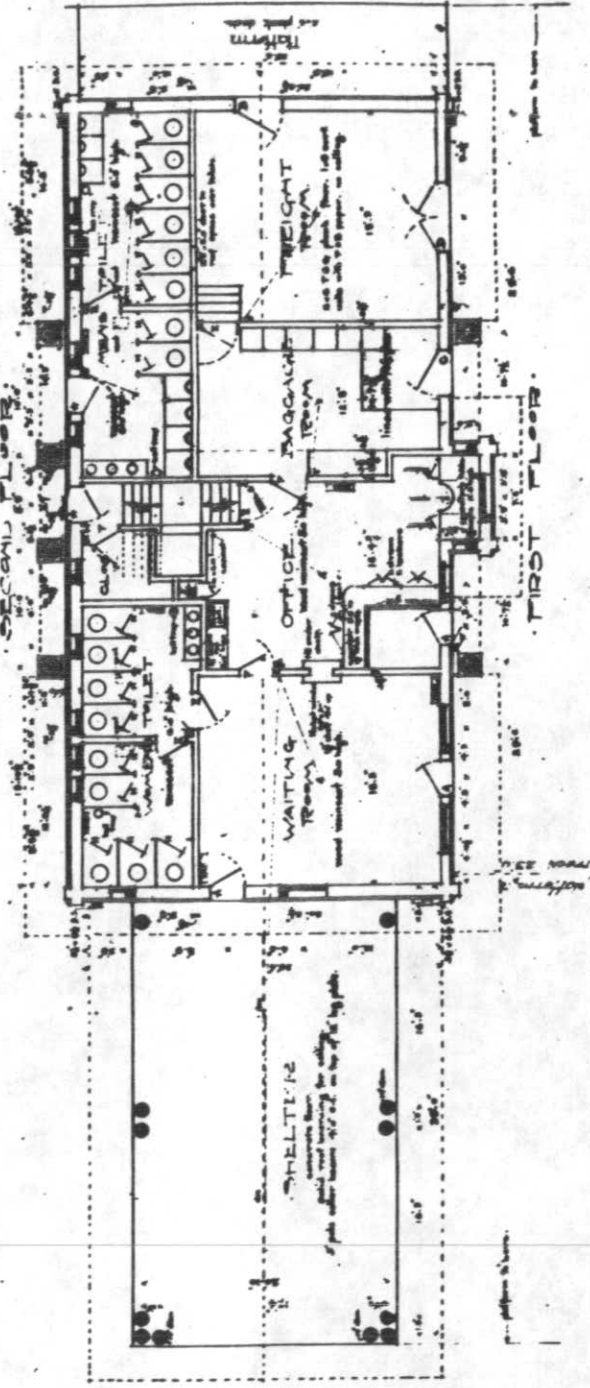
FOUNDATION PLAN

See Figures 1898-1900 for
 Foundations and Retaining
 Walls

STATION TO BE BUILT AT GRAND CANYON BRIZ.
 FOR THE GRAND CANYON RAILROAD COMPANY.
 FRANCIS W. WILSON, ARCHITECT.
 5 SHEETS - SHEET NO. 2. SCALE 1/8" = 1'-0".
 APPROVED BY J. L. WILSON, DRAWING NO. 80-8808.
 CHIEF ENGINEER, SHEET 2 OF 5.



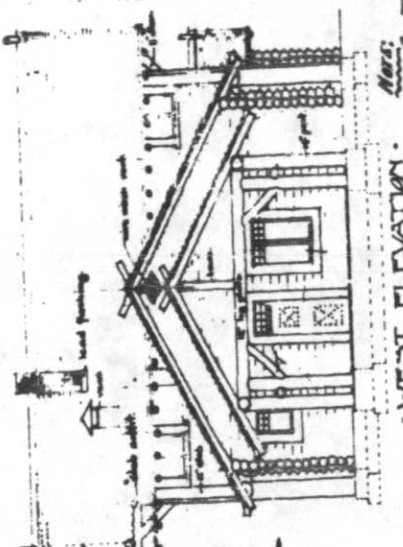
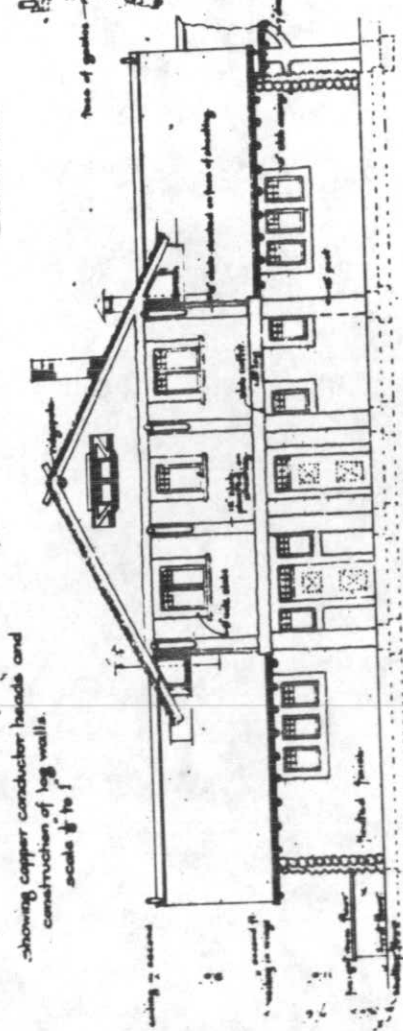
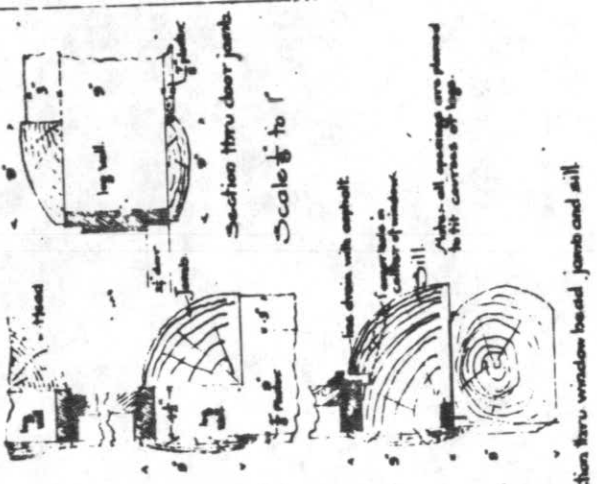
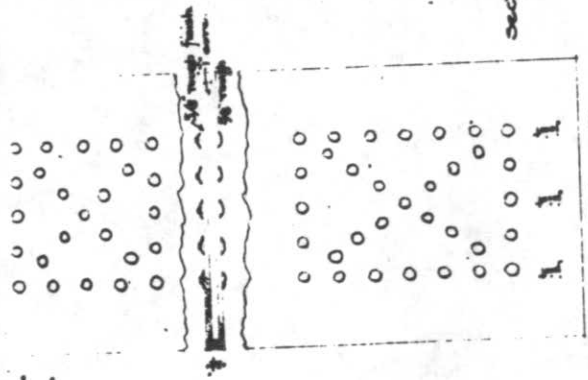
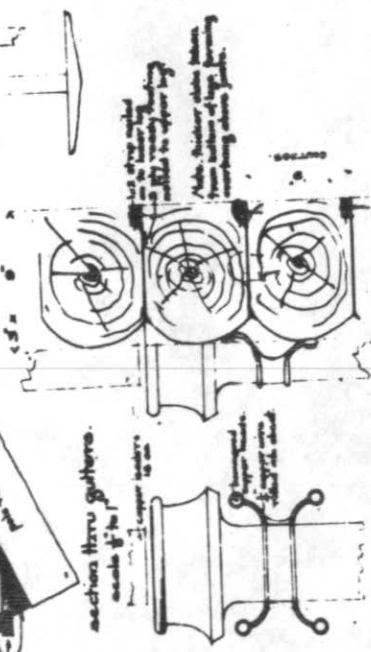
Notes: All wall and partition dimensions are given in feet and inches and include base of wall.



Notes:
 See Drawing No. 80-8805 for
 Additions and Alterations

STATION TO BE BUILT AT GRAND CANYON ARIZ.
 FOR THE GRAND CANYON RAILROAD COMPANY.
 FRANCIS W. WILSON.
 ARCHITECT.

SCALE 1/2 INCH TO ONE FOOT
 D SHEETS - SHEET NO. 3
 APPROVED BY ARCHT.
 DRAWING NO. 80-8808
 SHEET NO. 3

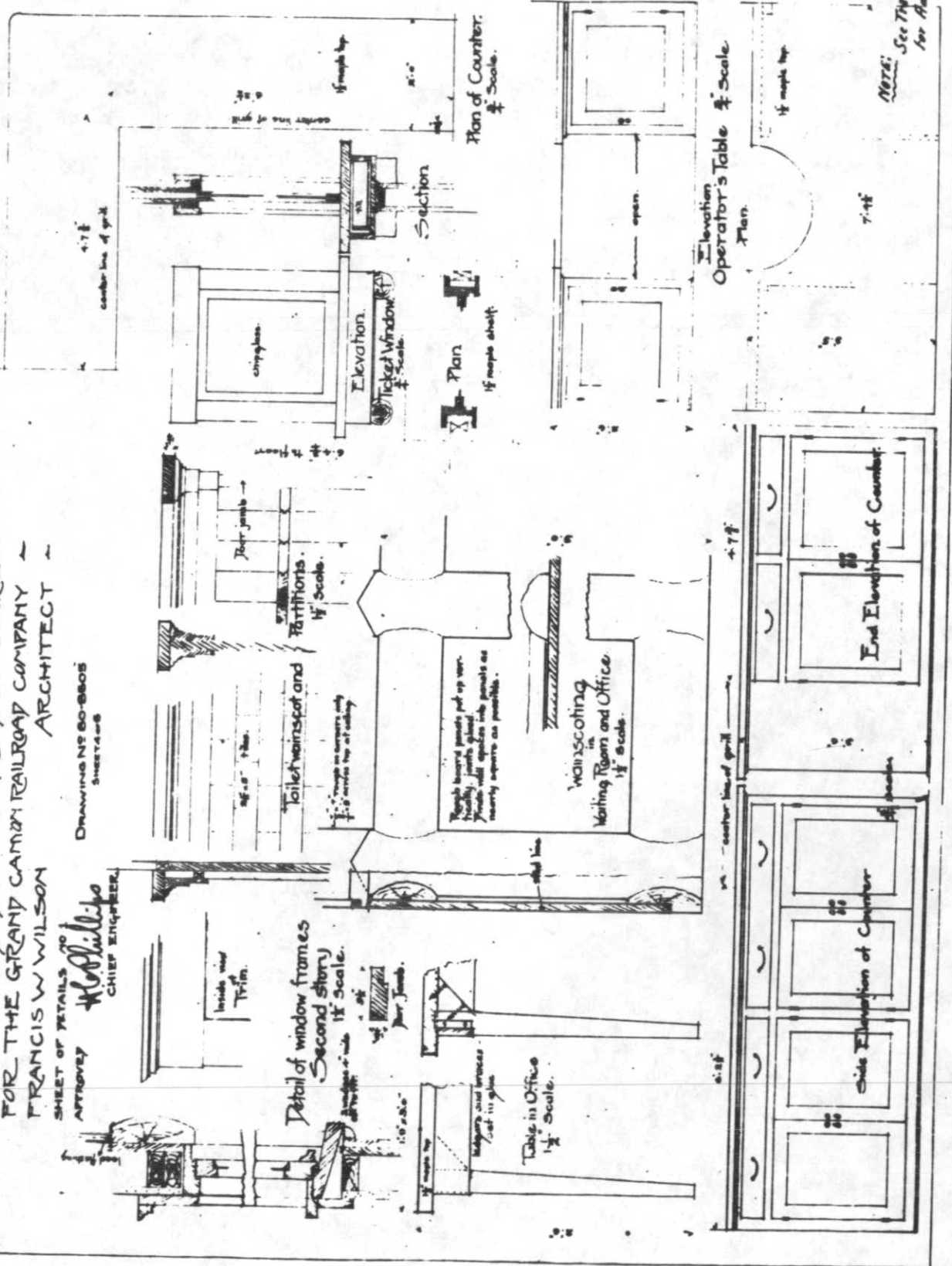


See Drawings 17-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000

STATION TO BE BUILT AT GRAND CANYON ARIZ -
FOR THE GRAND CANYON RAILROAD COMPANY -
FRANCIS W WILSON
ARCHITECT

SHEET OF DETAILS
APPROVED *H. Phillips*
CHIEF ENGINEER.

DRAWING NO 80-8805
SHEET 4 OF 8



NOTE: See Drawings N78-8505 A for Additions and Alterations

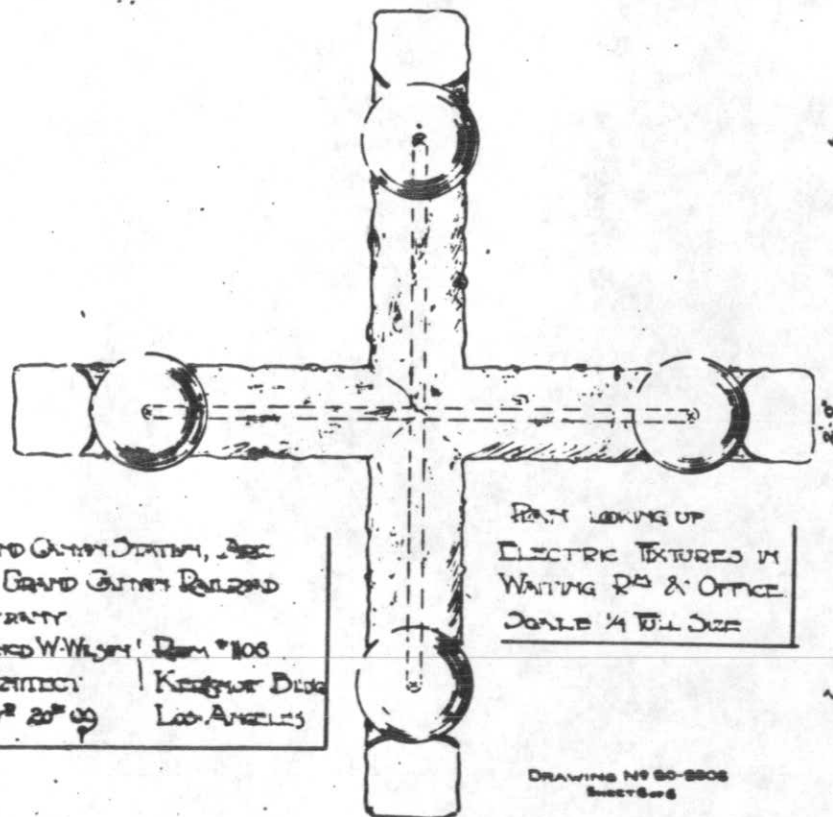
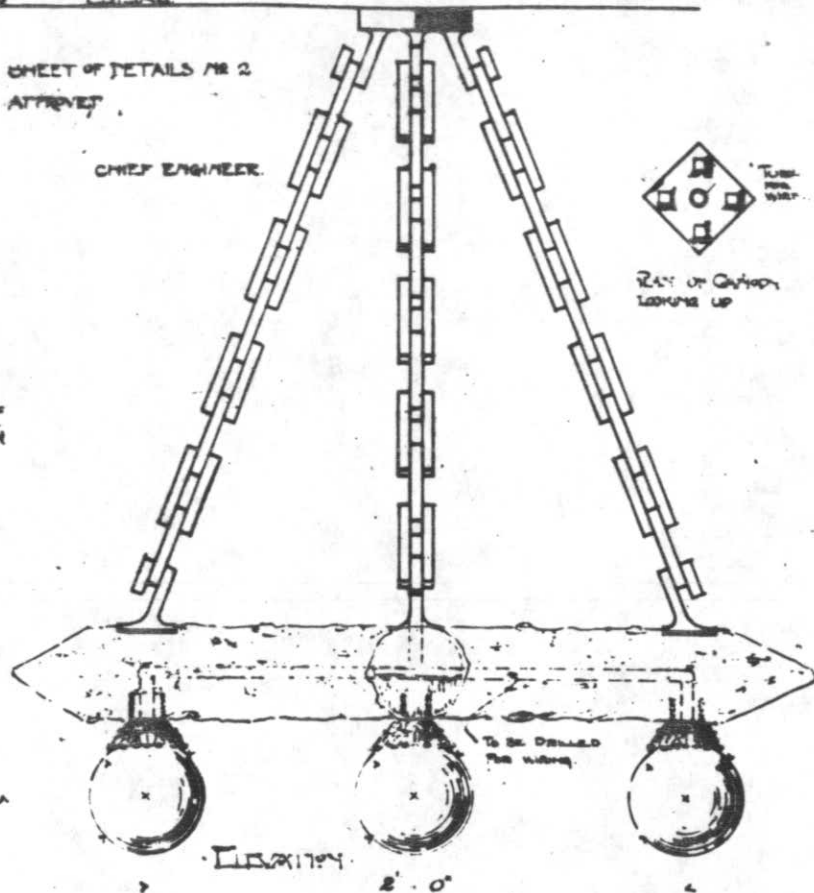
CEILING

SHEET OF DETAILS No 2
ATTACHED

CHIEF ENGINEER



PLAN OF CHAIRS
LOOKING UP



NOTE: See drawings No. 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000

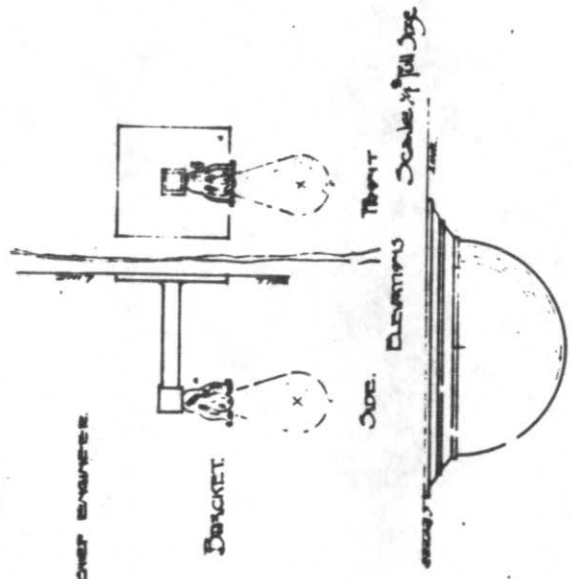
GRAND CANYON STATION, Bldg.
THE GRAND CANYON RAILROAD
COMPANY
FRANK W. WILSON, Bldg. #100
ARCHITECT | KENNETH DICK
Nov. 20th 09 | LOS ANGELES

PLAN LOOKING UP
ELECTRIC FIXTURES IN
WAITING ROOM & OFFICE
DOUBLE 1/4 TOL SIZE

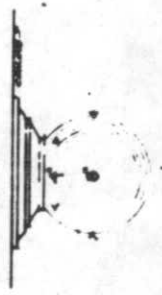
DRAWING NO 60-2808
SHEET 6 OF 8

SHEET OF DETAILS NO 3.
APPROVED

CHIEF ENGINEER



CEILING FIXTURE FOR 5 LIGHTS TO BE 12" DIA
" " 2 " " " 10 "



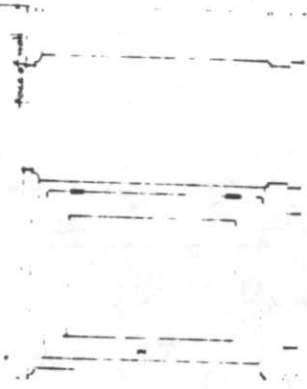
CEILING FIXTURE FOR 1 LIGHT

ELECTRIC FIXTURES IN THE
GRAND CANYON BUILDING, ARIZ.
FOR GRAND CANYON BUILDING
CONTRACT
NEWBY W. HAYDEN, ARCHT. 1106
Kearney Bldg
New York 20 N.Y.

SHEET OF DETAILS NO 4
APPROVED

CHIEF ENGINEER

Cabinets for the
Station at Grand Canyon, Ariz.
Grand Canyon Railway Company
Tombigwa Wilson, Architect



Cabinet - 12" high x 24" wide
Material - Arizona Pine
Finish - 6 coats woodwork

DRAWING NO 80-8808
SHEET 8 of 8

Notes:
See Drawings 1784-8585 A
for Additions and Alterations

Sheet No.
80-8808

4.3.4 1909 CONSTRUCTION SPECIFICATIONS

S P E C I F I C A T I O N S
of
Labor, Material and Mechanical Workmanship
to be used and employed in the erection and completion
of a
Railway Station
at
Grand Canon, Arizona,
For the Grand Canon Railroad Company.

GENERAL CONDITIONS:

Drawings and Specifications.

All portions of the work shown on plans, or hereinafter described, to be executed in strict accordance with the drawings, whether original or detail, prepared for the same by
Francis W. Wilson, Architect.

The following specifications and the drawings above mentioned are intended to correspond and be illustrative of each other, and any part of the work that may be only mentioned in the one or represented in the other, is to be done the same as if it had been both described and represented; and should anything afterwards appear to have been omitted in either or both, which is usual or necessary for the construction or completion of this class of building, it shall be furnished or executed by the Contractor the same as if shown on the drawings or described in the specifications.

The Contractor to preserve all the drawings entrusted to his care for the execution of the work, and he shall return the

same to the Owner, together with all copies of specifications before the work will be accepted.

Materials.

All the materials required for the execution of the work to be furnished by the Contractor (unless especially otherwise indicated) of the best quality of their several kinds, and to be properly applied.

The Owner or the Architect may cause to be removed at any time before the acceptance of the work, any material or workmanship that does not strictly comply with the requirements of the specifications. Or in the event that such removal might cause damage or injury to other portions of the work, or if the Contractor neglects or refuses to remove them, then the Owner may deduct from the amount of the contract price any sum that, in the Owner's judgment only, shall be just and reasonable, as a setoff to the injury of the work caused by noncompliance with the requirements of the specifications, as well as for the difference in value between the inferior and the specified workmanship or materials, and shall give the certificate only for the balance that may then be due the contractor.

Whenever building materials or fixtures are specified of some particular brand, this Contractor may use such materials or fixtures or its equals of any other make approved by the Owner or Architect; but in no case may this Contractor make such change without a written permit from the Owner or Architect.

Laying out Work.

The Contractor to lay out work, to measure off distances and set stakes, all according to plans, and he is to be responsible for any mistakes in such laying off.

Representative on the Work.

The Contractor to give his personal attention and supervision to the work until entirely completed.

When absent from the work he shall always leave some one in charge of same who shall be authorized to act for him.

Sub-Contractors.

No part of the work shall be let to a sub-contractor, or as piece work without the written consent of the Owner or ^{the} Architect.

Workmanship.

None but the best skilled workmen to be employed upon the work, and any mechanic or laborer employed, who in the opinion of the Owner or the Architect is careless or incompetent, shall be immediately removed from the work by the Contractor, when so notified by the Owner or the Architect.

Protection of the Work.

The Contractor must protect the work at all times and be responsible for it until accepted.

Repairs.

All portions of the work that may be broken or injured by accident or otherwise, during the time between the finishing of that part of the work and the completion of the whole work, to be carefully and neatly repaired or reconstructed, and the whole left without blemish.

Inspection.

The Owner or Architect to have access to the work at all times, and the Contractor to furnish them every facility for inspecting the same.

Interpretations.

The Architect to interpret the meaning of any part of the plans and specifications about which any misunderstanding may arise.

Damages.

The Contractor to be responsible for all damages that may result from any accident occurring in the progress of the work, or in the leaving open and unprotected of portions of the street or areas under sidewalks; and it shall be his duty to see that the city ordinances, of every description, are strictly complied with regarding the work and the occupation of the street for building purposes.

Payments.

Partial payments will be made as the work progresses and in the following percentages on the contract price:

No payment on account of the work, at any time while the same is in progress, shall be considered as an acknowledgment that any or certain portions of the work have been done in accordance with the plans and specifications; nor shall any portion of the work be accepted until the whole is completed.

Additions, Changes, etc.

In case any additions, omissions or alterations of the plans or materials may be required by the owner or the Architect during

the progress of the work, they shall be acceded to by the Contractor and carried into effect, without in any way vitiating any contract that has been made for work or materials connected herewith; but the amount of such alteration, after it shall have been agreed upon by the Contractor and the Owner or Architect, shall be added to or deducted from the contract price as the case may be. In any case the agreement referred to must be made out in writing.

Delays.

The Owner or the Architect shall have full power to cause the work to be forwarded when delayed or stopped, and in default of compliance of the Contractor with the terms of a notice to that effect within twenty-four hours of service of same, the Owner, or the Architect acting for him, shall have full power to enter the premises and entirely stop the work, and exclude the Contractor therefrom and to furnish all materials necessary, or use the materials then on the premises, to employ any other builder or workmen to furnish such work as may then remain unperformed or unfinished, and charge the amount of such unperformed or unfinished portion of the work to the original Contractor; together with all other expenses that may accrue by reason of said change, and to have full power to deduct and retain the amount of such cost and expenses out of any money that may be then due or becoming due the original Contractor.

Guarantee.

The Contractor to give a written guarantee that he is to make good, during the term of twelve months from the date of the completion and acceptance of the building, at his own expense, any defective part thereof, whether in workmanship or materials, that may have been covered up or unseen at the time of the acceptance of the work.

This guarantee shall be included in the builder's bond required of the Contractor as hereinafter described.

Allowances.

All allowances that are mentioned in this specification for special purposes must be devoted in full to the purpose mentioned and in case any saving is made this will benefit the Owner, and it is not intended that the Contractor shall deduct any portions of any allowances as profit or commissions.

Charges.

The Contractor to pay all charges of every description in connection with the work, including water supplied, all City charges, etc.

Time of Completion.

The Contractor to turn the building over to the Owner, all finished and completed, as per plans and specifications, within the space of _____ working days from and after the date of signing the contract.

If delay in completing the building is caused by strikes, or by the acts of God, the time lost thereby shall be added to the time for completion of the building, such time allowance to be computed by the Architect.

Rubbish.

The Contractor must remove all rubbish and left over materials from the premises on completion of the work.

Bids.

The Owner reserves the right to accept any or reject all of the bids.

Bond.

The Contractor must be prepared to furnish, before the contract is let, a bond for twenty-five per-cent of the contract price of the building, to the entire satisfaction of the Owner.

This bond must be a real-estate, Security Company or cash bond.

Insurance.

The Contractor shall effect insurance on the work to cover his interest on same against loss by fire, and for any such loss of the Contractor by fire the Owner shall not be answerable or accountable.

FOUNDATIONS.

Excavations.

Excavate the site to a level 4" below the floor lines as shown and where the natural level is too low fill, wet and tamp sufficiently.

Excavate for all walls and piers as shown leaving the bottom of all such excavations level and smooth.

Excavate all around building wherever the natural grade is higher than 6" below main floor level to said 6" below main floor level and for a space of six feet in width leaving all smooth and true.

Excavate for wooden platform out to tracks sufficiently so that planking will lie clear of dirt at least four inches.

Deposit excavated material where directed.

Concrete Work.

All foundation walls and piers and all first story floors excepting in freight room, to be of concrete. The walls and piers to be of the dimensions shown and the floors to be 4" in the rough with 1/2" inch of finish finish in addition.

All concrete to be mixed with one part cement, three parts sand and six parts cinders, to be thoroughly wetted, turned over twice and immediately placed in position and tamped until water flushes to the surface.

All walls and piers to be cast in wooden molds with true straight edges and surfaces and the outside edges of outside walls must be floated and smoothly finished as soon as molds are removed.

The forms for concrete must be left in place at least 48 hours after casting, or until in the judgment of the superintendent, the concrete has attained sufficient strength.

All concrete to be kept wet one week after casting, thoroughly and continuously wet.

Leave openings in wall under platform for ventilators as shown, three in number and fit cast iron vents in place firmly embedded in cement. Leave openings in walls for all pipes.

Concrete Floors.

After all walls, all plastering and all rough work are completed put down finish floors $1\frac{1}{2}$ " thick. Use a mixture of one half cement to one half sand put down wet, trowelled to a smooth polished surface and divided into one foot squares with deep clear straight dividing lines.

The floor of shelter and of all the first story, excepting freight room, will be of concrete with cement finish.

FRAMING.

Logs.

All walls in first story, all columns, all braces, all lookouts, all exposed rafters, all exposed plates and girders and other members shown and marked, to be made of logs. All outside trim for all doors and windows and pilasters in second story to be made of slabs, as per details. All inside trim in Waiting

room and Office to be made of slabs, as per details.

All logs and slabs to be of Arizona pine, perfectly sound and free from blemishes, carefully peeled and thoroughly seasoned and all to have a coat of pure creosote applied before being put in place. The lower end of columns to have a coat of liquid asphalt carefully put on and to be made absolutely water proof before being placed.

Walls.

The first story walls up to plate to be made of logs 12" in diameter with three sides sawed so as to make 9" courses, the faces of logs to project 3" if possible, but in no case to project less than 2". The slab taken off the top of logs to be less than the slab off of bottom so that each log will project over the one below about 3/4". The lower inside corner of each log to be rebated as per detail to take a 1" x 2" strip which is to be nailed to the log below. As each course is laid put a piece of Rubberoid roofing in the joint nailing it into the rebate, as shown, and allowing a projection of 3/4" on the outside.

Give the top and bottom surfaces of every log a coat of creosote before laying in place.

The corners to be dove-tailed and trimmed smooth, and the projecting ends to be cut separately and spiked on. All of these ends must be carefully fitted and all nail and spike heads must be set into wood, if necessary by starting in a bored hole, and all holes to be carefully puttied and filled with varnish putty on completion, in color to match logs.

Give all pieces a coat of creosote all over before putting in place.

All logs in walls to be held in place by toe-nailing only at ends.

Columns, Trim, etc.

All columns to be of the sizes marked, 14" in diameter for the Shelter, 18" diameter supporting second story. The plates or girders over columns to be carefully fitted into tops of columns and fastened with long bolts as directed.

Where plates join over columns use iron straps strongly spiked in place to hold joint which must be ship lapped.

Put on collar beams over plates of Shelter of poles averaging 5" diameter and in no part must any of them be less than 4" diameter. All of these collar beams to be secured to plates with iron straps neatly and securely fastened with spikes leaving ends of collar beams projecting out and cut off to fit closely against roof boards.

Put in upright struts up to ridge pole of 5" diameter poles neatly fitted to collar beams and to ridgepole and fastened to each with iron straps passed around collar beam in one case and ridgepole in the other, and then twisted spirally around struts with two complete turns and nailed neatly and evenly in place.

Put on rafters as marked and shown, the gable rafters in every case to be about 1/2" larger in diameter than the rest.

Contractor has the privilege of using pole ~~x~~ rafters throughout or of substituting 2" x 6" rafters where not exposed and using with them pole lookouts.

All rafters to be placed at 2'.0" centers and all poles to be trimmed on top to a straight even line. All rafters to be fitted neatly and closely to ridgepoles and plates and securely fastened.

Use poles of same diameter as gable rafters for ridgepoles where exposed, and of 2" x 8" where not exposed. The pole ridgepoles to come under rafters and to project at ends to edge of shingles and the 2" x 8" ridgepoles to come between rafters in the usual way.

Put in struts, braces, brackets, etc. where shown and of the sizes shown.

Where braces and struts come close to the ground, as on columns under Shelter, put in spikes and set heads, if necessary in bored holes, and putty with varnish putty to match color of logs

The pilasters on second story walls to be 2" thick on the edges and to be neatly fitted on to log girder below and up to slab soffit above. These pilasters to be planted on to sheeting and to be flashed with lead flashings as noted under "shingling".

The log girder over columns supporting second story to be 14" diameter and to be placed to project 3" beyond face of columns so as to take ends of pilasters over. This will leave about 7" of the top of columns clear to receive ends of short logs supporting second floor joists. These short logs to be also 14" diameter and to be cut to fit closely against both columns and girder in front. All to be securely fastened and secured with iron straps, as directed.

The space between these short logs and behind the girder in front to be filled with slab soffit on the under side of floor joist, all to be neatly fitted and well secured.

Put up four log brackets as shown in each second story gable, these to be built out from pilasters and neatly fitted.

Put on a 9" log girder over flush with gable rafters and neatly and carefully fitted to rafters. The space behind these girders to be finished with a soffit of slabs as shown.

The gables over to be boarded up with 1" x 6" T&G flooring flush with back edges of gable rafters. The 1" x 6" to be put on with the rough side showing and the joints showing open about 1/8". Put on 3 ply P&B building paper on the inside of these gables.

All outside trim throughout to be of logs and slabs as per details, all to be carefully and neatly fitted and fastened in

place and in first story all nail heads to be set and puttied with varnish putty to match logs in color.

All logs and slabs to receive a coat of creosote on front and two sides before being put in place.

Lumber.

All framing lumber to be the best obtainable O.P., clear and dry, free from large knots and shakes and all to be sized to even dimensions, except for ceiling joists and rafters.

The framing lumber to be of the following sizes:

Girders under freight room and platform,	6" x 8"
All floor joists throughout,	2" x 10"
All studding throughout,	2" x 4" 16" O.C.
All ceiling joists throughout,	2" x 6" 16" O.C.
All timber rafters throughout,	2" x 6" 24" O.C.
All bridging throughout,	2" x 4"

Framing.

Put on 2" thick rdw caps on piers under freight room.

All girders to be halved together and securely spiked.

Put on floor joist under freight room and platform adjoining at 12" centers, all to be securely fastened and in freight room blocked between ends with pieces of 2" x 10" carefully fitted.

Put down floor joists for second floor at 16" centers with solid blocking between of 2" x 10" all to be well nailed and fastened. Put in bridging of 2" x 4" in lines not over 6'.0" apart, this to have three 8d nails at each end of each piece.

Put up studding in stories with single plates at bottom and double plates at top with joints well broken. Toe nail all studs with at least four 8d nails, put in one row of herring bone bridging in the height of each story with four 8d nails at every nailing. Use double heads and studs for all openings and single

sills for windows, truss over all openings over three feet wide, as directed. Build strong truss in wall where second story outside walls cross the toilet rooms in first story and hang the joists to this truss with iron joist hangers, also put in a 2" x 10" header across ends of joists over this space in each wall.

Brace every span of studding wherever possible in each direction with 2" x 4" having four 8d nails at every nailing.

Put down ceiling joists at 16" centers and nail at every nailing with at least two 8d nails, put down lines of 1" x 6" on top of joists not over 6'.0" apart with three 10d nails at every nailing, this being to keep joists from twisting.

Put on rafters at 2'.0" centers as heretofore specified, and put in collar beams at every pair of 1 1/4" x 6". Put in struts and braces from every pair of rafters down to studding with a 4" x 4" purlin at top, all to be strongly spiked and fastened. Fill in gables with 2" x 4" studding at 2'.6" centers.

Purr out for all pipes that are larger than the thickness of studding.

Platform.

Build a platform from front of building out to the nearest track the complete length of building including the Shelter.

Put down 4" x 6" redwood stringers at not over 6'.0" centers, these to rest throughout their entire length on solid ground. Give all stringers a coat of creosote before laying in place.

Lay a floor of 3" thick plank over stringers with close joints all spiked with 60d spikes. Use Arizona pine for this floor and break joints at every plank.

Remove dirt from below floor so that in no place will it come within 5" of underside of floor and grade so that water will run between stringers from both building and track to the center. Cut a ditch 1'.0" wide and 1'.0" in depth below the underside of stringers to convey water from under platform.

Boarding and Sheathing.

Cover all gables and second story wall surface, all walls in toilets on first floor up to a height of 6'.0" the walls only in freight room and all roof surface with 1" x 8" Arizona pine laid with the surfaced side up and out. Put in two nails at every nailing and break joints at every board.

Put in a layer of 3 ply P&B paper behind boarding in freight room with joints lapped.

Put boarding on horizontally in toilets for backing to cement wainscot.

Finish gables of second story as heretofore specified with 1" x 6" T&B rough side out, this also to be of Arizona pine.

Cover walls and ceiling of baggage room with 1" x 6" T&B Arizona pine well fitted, joints broken at every board, blind nailed at every nailing and through nailed at butts.

Floors.

The cement floors of first story have been specified under "Concrete Floors".

Lay a floor of 2" x 6" T&B Arizona pine in freight room and on platform adjoining at end of building, this to be spiked with two spikes at every nailing, joints broken at every plank, and all to be neatly finished.

Lay floors of 1" x 6" surf Arizona pine over all second story joist, these to be put down diagonally with two nails at every nailing and all to be laid before the second story studding is erected. Smooth off all byewood.

Lay finish floors in second story of 1" x 4" kiln dried No.1 O.P. flooring, vertical grained. All to be laid in courses well driven up blind nailed at every nailing and through nailed at butts. Dress off byewood and leave perfectly smooth and clean. This finish floor not to be laid until all plastering is finished and all other rough work completed.

Flash around all openings, at pilasters, around chimney around ventilators and up valleys with lead flashing. Use pieces 4" x 6" for all windows and pilasters, pieces 9" x 12" for valleys, pieces 6" x 8" where roof surface joins walls and lay seven courses of strips 9" wide and 3'.6" long in with shingles where water from second story roof runs out of gutters on to shingles of first story roof, as shown in elevation. These strips should project 1/2" below bottom ends of shingles.

Use only 3 lb lead throughout for all flashings.

Put on counter flashings around ventilators and set counter flashings into brickwork as chimney is being constructed.

Chimney.

Build chimney as shown of good hardburned bricks with clinker bricks on the outside, all to be of even shape.

The term "Clinker brick" as here used means a brick that is over burned and is a dark blue or purple color but one that is not misshapen.

Line chimney with an 8" terra cotta flue flushed in with mortar, lay all bricks flatwise, fill all joints fully and finish the top with six courses laid in cement mortar.

Put in a 6" terra cotta thimble in kitchen at height as directed.

Ventilators.

Build ventilators as shown from the ceilings of all toilets on the first floor. Put in a 10" x 14" register face in each toilet ceiling, this to be of bronze with square openings.

Construct ventilator flues of 1/8" boards a full 10" x 14" in size in the clear and fit between studding. Where plate is cut out for these flues spike a piece of 2" x 6" across the top of ceiling joists. Run all flues at a rising angle of not less than

Outside Work.

Build wooden forms for gutters as per detail having rough side of all material on the outside, finish across ends so that lining will not show.

All window sills above the first story to be of rough pine.

Case up and finish windows in gables above second story with rough pine, build shutters of same material as shown.

All casings to be put on before shingling is done.

Finish gables on ends of roof boarding with a 1" x 2" strip projecting 1/4" above roof boarding and 7/8" below. This strip will come against gable rafters snugly and shingles will turn up slightly over it and project 7/8" beyond it.

Put on ridge boards of 1 1/8" x 8" rough side up well fitted and nailed with a layer of 3 ply P&B paper underneath projecting down both sides of roof as far as the full width of boards.

Put in diamond shaped vents in first story gables as shown backed with bronze wire mesh and finished with rough jambs, leaving shingles to project over edges.

Shingling.

All shingling to be done with the best quality of redwood shingles 5 to 2 all to have two nails each and no shingle over 7" wide to be laid without splitting. Use best quality of galvanized shingle nails.

All wall surface including gables to be laid with two 5" courses to one 1" course.

All roof surface to be laid in regular courses 4" to the weather.

In every case use double courses at bottom, on both walls and roof. Shingle valleys up tight and keep edges of gables true and straight.

45 degrees and make the joining beneath roof of first story strong and neat.

The outside of flues to be shingled to the top above second story roof and the roofs of flues to be also shingled.

Windows.

All windows to have rebated frames 1 3/4" thick with sills as shown and as specified 1 3/4" thick. All window frames to be carefully set and fitted and protected with 7/8" boards until plastering is finished.

All sash to be 1 3/4" thick of kiln dried sugar pine, glazed with best quality of 21 oz crystal sheet glass, well puttied, bedded and bradded. All muntins to be square without any molds or curved surfaces. Double sash to be rebated and to have weather strips over joint.

All sash to have weather strip as per detail at the bottom and all to be carefully fitted and hung and made water tight.

All window frames to be made of kiln dried O.P., to be halved together and strongly made.

Doors.

All doors to have rebated frames 1 3/4" thick as shown, of kiln dried O.P. halved together and strongly made, set true and plumb and protected with 7/8" boards until plastering is finished.

Put in wrought iron fasteners in patterns as shown as per detail, these to be tightly hammered down and neatly finished.

All other doors to be as per door list.

All doors throughout to be made of kiln dried pine, and to be mortised and tenoned.

All outside doors to have transoms 1 1/2" thick as shown.

All outside doors to be made as per detail, to be 2 1/4" thick built up with a core 1" full in thickness, this core to have

grain running across the door and the faces to be of rough pine jointed up carefully and set in glue. Set in strips over ends of core as shown, all in glue.

Screens.

All second story windows to have inside screens hung on solid bronze spring hinges with metal buttons for handles.

All window screens to be 1 1/4" thick doweled together and to be covered with bronze mesh wire netting with sunken moldings.

The doors to stair hall and to office to have screens 1 1/2" thick with solid wooden panels up to 3'.0" in height and bronze wire mesh above to be fastened with sunken moldings. Door screens to be of pine, mortised and tenoned and to be hung on heavy bronze spring butts and with bronze loop handles.

Stairs.

Build stairs as shown on strong 2" carriages, all to be keyed, blocked and glued and housed into stringers. All treads to be of kiln dried vertical grained O.P., risers of pine and stringers of kiln dried O.P.

Put in 4" x 4" plain newel with molded handrail and 1 1/2" plain square balusters, two to each step. Run newel down into wall at least 12" and brace firmly, make nosings and put in coves under.

Buttress String.

The stairs from middle landing to top where newel and rail are shown will have a buttress string as shown and balusters must be let into top of buttress.

Inside Trim.

All inside trim except in Waiting Room and Office to be of Arizona pine thoroughly seasoned and free from all knots, flaws or other defects.

All side casings to be $7/8$ " thick and 5" wide, and all head casings to be $1\ 1/8$ " thick and 6" wide. Head casings to run over side casings $3/16$ ".

The head casings in toilet rooms will have a molded cap as per detail. All W.C. partitions will be of $1\ 1/8$ " x 3" T&G stuck to finish on both sides with molded cap and base as per detail.

All base except in Waiting Room and Office to be $7/8$ " x 9" with plain bevelled top.

All windows except in Waiting Room and Office to have plain stools and $7/8$ " aprons.

Put up picture mold $1\ 1/2$ " wide in all rooms in the second story.

Put on a molded wainscot cap for all cement wainscot.

Put shelves in all closets as directed, also in pantry.

The trim in Waiting Room and Office will be of slabs as already noted. The wainscot in these rooms will have square panels of rough pine with formings, base and rail of slabs, all as per details. The walls above wainscot will be plastered and there will be formings in all corners from top of wainscot to ceiling, these formings to be made of $7/8$ " x 7" rough pine, there will also be formings of $7/8$ " x 9" along top of walls at ceiling line.

All rough finish lumber must be clean with evenly sawed faces free from all blemishes and defects.

Fittings.

Put in where shown in Kitchen a sugar pine drain board $1\ 1/8$ " thick and 24" wide with grooves to carry water into sink.

Put up under drain board a shelf as directed.

Build for Office a table with maple top $1\ 1/2$ " thick $1'\ 9"$ wide and $3'\ 0"$ long, to stand $2'\ 6"$ high on tapered square legs $2\ 3/4$ " at top and $1\ 1/2$ " at bottom.

Put up frame for sink in Office as directed.

Construct ticket window between Office and Waiting Room as shown, with shelf of maple $1\frac{3}{4}$ " thick rounded at corners, $1'10"$ wide and $3'0"$ long, to have sliding sash $24" \times 30"$ and a "Tucker's Alarm Till No.28" below shelf, all to be neatly installed and finished.

Build a Counter in Office as shown with maple top $1\frac{1}{2}"$ thick, $24"$ wide and made to enclose a space $5'0" \times 6'0"$. Construct under this counter 2 drawers and one double locker at the end and 2 drawers and two double lockers on the side, as shown.

Build an operator's table in window with $1\frac{1}{2}"$ thick maple top cut out center for the operator, open underneath and with a single locker at either side.

All locker doors to be panelled, morticed and tenoned $1\frac{1}{4}"$ thick and all drawers to be halved together with bottoms grooved in, blocked and glued, and all to run on center track.

Hardware.

All doors to have "Vulcan" locks of pressed steel, the outside door to stair hall, the outside door to Office and the outside doors to Baggage and Freight Rooms to have night latch attachments.

All doors to be hung on solid bronze butts $5" \times 5"$ for outside doors and $4\frac{1}{2}" \times 4\frac{1}{2}"$ for other doors.

All sash to be hung on solid bronze butts $4" \times 4"$ and to have storm window fasteners of solid bronze. Double windows to have top and bottom bolts with large handles.

All windows to have casement adjusters of an approved pattern.

All lockers to have solid bronze butts, locker catches and Yale locks with duplicate keys.

All drawers to have bronze drawer pulls and Yale locks with duplicate keys.

All door trim to be of solid bronze to special pattern with the monogram "G O" cast on the knobs.

All exposed hardware throughout to be solid bronze in dark color with sanded finish.

All hardware to be neatly and strongly put on and carefully fitted, then to be removed until painting is completed and refitted.

Grill.

Furnish and install a wrought iron grill on office counter 3' 6" high with openings as directed. This is to be of plain spindles about 3/16" diameter and 1" apart with one line of stiffeners through center, heavy top and bottom and end pieces and 5/8" square solid corner.

Sign.

Furnish and install a copper sign to be cut out and hand hammered of heavy sheet copper. Each letter to be separate and all to be fastened to building with iron standards 1/4" diameter, two to each letter and letters are to stand out from wall 4",

Gutters and Conductors.

All gutters to be made to detail of 16 oz copper with soldered joints, the outside exposed edge to be rolled to 1/4" diameter and ends to be soldered in.

Leader pipes to conductor heads to be securely fastened and soldered in and to be of same size as conductors.

Conductors to be four in number, two being 3" x 5" and two 3 1/2" x 6 1/2", to be made of 16 oz copper and to be put up with the jointed side next to the building.

Make conductor heads as shown of 16 oz copper and the bands for fastening conductors to walls to be of 16 oz copper with heavy wire edges as per detail. There will be two fasteners for each conductor, one at the top and the other about 18" above ground.

Run all conductors into drain as shown on foundation plan, neatly and firmly secured.

Secure leaders to walls above conductor heads by having the side of leader next to wall long enough to extend down into conductor head and nailing through this extension.

PAINTING AND STAINING

Outside Work.

All outside work and shingles including roofs but not including logs or slabs, to be stained one coat of creosote stain of approved manufacture, to be rusty brown in color.

All nailholes and other blemishes in outside ~~work~~ woodwork to be puttied with varnish putty to match color of woodwork.

All outside doors to be stained as above.

All sash and all exposed edges of frames to be painted one coat and glazed one coat to match woodwork, and all nailholes and blemishes to be puttied as above.

Inside Work.

All woodwork in Office and Waiting Room to be stained one coat of oil stain, smoke color. And all nail holes and other blemishes to be carefully filled with varnish putty in color to exactly match.

All finish in hall, stairs and all second story, except bath room, to be filled with one coat of approved filler and varnished two coats of Murphy's interior finish. Putty all nail holes in color to match.

All woodwork and all cement tiling in bathroom and toilets to be painted four coats of pure white zinc paint, each coat to be sand-papered to a smooth clean surface and then to receive two coats of Sherwin and Williams white enamel, the first coat to be rubbed down and the last to be left in full gloss.

Putty up all nail holes throughout, oil all thresholds, fill and varnish all counter tops and oil drain board in kitchen.

All plastering in Waiting Room, Office, Toilets, Stair Hall, Second story Hall, Kitchen and Bathroom to receive three coats of oil paint in flat colors, as directed.

The color of walls in Waiting Room and Office to be dull buff and the ceilings to be light coffee color.

The color of Toilets and Bathroom to be buff on walls and cream color on ceiling.

The Kitchen to be light grey throughout.

Use only pure linseed oil, turpentine and pure white lead or zinc, as directed.

PLASTERING

Metal Lathing.

All walls, ceilings, soffits and furrings throughout, excepting in Baggage and Freight Rooms and wainscot in Waiting Room and Office, to be lathed with Roebling's No.20 galvanized 2 1/2 x 2 1/2 mesh wire lath with V rib. This lath to be galvanized after weaving, not made of galvanized material.

On all log backing and on all boarding the V ribs must run vertically, and on all studding the V ribs must run horizontally.

Use 8d nails for lathing and on studding put in one nail to every nailing, on board and logs put in one nail at 9" centers which will leave a nail in every log.

Grounds.

Put on grounds for all base and openings of $7/8$ " thick strips, all to be straight and true and to be strongly secured so there can be no loosening while work is in progress.

Mortar.

All mortar throughout, except for wainscot finish, to be made of three parts hydrated lime, twelve parts of clean sharp sand and one part cement, all to be mixed thoroughly while dry, then wetted and applied immediately. All of this mortar to have a generous quantity of hemp well incorporated.

The finish for wainscoting to be made of pure Keene's cement thoroughly worked.

First Coat.

The first coat throughout to be a scratch coat, to be put on so as to cover all lath thoroughly, to be well worked in so as to make a complete clinch and to be well scratched when partly dry.

Second Coat.

The second coat throughout to be a brown coat, to be well worked up to grounds, full thickness, to be rodded and left straight and true with all arrisses clean and even.

Finish Coat.

The finish coat for all plastering except wainscoting to be a sand finish floated with a carpet float in circular sweeps.

Wainscoting.

All cement wainscoting, in Toilets, Kitchen and Bathroom to be finished in tiles $2\ 1/2$ " x 5" in size down to floor, allowing $7/8$ " at bottom for a $1/4$ round finish. The heights noted on

plans mean for the top of cement tiling, so that the wooden railings will come above such heights.

All tiling to be trowelled to a perfectly smooth hard surface with complete polish throughout and all divisions to be 1/16" wide and deep and to be perfectly straight and true with smooth edges.

ELECTRIC WORK. *Wiring + Fixtures*
done by My Co.

Wiring.

This installation will include conduit and wiring, switches, tablet boards, etc. and is to be complete in every detail.

All material used and work performed under this specification shall conform with the most recent rules and requirements of the National Board of Fire Underwriters in every respect.

All wires will be run in iron conduits making a complete iron conduit system throughout, all feeders will be calculated for 220 volt service, all distributing circuits will be calculated for 110 volt service.

The general system of wiring will consist of a complete system of iron conduits for feeders, sub-feeders and branches of a type and quality manufactured by the "Safety Armorite" or "American Interior Conduit Co." which will first be installed with all junction, pull, corner, outlet boxes, couplings, elbows, etc., before any wires are drawn in. The whole conduit system will be installed tight with leaded joints in the same manner as a gas system is installed. The conduits must have smooth interiors, free from all burrs and sharp points and projections, have non-corrosive lining and have the makers name or initials clearly stamped thereon, and be continuous from outlet to outlet.

Starting from the main switch board in the power house conduits of proper size shall be run to the two distributing cabinets shown on ~~gnt~~ plans, and feeders of proper size run in these conduits to carry the number of lights on these distributing boards with a loss not to exceed one per cent.

From these distributing cabinets or tablet boards conduits for the branch circuits will be run to the ~~g~~ various outlets and the wires pulled in. The wires from these branches will be of a size that the loss from the tablet board to any light shall not exceed one per cent when all the lights are burning. The single tube system to be employed throughout.

All conduits to be run concealed in the walls, partitions or floors and where they come in log wall channels must be cut to completely cover same. No cutting will be allowed except as approved by the superintendent.

Pull, junction, corner and outlet boxes must be provided where necessary. Conduits of sufficient size must be used to allow the wires to be withdrawn at any time and new wires drawn in without injury. All boxes must be covered with an enamel similar to that used on conduits. Outlet boxes must be placed so that not more than 1/4" of the outer edge will be exposed beyond the face of the finished plaster.

After installing the conduit system complete and after all plastering is completed and the building thoroughly dried, wires will be drawn in.

Wires.

All wires and cables used in this building will be the best grade of Rosbling's White Core, General Electric Co's, Red Core or Okenite. All wires to be double braid, rubber covered, as per rules of the National Board of Fire Underwriters.

No wire smaller than No.14 B&S guage will be used and all wires of number 6 and larger must be stranded. No more than ten 16 C.P. lights shall be placed upon any one branch circuit.

Tablet Boards and Boxes.

All panels or distributing cabinets will be made of steel of the Bessart construction or equal thereto with proper lugs for fastenings necessary for their support. These boxes to be lined top, sides and bottom with slate or marble.

Inside these distributing boxes are to be placed the tablet boards of marble or enamelled slate. The doors of the boxes are to be of wood matching in material and finish and design the general finish of the rooms where they are placed, and they are to have bevelled plate glass panels, flush hinges and Yale locks with duplicate keys.

These distributing boxes are to be set into wall as far as possible and carpenter will frame an opening in studs for same when shown where they are to go.

Switches.

The tablet board in the Office will be provided with knife switches to control all lights on the first floor and the tablet board in second will be provided with knife switches to control all lights on the second floor.

All outlets where shown will be controlled by switches as noted on plans. All switches to be Hart Push Buttons.

Outlets and Fixture Supports.

At all outlets for fixtures this Contractor shall furnish in connection with the conduit outlet boxes a substantial fixture support.

All boxes to be firmly secured in place.

Fixtures.

All fixtures throughout to be of solid cast bronze and wood.

Furnish and put up switch plates for all switches, to be push button switches and to be finished to match fixtures.

The ceiling lights in Office and Waiting Room to be made with a square frame of small wooden logs stained to match log construction of building. This frame is to be suspended from outlet boxes with chains having square links and wires are to be brought down in a center tube and carried to the corners of frame where lights are to be placed. Lights to have ornamental husks.

The light over operators table to have a reflector hung on a tube, use 14" opal reflector all complete.

The lights in Baggage and Freight Rooms to be cord drops with cord adjusters and Benjamin Adjusters.

The lights in Shelter to be Arc lights with ground globes and bronze fittings.

All other lights except bracket in Kitchen and light in closet under stairs, to be ceiling lights with heavy cast ornamental canopies and Holophane globes. Each of these fixtures to be made in the proper proportion for the number of lights it is to contain.

The light under stairs to be a cord drop with cord drop adjuster and the bracket in Kitchen to be a plain cast bracket with arm extending 5" from wall, plain husk and canopy.

Glass.

All fixtures except arc lights to be furnished with plain 16 C.P. lamps. The fixtures in Waiting Room and Office to have ornamental engraved globes as selected.

PLUMBING

Sewers.

Lay sewers of vitrified sewer tiles as shown, the main sewer to be 6" diameter and all branches to be 4" diameter. The lengths of these are shown and marked on plans.

All sewers to be laid to an even grade, in neat cement and to be wiped out clean on the inside.

All places where sewer or other piping passes through concrete foundation// walls must be left open until pipes are laid and then neatly filled and finished.

Drains.

Lay drains as shown of vitrified sewer tiles of the lengths marked on plan. All to be laid the same as sewer.

Water Supply.

Lay water supply pipe of the length as shown; this is to be 2" pipe with fittings, etc. the same as for water piping in building.

Waste and Soil Pipes.

For all waste vent and soil pipes use extra heavy cast iron pipes put together with molten lead and oakum thoroughly tamped and made perfectly tight. All to be tested before being covered up. All waste pipes to be 2" and soil pipes to be 4" diameter and vent pipes to be same size as the case may be.

Piping.

All piping for hot and cold water to be of galvanized pipe with galvanized iron fittings, all to be put together with red lead and made perfectly tight. All pipe to be strongly secured to timbers with straps and iron brackets.

All wash basins to have 1/2" cold supply and the basin in Bathroom in second story will also have 1/2" hot supply.

All other fixtures will have 3/4" supply and the bath tub and sink in second story will also have hot supply of the same size.

Traps, Vents, etc.

All fixtures throughout to have traps and trap screws, vents of same size as soil or waste pipes, air chambers where necessary. Use as little lead as possible and where it is absolutely necessary use a brass ferrule for connections well wiped on.

All exposed piping and fittings to be nickel plated on brass and all work throughout to be neatly done and securely fastened.

All fixtures to have shut off cocks.

All work including piping to be tested before being covered up.

Flash and counter flash all pipes coming through roofs.

Fixtures.

Furnish and set up all complete eighteen (18) water closets "Clow's Syphon Jet" "The Regia" with white composition seats, tanks and covers.

Furnish and set up all complete two batteries of three basins each, Clow's enamelled iron lavatories No. R 316 with cold supply only.

Furnish and set up all complete one (1) Clow's enamelled iron lavatory No. R 376 with hot and cold supply.

Furnish and set up all complete two batteries of urinals containing seven (7) stalls altogether Clow's No. 16 with White Italian marble partitions and wall slabs.

Furnish and set up all complete one (1) white enamelled iron bath tub 5' .6" long Clow's No. P85.

Furnish and set up all complete two (2) 20" x 30" white enamelled iron sinks with finished brass Fuller bibbs.

Furnish and set up all complete one (1) galvanized iron 30 gallon boiler with hot water circulating system connecting with kitchen sink, lavatory and bathtub in bathroom.

Furnish and set up all complete two hydrants with 1" supply and finished brass Fuller hose bibbs, these hydrants to be located against outside walls by superintendent.

Furnish and set up all complete four (4) cast iron bell traps with perforated cast iron covers screwed on.

Heating done by R. C. Co.,

Accepted

W. H. Mason

Contractor

SPECIFICATIONS FOR STEAM HEATING.

NEW DEPOT AT GRAND CANYON, ARIZONA.

1-8-1910

Eugene Murray.

for A.T. & S.P.R.R.

SPECIFICATIONS FOR STEAM HEATING.

NEW GRAND CANYON DEPOT

AT

GRAND CANYON, ARIZONA.

FOR

A.T. & S.P.R.R.

- - - - -000- - - - -

SYSTEM:

The system to be installed shall be two pipe vacuum system with main and return connections to present mains at present Boiler Room.

All to be arranged to operate from and with present system.

PIPING:

Connect with present low pressure main at Boiler room and carry steam to Station through 2-1/2" wrought iron pipe, graded from Boiler Room to Depot.

This pipe to be covered with asbestos sectional covering, and protected in vitrified clay pipe with cement joints.

Return connection from Depot to be graded from Depot back to boiler near front Boiler room and from this point to rise up to and connect with return in Boiler Room.

Steam main to be drained into vacuum return main through suitable vacuum valves placed in accessible position at Station.

Carry steam and return mains under floor of building as shown in plans.

All steam mains to be covered with asbestos sectional covering and to be of sizes required for work intended.

Return main from building to Boiler Room to be 1-1/2" wrought iron pipe.

SEE CIVIL ENGINEER'S SPECIFICATIONS FOR STEAM HEATING

Supply and return mains to have suitable valves on same at Boiler Room.

RADIATION:

Radiators to be cast iron ornamental pattern, 38" high and placed in rooms as shown on plans and to be following sizes:

FIRST STORY:

Office - - - - -	1 radiator,	60 sq. Feet.
Waiting room - - -	2 radiators, 40 ft. ea.	80 sq. "
Womens Toilet room -	2 radiators, 16 ft. ea.	32 sq. "
Mens Toilet Room, -	2 radiators, 16 ft. ea.	32 sq. "

Second Story:

Bed Room - - - - -	1 radiator. - - - - -	24 sq. "
Bed Room - - - - -	1 radiator. - - - - -	16 sq. "
Living Room - - - -	1 radiator. - - - - -	40 sq. "

Each radiator to be fitted with nickel plated wood wheel radiator valve and Simonds Vacuum return valve.

Simonds Vacuum return valves to be used for drip valves on main where required.

All of above to be connected to operate quickly and noiselessly and to heat rooms in which radiators are located to 70° in zero weather.

PAINTING:

All radiators and exposed piping throughout building to receive one coat priming and one coat gold or silver bronze.

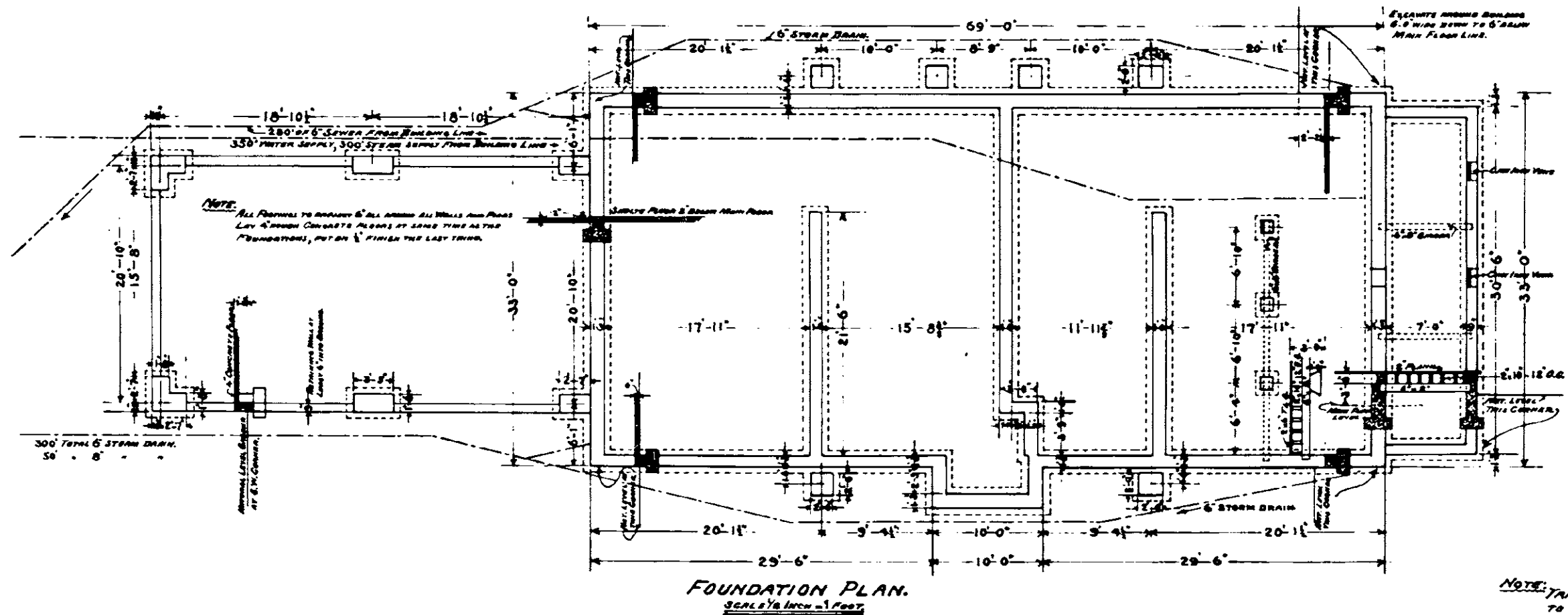
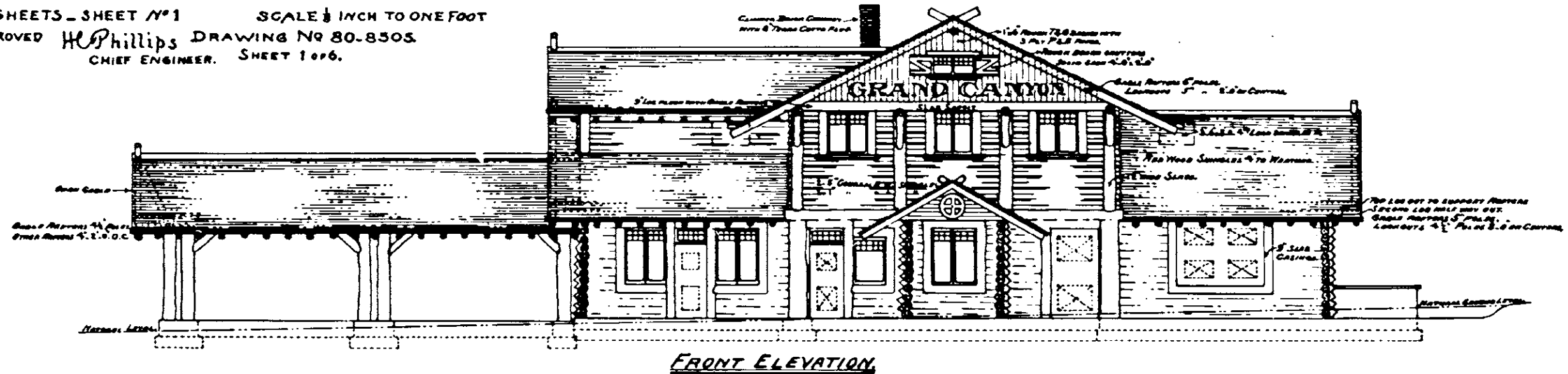
FLOOR AND CEILING PLATES:

Where pipes pass through floors or ceilings same shall be fitted with nickel plated floor and ceiling plates.

All work and materials in foregoing to be first class and job left complete and in perfect working order and to the satisfaction of the Chief Engineer.

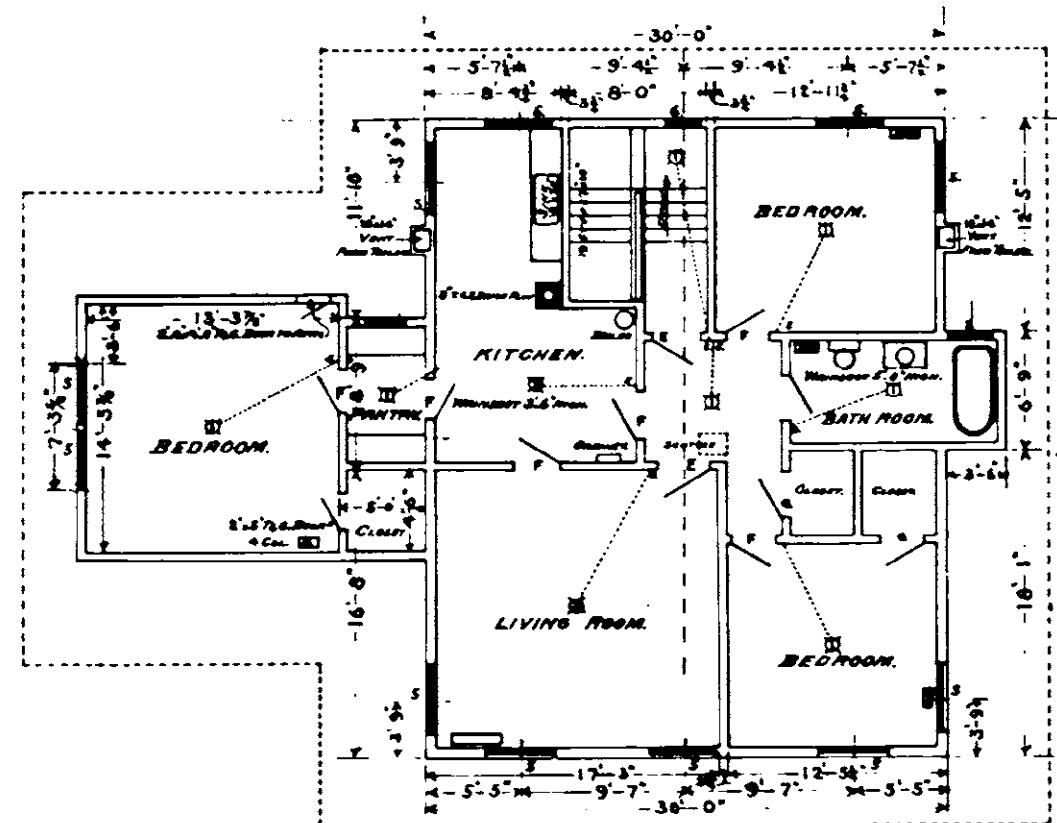
4.3.5 1919/1949 REVISED PLANS

STATION TO BE BUILT AT GRAND CANYON, ARIZ.
 FOR THE GRAND CANYON RAILROAD COMPANY.
 FRANCIS W. WILSON. ARCHITECT
 6 SHEETS - SHEET NO. 1 SCALE 1/8" INCH TO ONE FOOT
 APPROVED H. Phillips DRAWING NO. 80-8305
 CHIEF ENGINEER. SHEET 1 OF 6.



NOTE: TYPED AND CHANGES BROUGHT UP TO DATE APRIL 30th 1919.

STATION TO BE BUILT AT GRAND CANYON, ARIZ
FOR THE GRAND CANYON RAILROAD COMPANY
FRANCIS W. WILSON ARCHITECT
6 SHEETS - SHEET NO 2 SCALE 1/8" INCH TO ONE FOOT
APPROVED H. Phillips DRAWING NO 80-8505
CHIEF ENGINEER. SHEET 2 OF 6.



DOOR SCHEDULE.

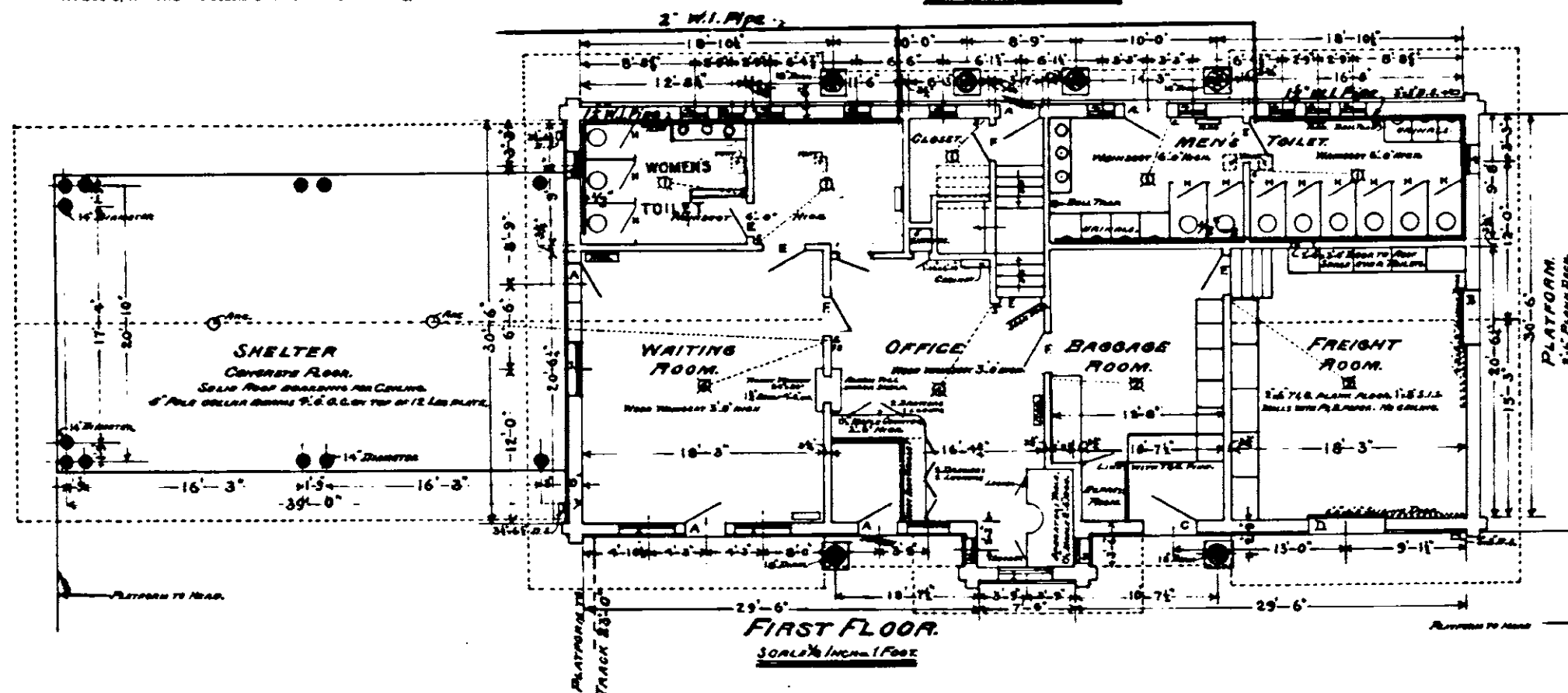
Door A	3'-0" x 6'-10"	TRANSOM 3'-0" x 1'-3"	TO DETAIL
B	4'-0" x 6'-0"	1/4" SLIDING DOOR.	
C	4'-6" x 8'-3"	TO DETAIL.	
D	6'-0" x 6'-0"	1/4" SLIDING DOOR.	
E	3'-0" x 6'-10"	1/4" 4 PANEL COLONIAL.	
F	2'-8" x 6'-10"	1/4" 4	
G	2'-6" x 6'-10"	1/4" 4	
H	2'-2" x 5'-0"	1/4" SLAT DOOR.	

WINDOW SCHEDULE

Window 1	4'-0" x 5'-0"	1/4" DOUBLE HUNG	3'-0" UP.
2	3'-0" x 4'-0"	1/4" SOLID	3'-9"
3	2'-0" x 5'-5"	1/4"	3'-0"
4	2'-0" x 3'-6"	1/4"	5'-3"
WITH WIRE CHIP GLASS.			
5	3'-9" x 4'-0"	1/4" DOUBLE HUNG	3'-6"
6	2'-4" x 4'-0"	1/4" SOLID	3'-6"
7	2'-6" x 3'-0"	1/4"	5'-0"

NOTE. ALL WALL AND PARTITION DIMENSIONS ARE GIVEN ON FACES OF STUDS AND INSIDE FACES OF LOGS. ALL DOORS, WINDOWS AND COLUMNS ARE SHOWN ON CENTERS.

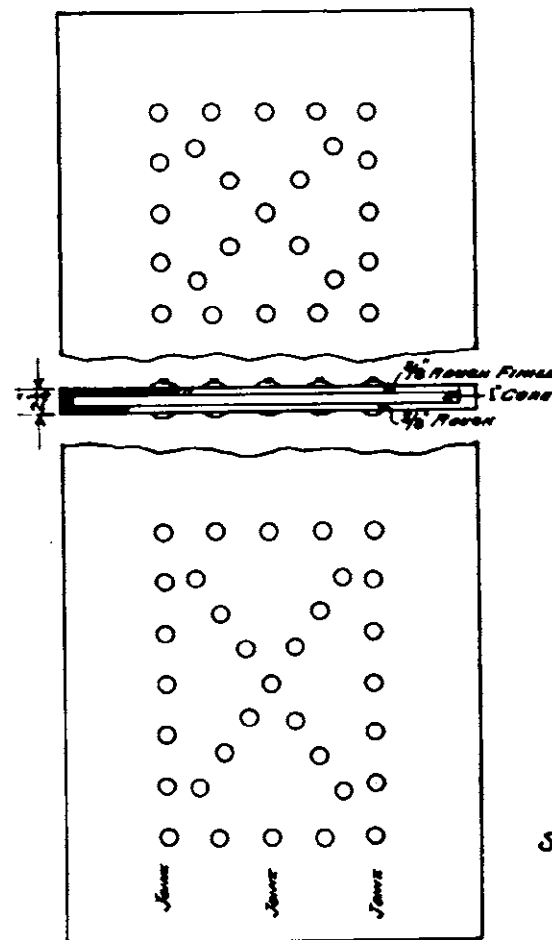
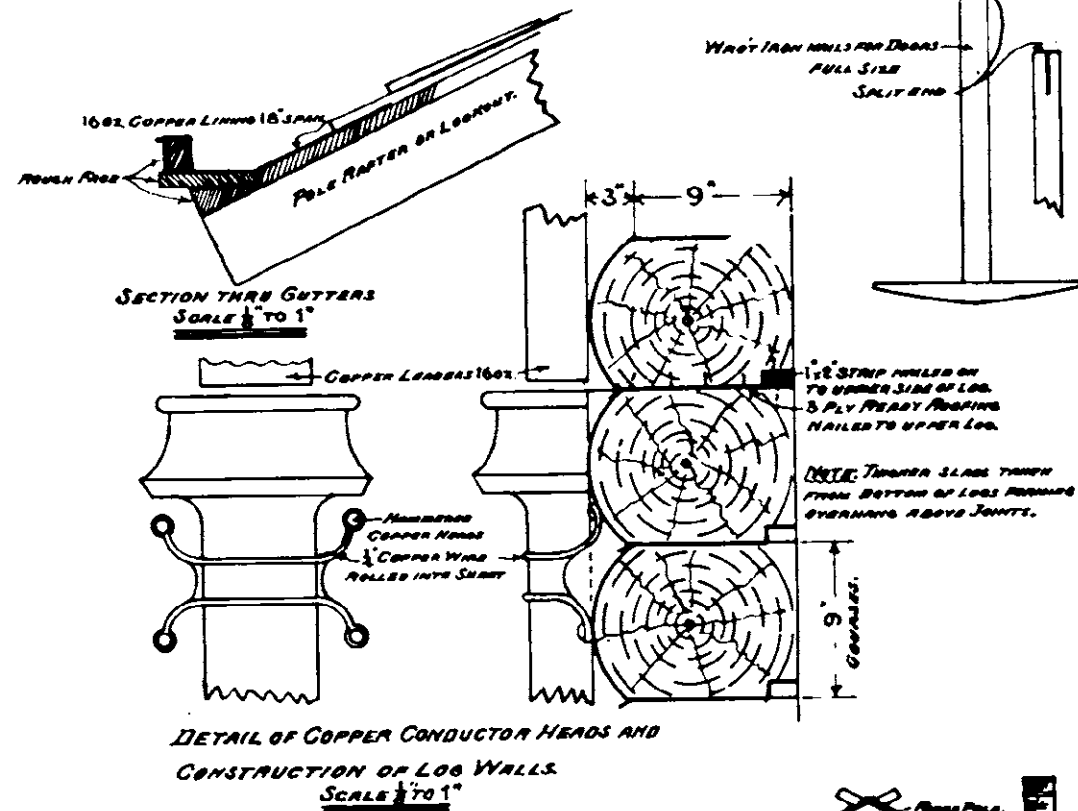
SECOND FLOOR



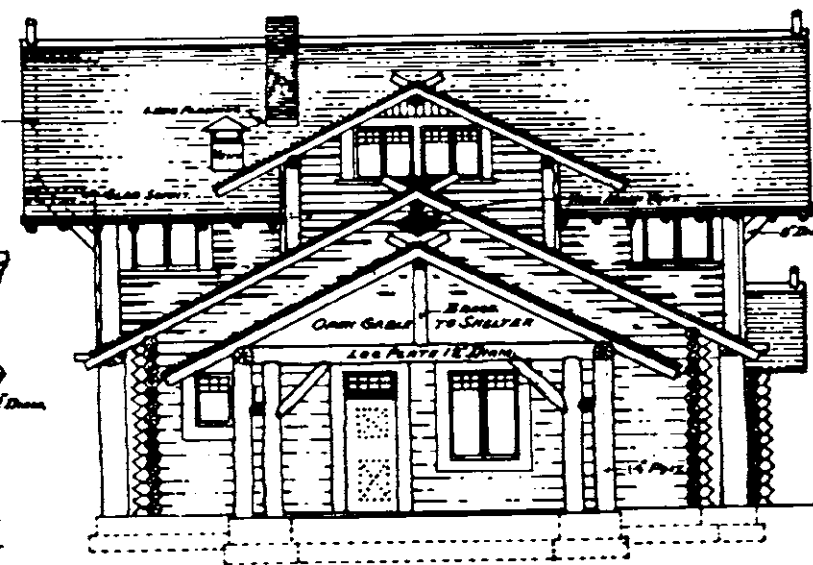
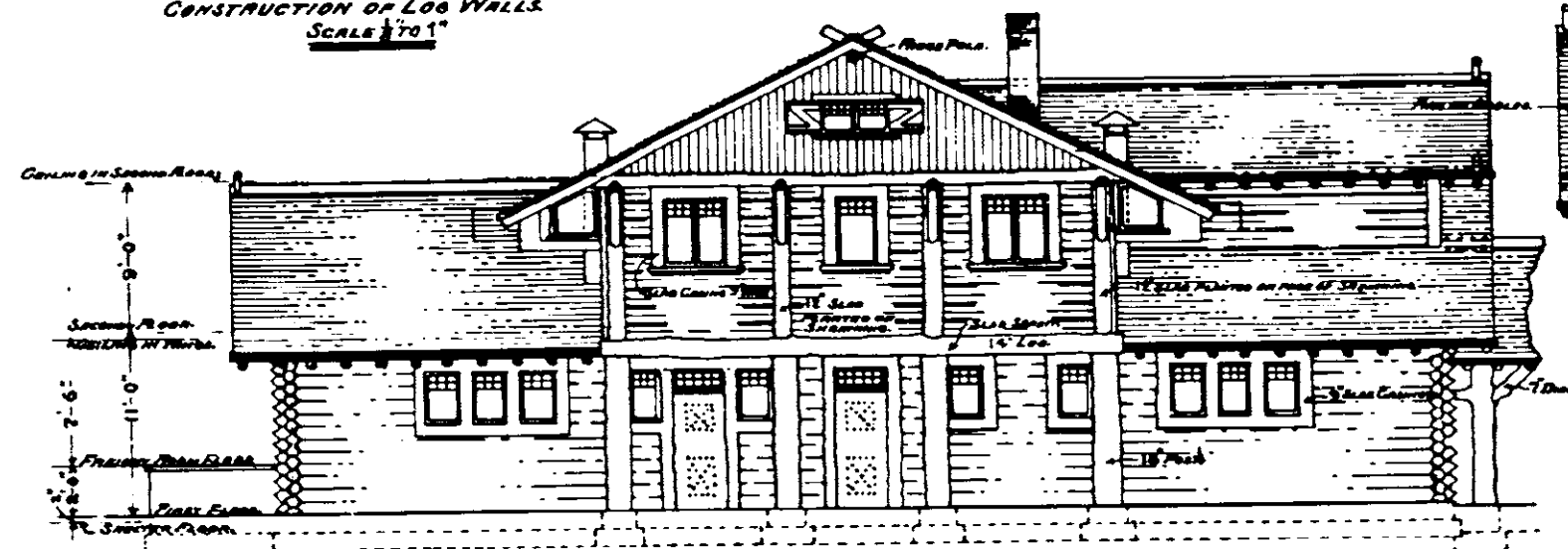
RECLAIMED SEWAGE WATER
LINES IN SANTA FE DEPT
GRAND CANYON, ARIZ
SHOWN IN RED

NOTE: TRACES AND CHANGES BROUGHT UP TO DATE APRIL 30th 1919. REVISION made Jan. 1949, to show changes in women's toilet.

STATION TO BE BUILT AT GRAND CANYON, ARIZ.
 FOR THE GRAND CANYON RAILROAD COMPANY
 FRANCIS W. WILSON. ARCHITECT
 6 SHEETS - SHEET NO. 3 SCALE 1/8" INCH TO ONE FOOT. DETAILS AS NOTED.
 APPROVED H. Phillips DRAWING NO. 80-8505.
 CHIEF ENGINEER. SHEET 3 OF 6.

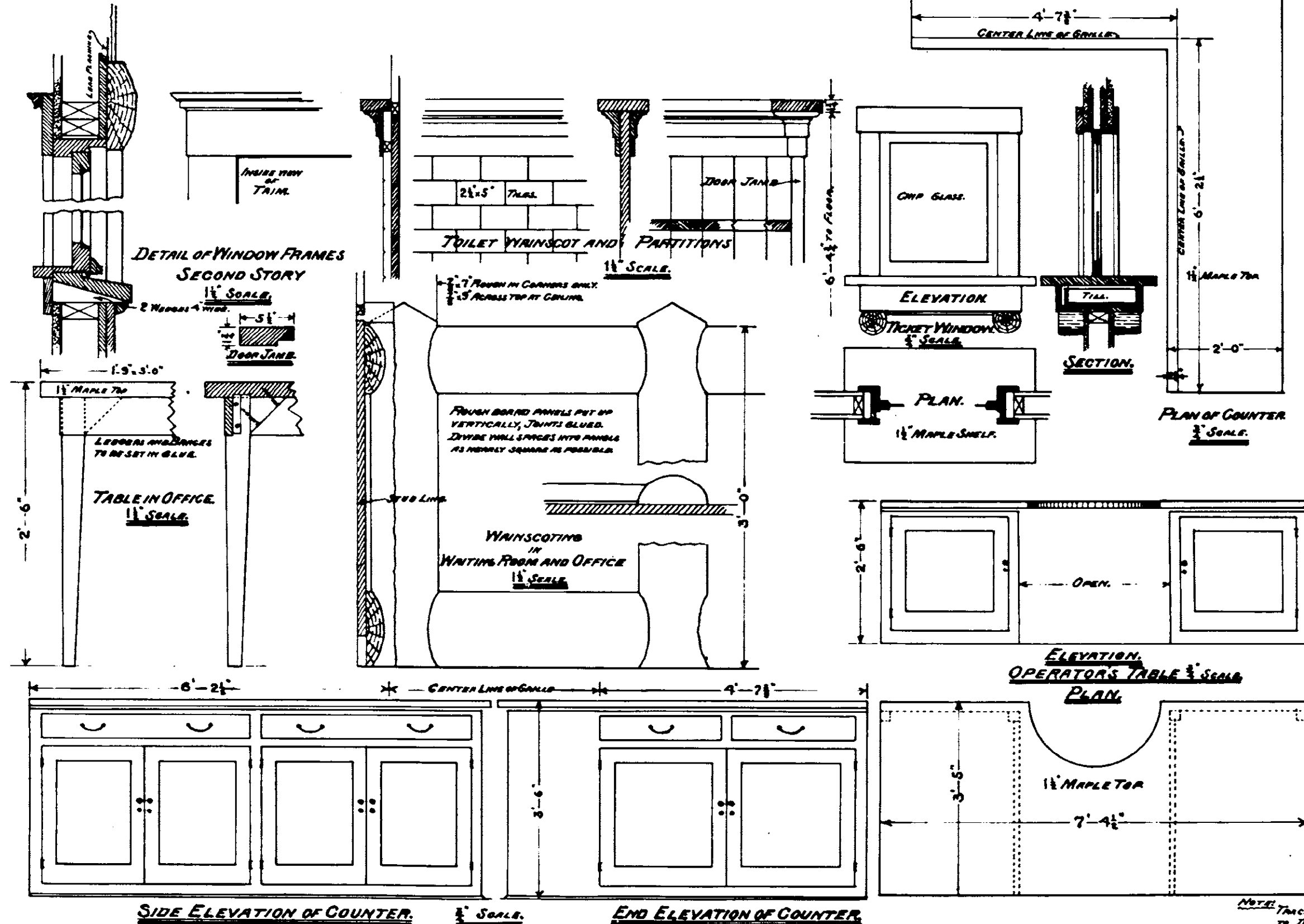


DOORS A, B, C AND D.
 SCALE 1" TO 1'-0"



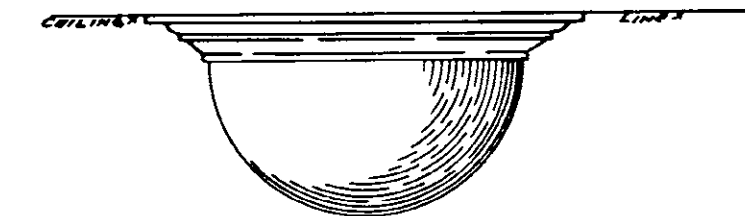
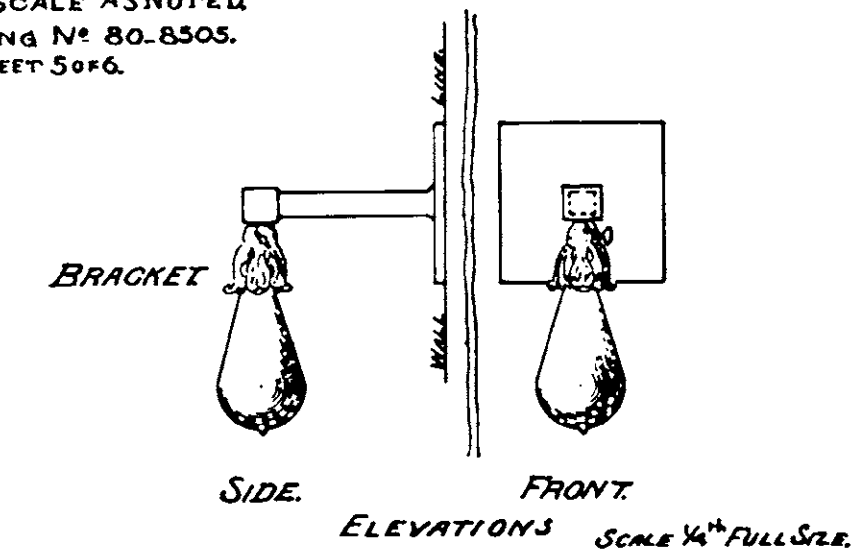
NOTE: TRACED AND CHANGES BROUGHT UP
 TO DATE APRIL 30, 1913.

STATION TO BE BUILT AT GRAND CANYON, ARIZ.
 FOR THE GRAND CANYON RAILROAD COMPANY
 FRANCIS W. WILSON. ARCHITECT
 6 SHEETS - SHEET No. 4 SCALE AS NOTED
 APPROVED H. Phillips DRAWING No. 80-8305.
 CHIEF ENGINEER. SHEET 4 OF 6.

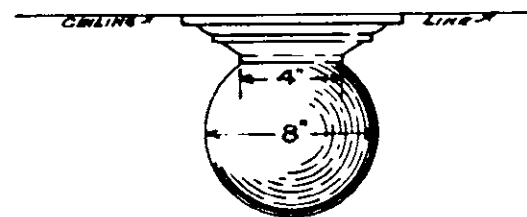


NOTES: TRACED AND CHANGES BROUGHT UP TO DATE APRIL 30TH 1919.

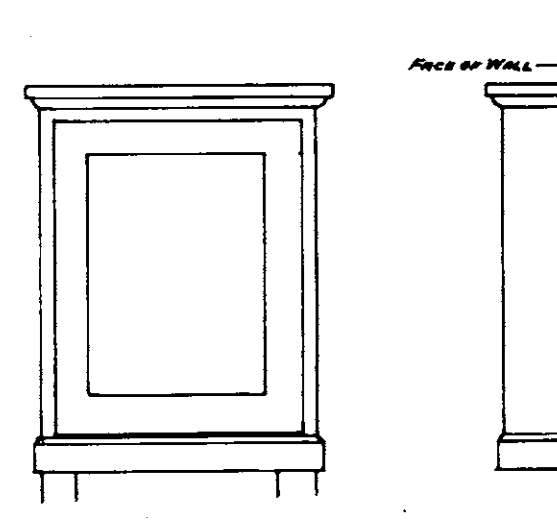
STATION TO BE BUILT AT GRAND CANYON, ARIZ.
 FOR THE GRAND CANYON RAILROAD COMPANY
 FRANCIS W. WILSON ARCHITECT
 6 SHEETS - SHEET N° 5 SCALE AS NOTED
 APPROVED DRAWING N° 80-8505.
 CHIEF ENGINEER. SHEET 5 OF 6.



CEILING FIXTURE FOR 3 LIGHTS TO BE 12" DIAMETER
 " " " 2 " " " 10"



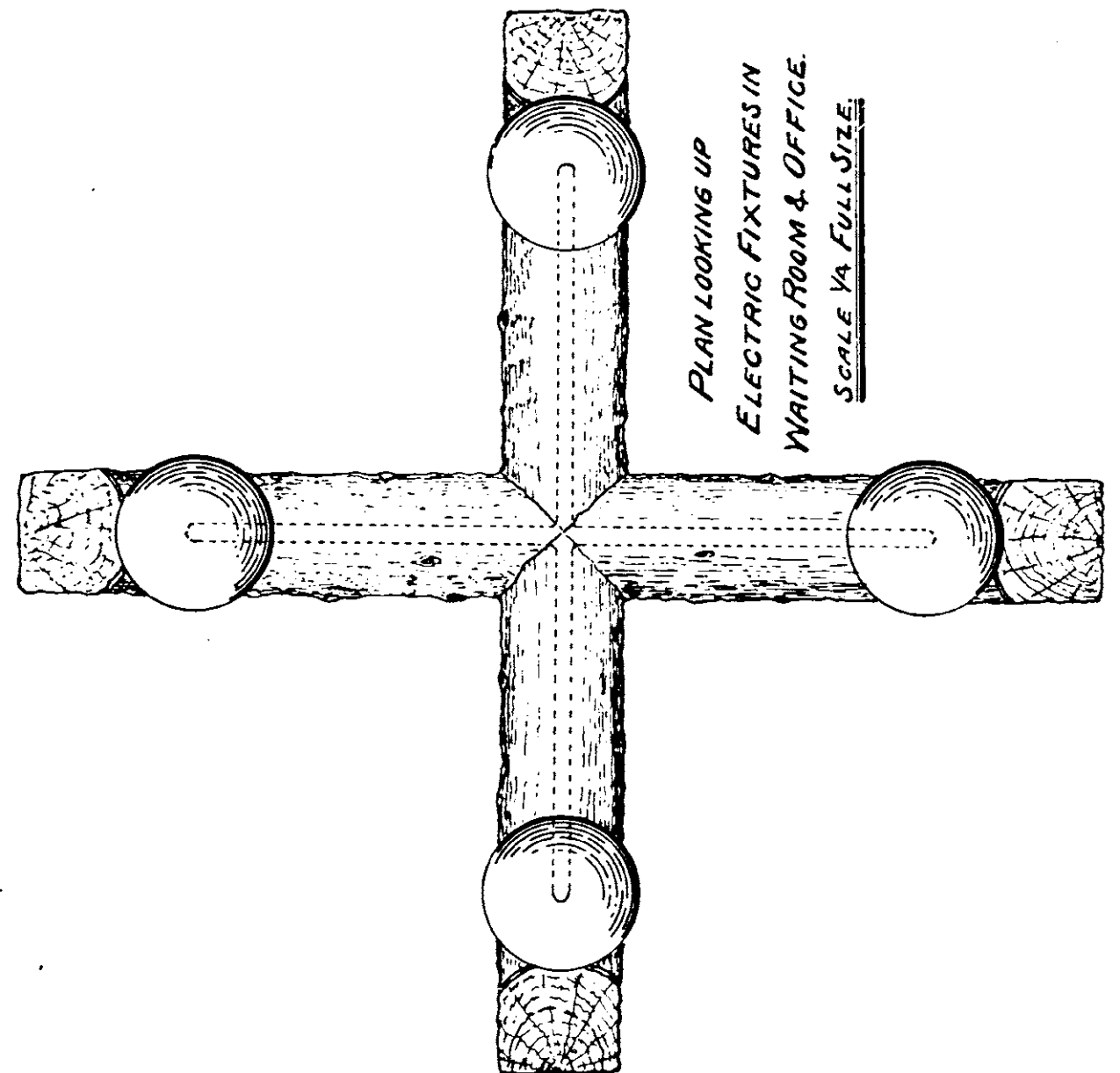
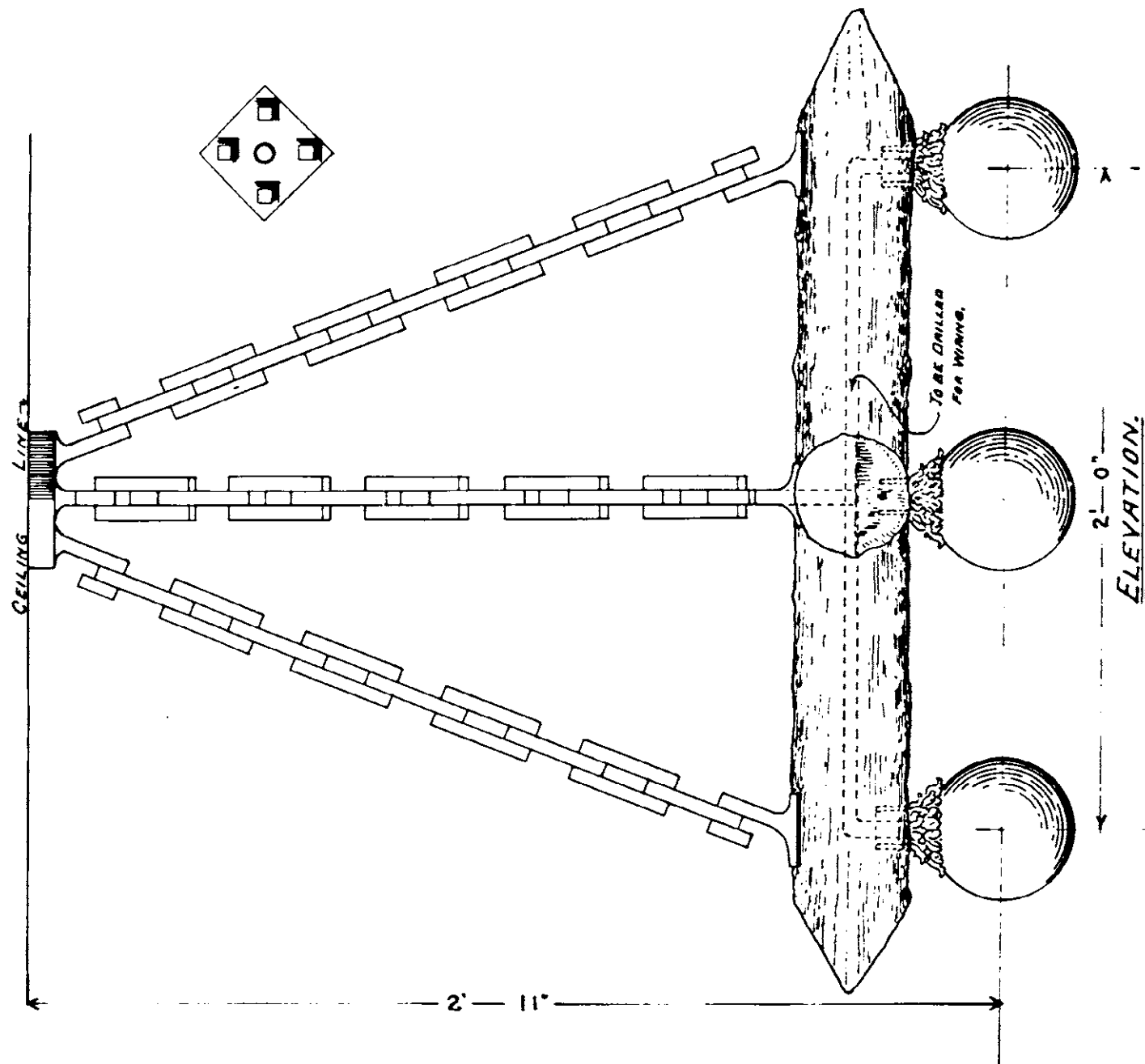
CEILING FIXTURE FOR 1 LIGHT.



ELEVATIONS OF CABINETS.
 DIMENSIONS TO FIT TABLET BOARDS.
 MATERIAL - ARIZONA PINE.
 FINISH TO MATCH WOODWORK.

NOTES: TAPERED AND CHANSELS BROUGHT UP
 TO DATE APRIL 30TH 1919.

STATION TO BE BUILT AT GRAND CANYON, ARIZ.
 FOR THE GRAND CANYON RAILROAD COMPANY
 FRANCIS W. WILSON. ARCHITECT
 6 SHEETS - SHEET N° 6 SCALE AS NOTED
 APPROVED DRAWING N° 80-8505.
 CHIEF ENGINEER SHEET 6 of 6.



NOTE: TRACED AND CHANGES BROUGHT UP
 TO DATE APRIL 30th 1913.

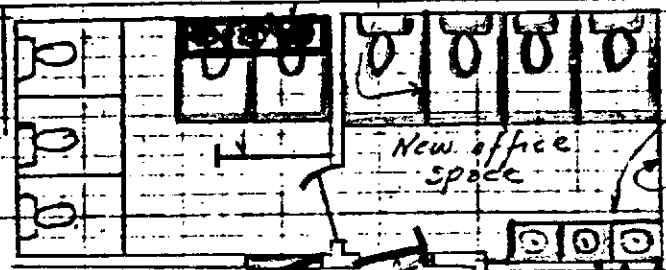
4.3.6 1925 SKETCH OF WOMEN'S RESTROOM

DATE 8-25 THE A. T. & S. F. RY. CO. SYSTEM PAGE 1 OF 1
 DRAWING NO. 1000 CORP. CARBON TO C. ENGR
 TRANSMITMAN 1000 FOR COMPLETION REPORT STATION Grand Canyon
 ROOMMAN 1000 AUTH. VAL. SEC. STATE ARIZ
 CHAIRMAN 1000 COMM. IN SERVICE M. P.
 NOTES TAKEN BY 1000 COMP. DIVISION DISTRICT
 TITLE Rearrange Women's Toilet in Depot
to provide additional office space
Grand Canyon

Lavatory connected to existing lines

Partition Moved for Screen

3 Lavatories Moved



New office space

6" Windowsill Removed & Plastered

Door Moved

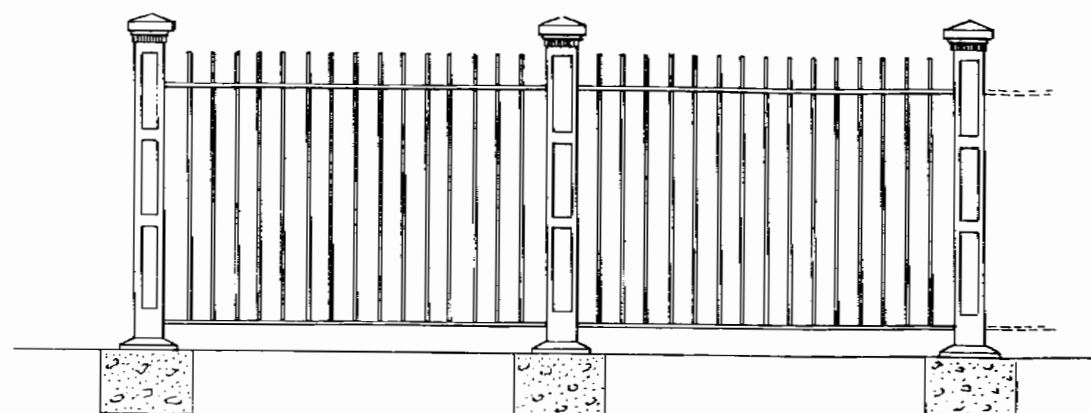
Door Closed

Water Line & Sink

office

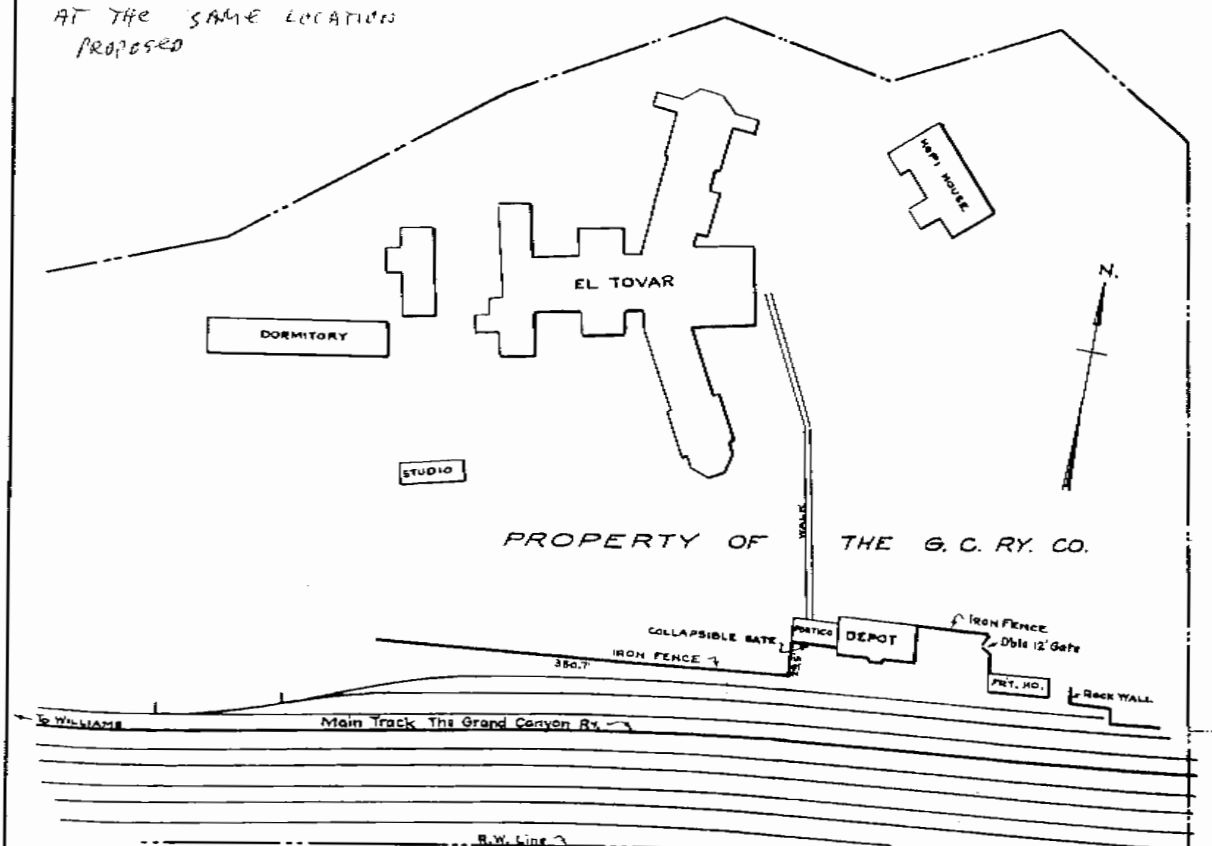
Plan Scale 1" = 8'

**4.3.7 1929 DESIGN DRAWINGS FOR IRON FENCE, GATE AND COLLAPSIBLE
GATE (NOT CONSTRUCTED)**



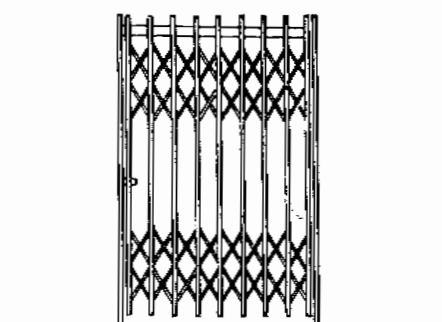
IRON FENCE

FENCE AS BUILT
DID NOT INCLUDE
THE FANCY FENCEPOSTS
AND WAS NOT ALL
AT THE SAME LOCATION
PROPOSED

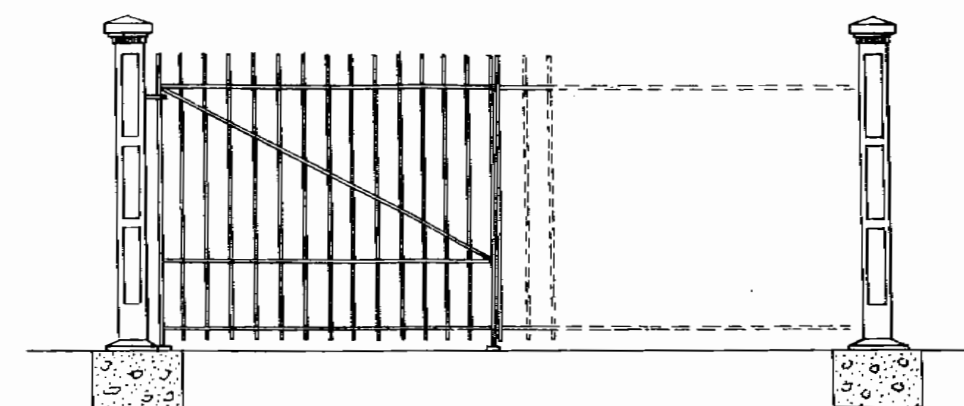


LOCATION PLAN

NOTE:
Five foot iron picket fence with square
metal posts set in concrete.
Collapsible gate of standard design for passen-
ger entrance.
Double 12 foot gate for truck entrance.
Entire fence to be painted black.



COLLAPSIBLE GATE



DOUBLE 12 FT. GATE

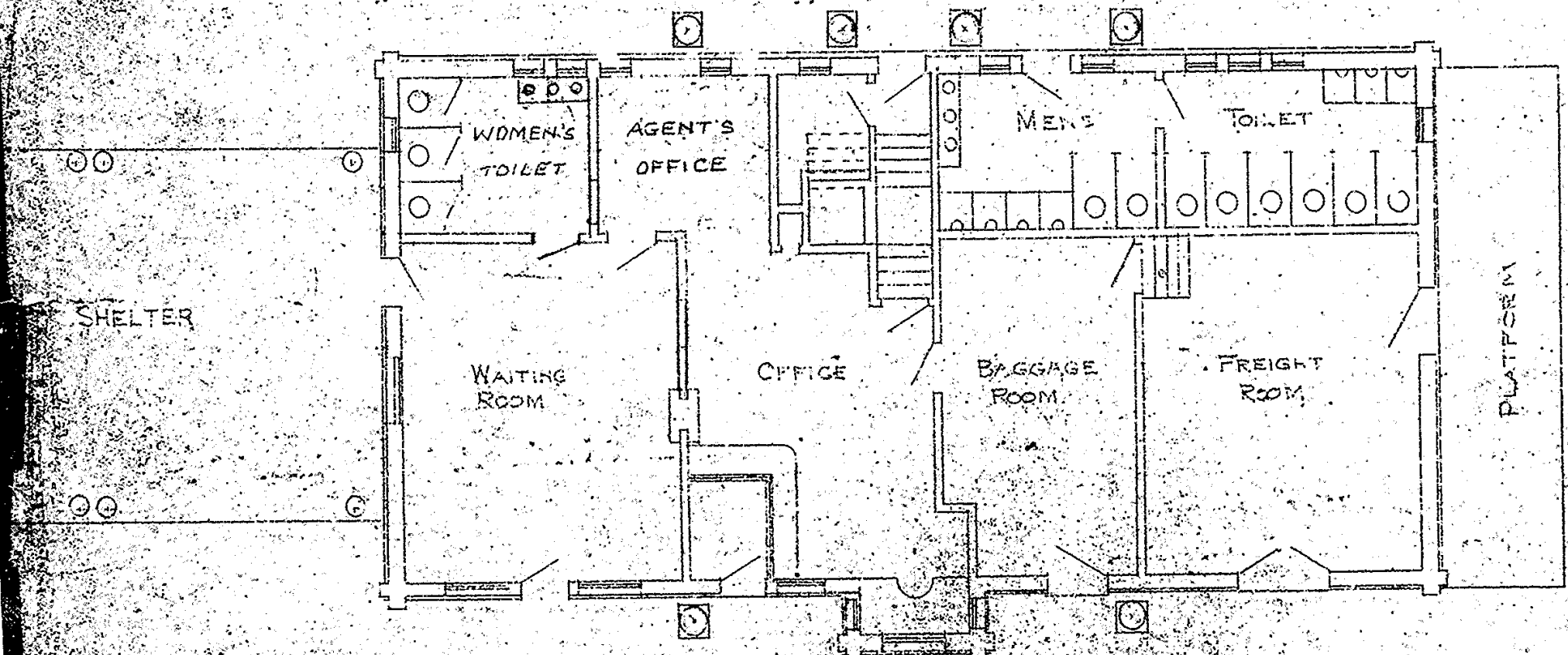
Recommended by R.B. Ball
Chief Engineer of The A.T. & S.F. Ry.
Recommended by W.C. Tallent 7/2/29
Superintendent
Concurred in by L.S. C. Vint 7/20/29
Landscape Engineer N.P.S.
Approved by W.C. Wright 7/16/29
Director National Park Service

THE A.T. & S.F. RY. CO.
COAST LINES
ALBUQUERQUE DIVISION
PROPOSED IRON FENCE TO BE BUILT ON PROPERTY
OF
THE GRAND CANYON RY. CO.
IN THE GRAND CANYON NATIONAL PARK
GRAND CANYON ARIZONA

LOS ANGELES CAL.
April 18, 1929

R.B. BALL
Chief Engr.

4.3.8 1939/1955 TELETYPE INSTALLATION DRAWING



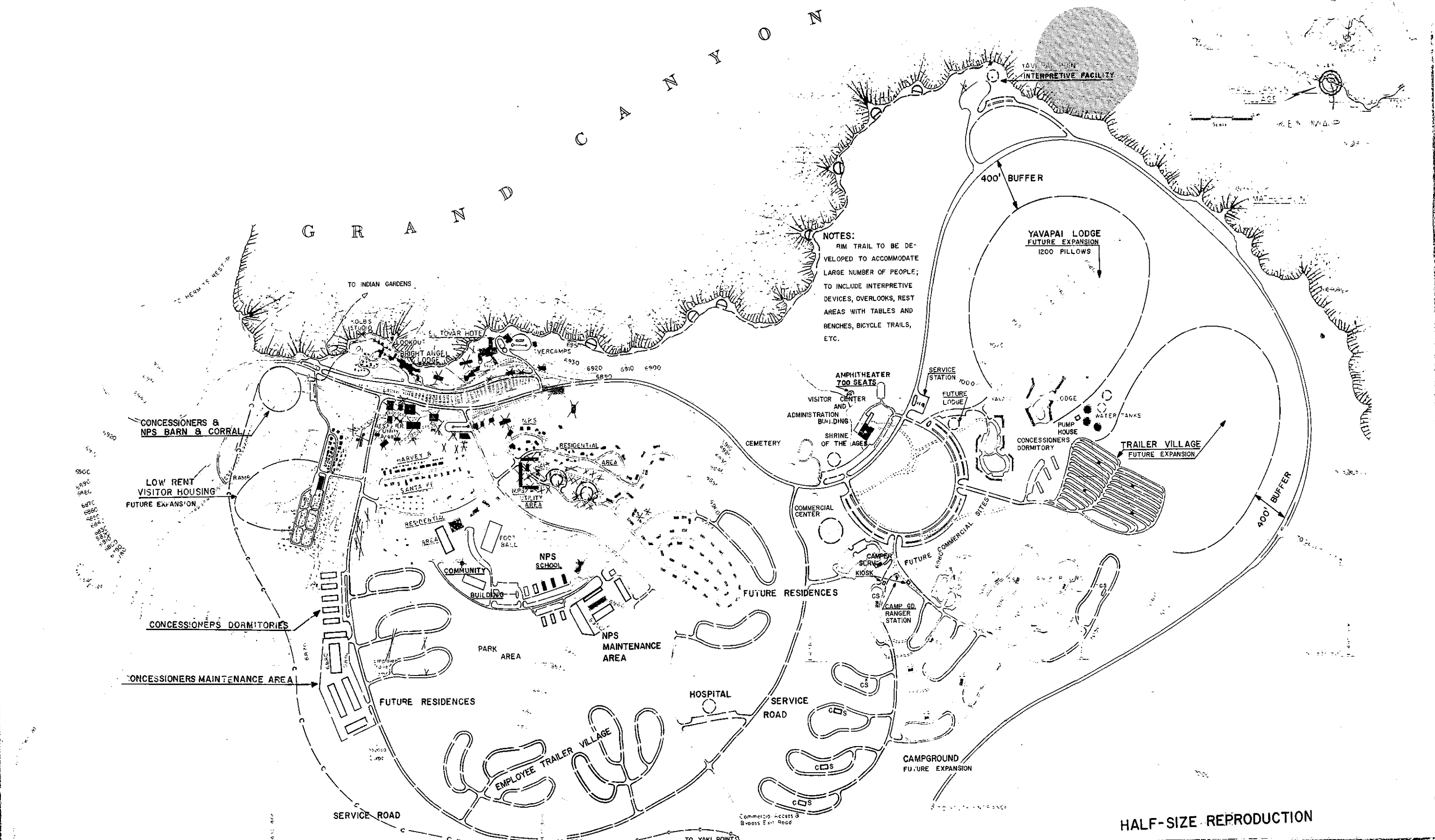
NOTE:
As built plan.

THE A.T. & S.F. RY. CO.
COAST LINES
ALBUQUERQUE DIVISION
DIVISION ENGINEER'S DRAWING NO. 100-1556Z
ALTERATIONS IN DEPOT ACCOUNT INSTALLA-
TION TELETYPE MACHINE AT GRAND CANYON
WINSLOW, ARIZONA. R.D. PIERSON,
AUGUST 25, 1939. DIVISION ENGINEER
SCALE 1/4" = 8 FT.
REV. MAY 12, 1955

113/60588

43-1-190

4.3.9 1965 MASTERPLAN

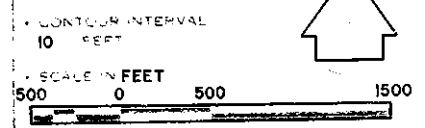


NOTES:
RIM TRAIL TO BE DEVELOPED TO ACCOMMODATE LARGE NUMBER OF PEOPLE; TO INCLUDE INTERPRETIVE DEVICES, OVERLOOKS, REST AREAS WITH TABLES AND BENCHES, BICYCLE TRAILS, ETC.

HALF-SIZE REPRODUCTION

PHOTOSTATIC REDUCTION OF NM-GC-3322A
COCONINO COUNTY

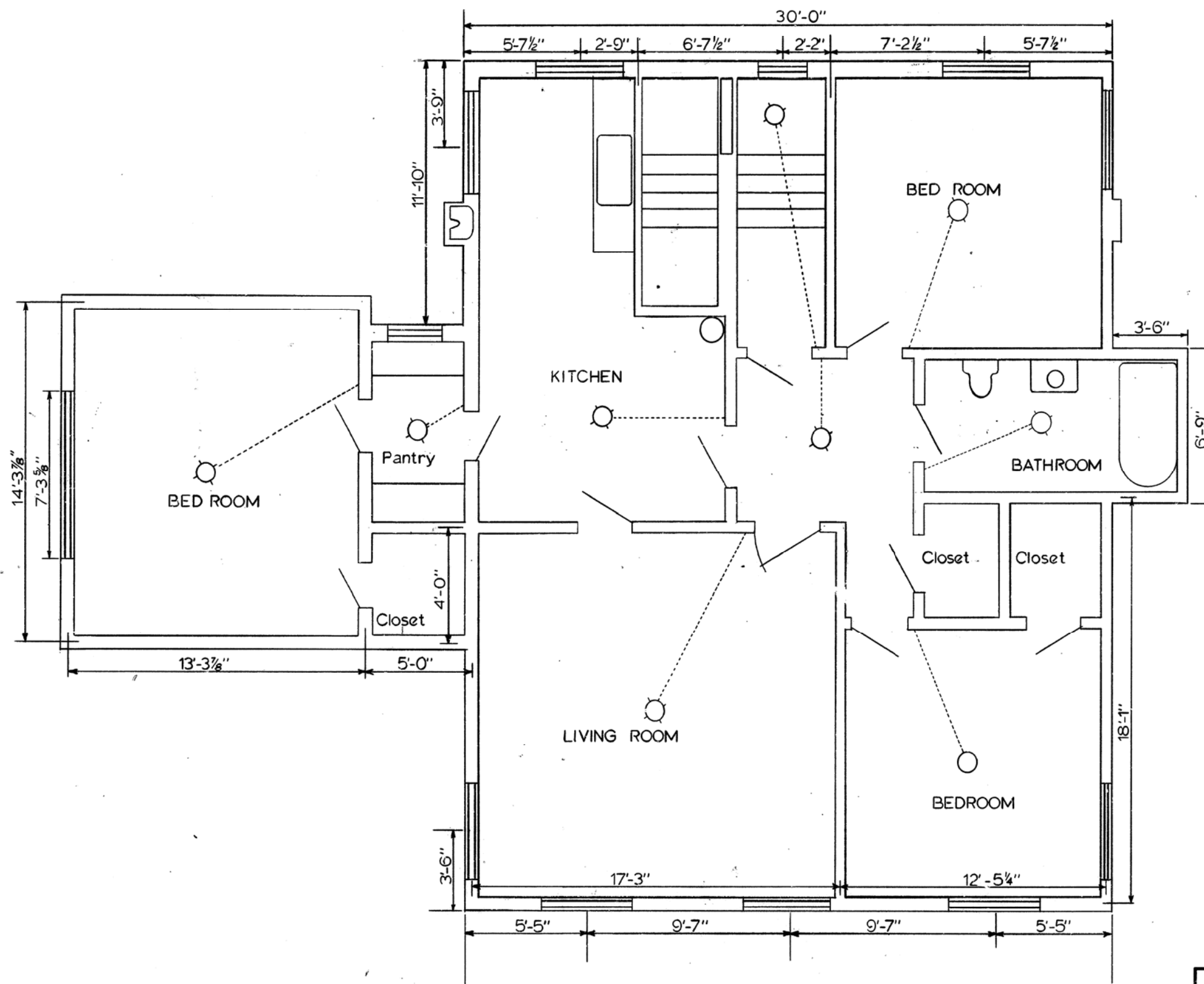
	EXISTING	PROPOSED	OBLITERATE
ROADS	—	—	---
TRAILS	—	—	---
FOOT	—	—	---
HORSE	—	—	---
BUILDINGS	■	□	■
COMFORT STA.	■	□	■



REVISED	PREPARED	RECOMMENDED
E 10-64 R.J.C.	E 4-65 R.H.T.	E 6-65 R.H.T.
IVerson	THOMAS	APPROVED

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
BRANCH OF LANDSCAPE ARCHITECTURE
REGIONAL OFFICE DIVISION OF DESIGN & CONSTRUCTION
GRAND CANYON VILLAGE VICINITY
PART OF THE MASTER PLAN
GRAND CANYON NATIONAL PARK
ARIZONA
REGION
SOUTHWEST
NP-GC
2114-E
8-57

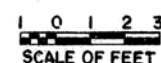
4.3.10 1983 PLANS BASED ON 1919 DRAWINGS



NOTE:

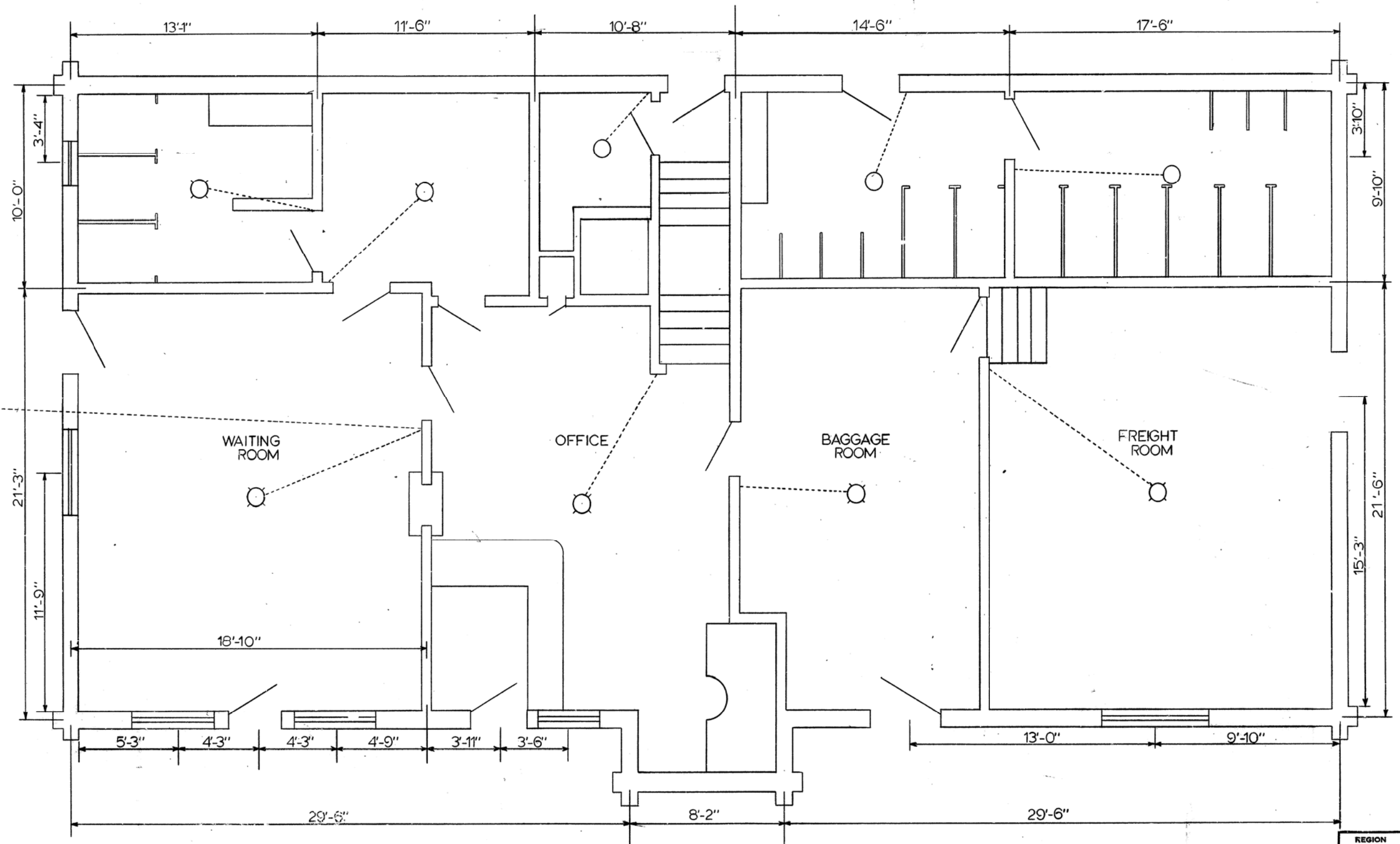
This drawing copied from a drawing by the Santa Fe Railroad dated April 30, 1919. Since that time several changes have been made that have not been recorded. This drawing does not reflect those changes.

SECOND FLOOR PLAN



REDUCED SIZE REPRODUCTION

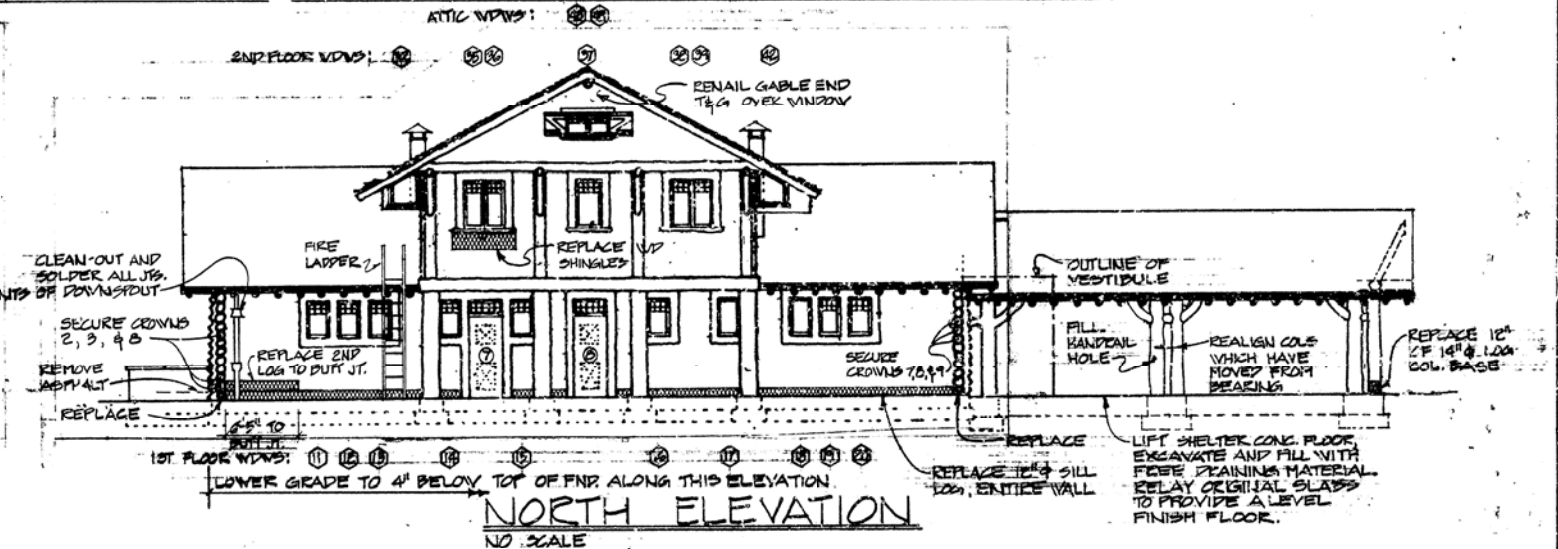
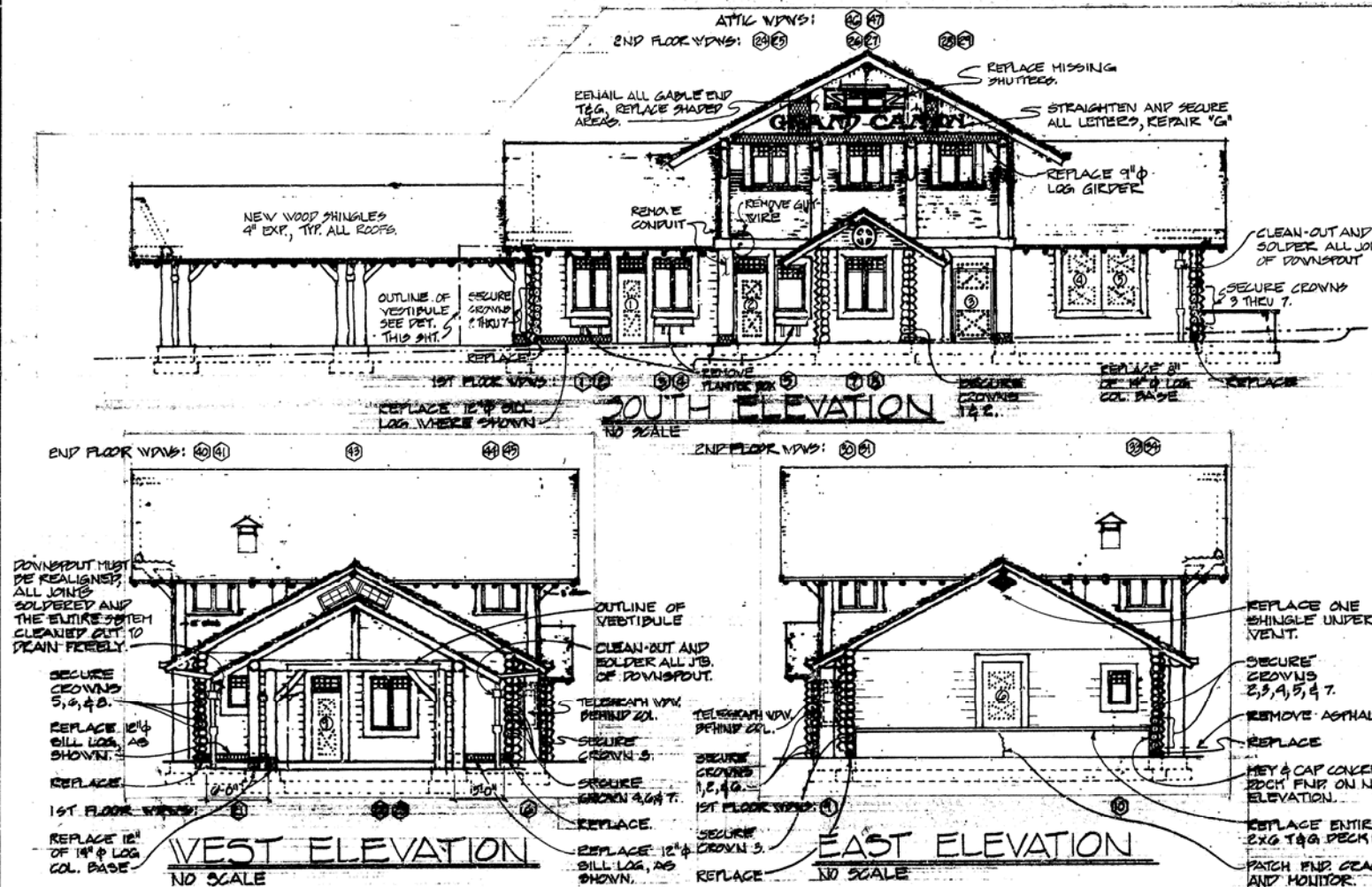
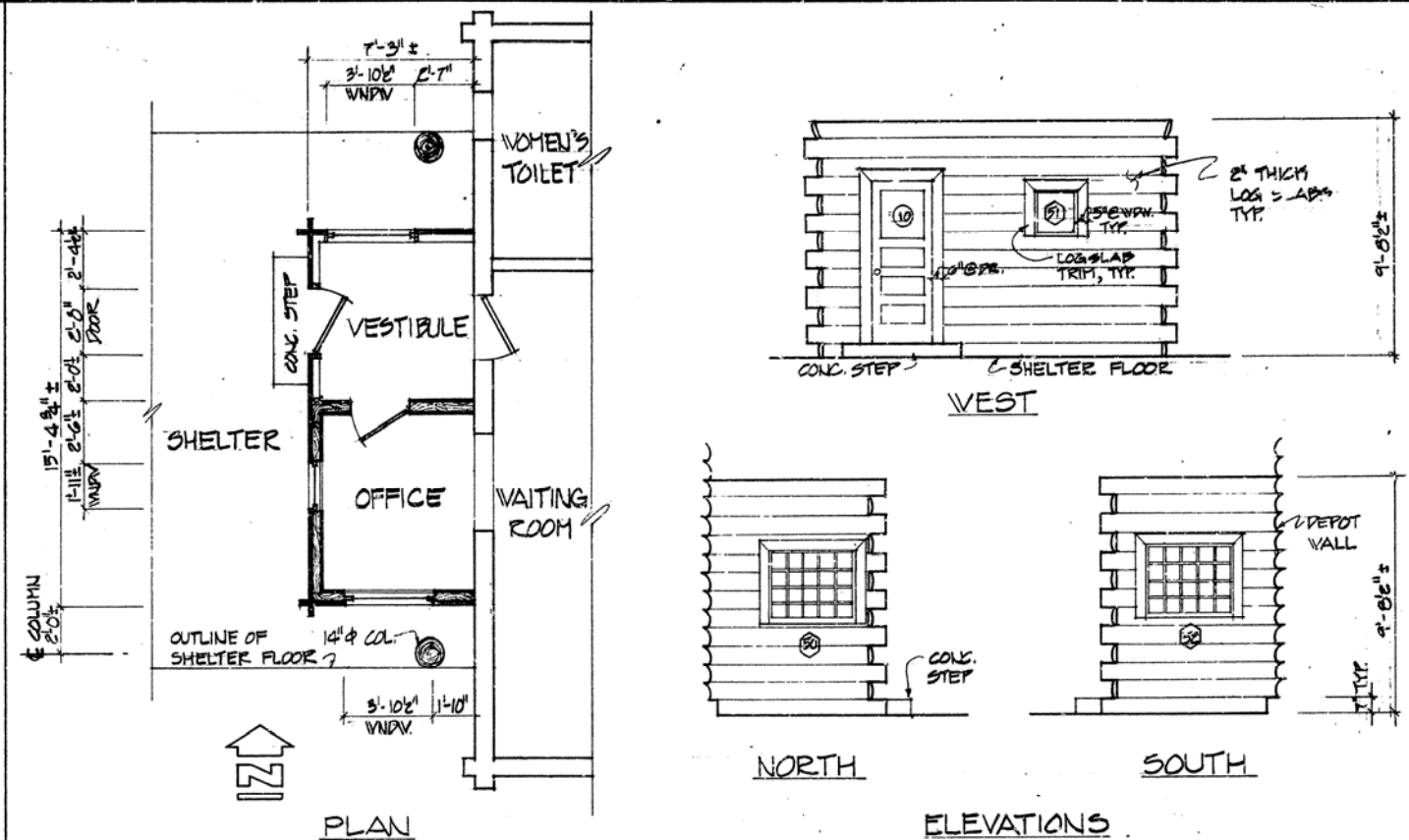
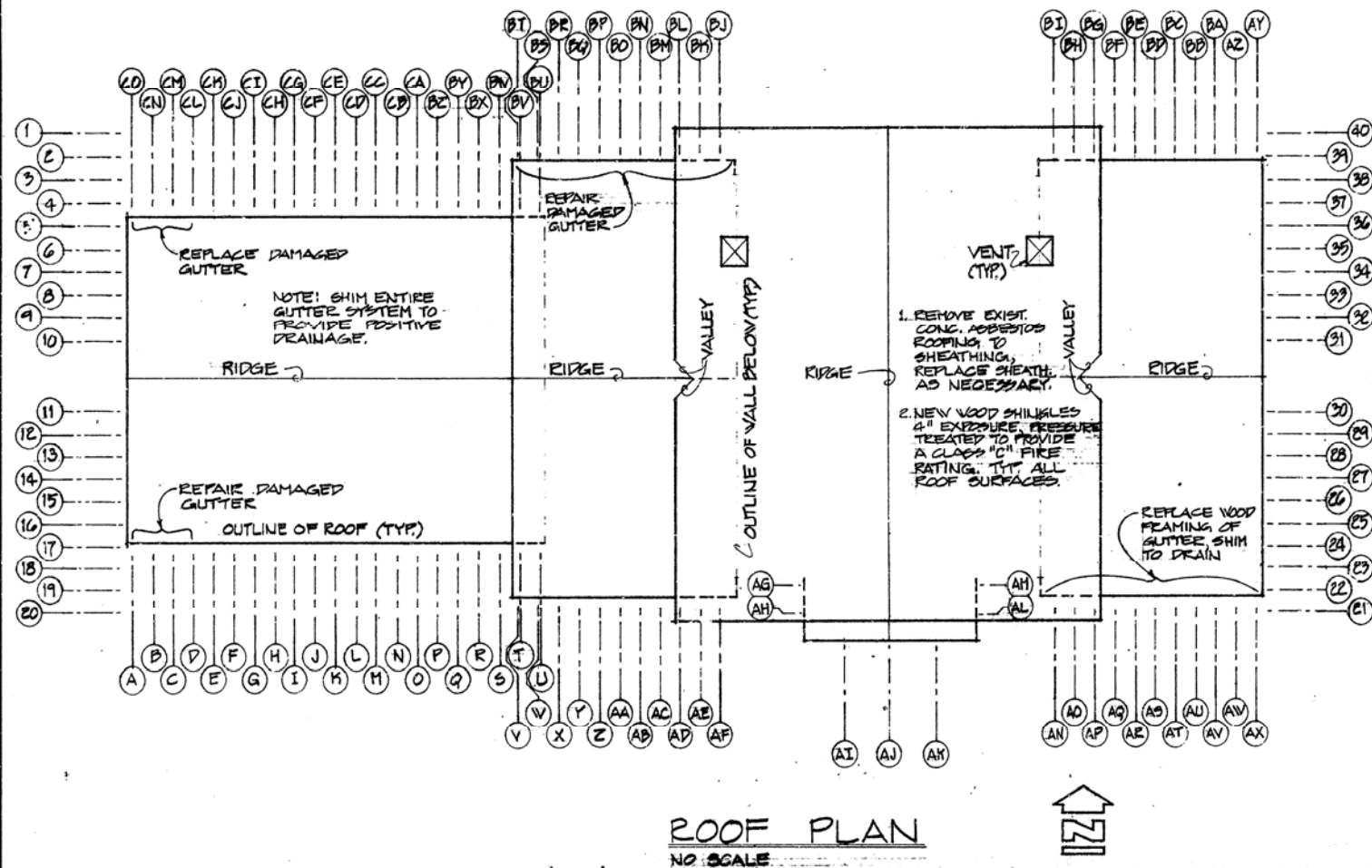
UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE DENVER SERVICE CENTER	PREPARED DESIGNED S. GASTELLUM DRAWN	TITLE OF DRAWING AT & SF RAILROAD DEPOT LOCATION WITHIN PARK SOUTH RIM NAME OF PARK GRAND CANYON	DRAWING NO. 113 60358	
	CHECKED 7/83 DATE	WESTERN REGION	COCONINO COUNTY	ARIZONA STATE
	SHEET 1 OF 2			
	GPO: 1974-578-711			



-FIRST FLOOR PLAN-

1 0 1 2 3
SCALE OF FEET

4.3.11 1984 BORJES HSR DRAWINGS



LEGEND

- ② - WINDOW INDICATION
- ② - DOOR INDICATION
- (AD) - RAFTER END INDICATION
- [Hatched Box] - REPLACE EXISTING MEMBER IN KIND
- - SECURE LOG CROWN
- - REPLACE LOG CROWN

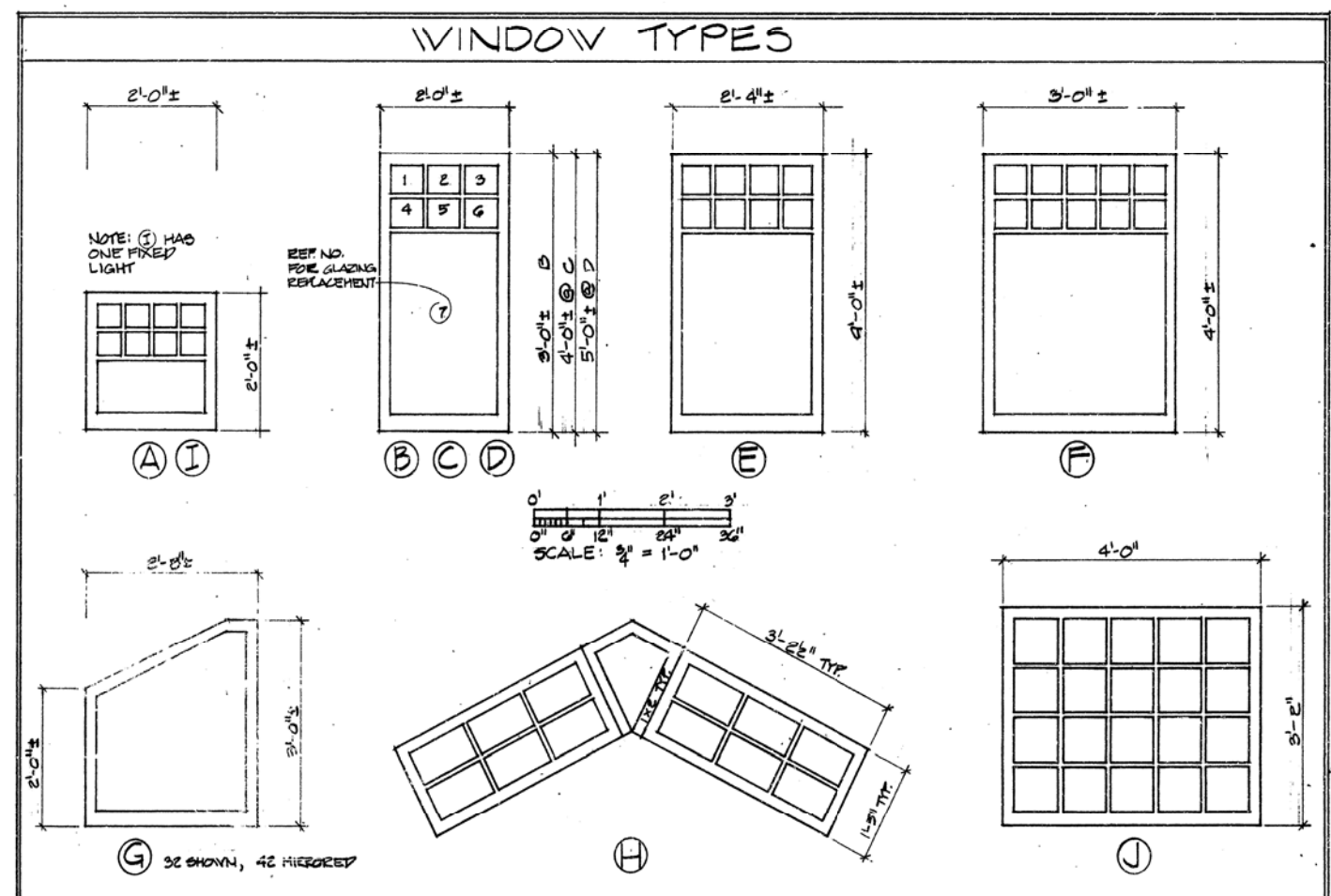
REDUCED SIZE REPRODUCTION

HSR: R.R. DEPOT UNITED STATES DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE WESTERN REGIONAL OFFICE	DESIGNED: <u>E. BORJES</u>	TITLE OF DRAWING <u>PRESERVATION:</u> <u>GRAND CANYON RAILROAD DEPOT</u> LOCATION WITHIN PARK <u>GRAND CANYON VILLAGE</u>	DRAWING NO. <u>113</u> <u>80,051</u>
	DRAWN: <u>E. BORJES</u> TECH. REVIEW: <u>VED</u> DATE: <u>9 DEC 84</u>	NAME OF PARK <u>GRAND CANYON NATIONAL PARK</u> REGION <u>WESTERN</u>	COUNTY <u>COCONINO</u>
			PKG. NO. _____ SHEET <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">1</div> OF <u>2</u>

RAFTER END SCHEDULE						FROM 1984 INSPECTION BY B. GARRETT AND S. GASTELLUM					
1ST FLOOR ROOF						2ND FLOOR ROOF					
LOC.	TREATMENT	LOC.	TREATMENT	LOC.	TREATMENT	LOC.	TREATMENT	LOC.	TREATMENT	LOC.	TREATMENT
A	EP (ST)	V	EP, ST	AP	EP, ST (SL)	BJ	OK	CP	OK	1	EP, ST
B	OK (ST)	W	EP, ST	AQ	SL, ST	BK	OK	CE	EP, ST	2	OK
C	OK	X	SL, ST	AR	EP, ST (SL)	BL	SL, ST	CF	EP, ST	3	OK
D	OK	Y	SL, ST	AS	OK	BM	SL, ST	CG	EP, ST (OK)	4	OK
E	EP, ST	Z	EP, ST (SL)	AT	SL, ST	BN	EP, ST	CH	OK	5	OK (SL)
F	EP, ST	AA	OK	AU	EP, ST	BO	SL, ST	CI	OK	6	EP, ST
G	EP, ST	AB	OK	AV	EP, ST	BP	SL, ST	CJ	EP, ST	7	EP, ST
H	OK	AC	EP, ST (SL)	AW	OK	BQ	OK (SL) ST	CK	EP, ST	8	OK
I	OK	AD	EP, ST	AX	OK	BR	SL, ST OK	CL	EP, ST	9	OK
J	OK	AE	OK	AY	EP, ST	BS	EP, ST	CM	EP, ST	10	OK
K	EP, ST	AF	OK (SL) ST	AZ	OK	BT	EP, ST	CN	NEW	11	SL, ST
L	EP, ST	AG	OK	BA	OK	BU	EP, ST	CO	NEW	12	SL, ST
M	EP, ST (SP)	AH	OK	BB	OK	BV	EP, ST OK			13	SL, ST
N	EP, ST	AI	EP, ST	BC	SL, ST OK	BW	EP, ST OK			14	SL, ST
O	EP, ST (SP)	AJ	EP, ST	BD	SL, ST OK	BX	EP, ST			15	SL, ST
P	EP, ST	AK	EP, ST	BE	SL, ST OK	BY	EP, ST			16	SL, ST
R	EP, ST (SP)	AL	OK	BF	SL, ST OK	BZ	EP, ST (OK)			17	OK
S	EP, ST	AM	OK	BG	SL, ST	CA	EP, ST			18	OK
T	EP, ST	AN	OK	BH	OK	CB	EP, ST			19	OK
U	OK	AO	OK	BI	OK	CC	EP, ST			20	EP, ST
										21	OK
										22	OK
										23	OK
										24	EP, ST
										25	EP, ST
										26	EP, ST
										27	EP, ST
										28	EP, ST
										29	EP, ST
										30	SL, ST
										31	EP, ST
										32	OK
										33	EP, ST
										34	OK
										35	OK
										36	OK
										37	EP, ST
										38	OK
										39	OK
										40	OK

DOOR SCHEDULE					
EXTERIOR DOORS					
NO.	DOOR TRT.	EXT. TRIM TRT.	HARDWARE	TRANSOM	REMARKS
1	ST, SEE REMK.	ST.	RETAIN	SPP, P	REPLACE EXT. SIDING LOWER RT. CORNER, 82" WIDE x 84" HIGH
2	ST	ST, SEE REMK.	REPLACE "6C" KNOB	SPP, P	REPLACE LVR. 12" OF LOG SLAB TRIM EA. SIDE OF DOOR. REMOVE DOOR CLOSER.
3	ST	ST.	REPLACE "6C" KNOB	N.A.	DOOR MODIFIED BY CUTTING SHALLER DOOR INTO LARGE ORIG. DOOR.
4	ST	ST, REPLACE LOG SLAB TRIM, LEFT JAMB	NONE	N.A.	
5	ST.	ST.	NONE	N.A.	
6	ST.	ST.	NONE	N.A.	
7	ST, SEE REMK.	ST.	REPLACE "6C" KNOB	SPP, P	REPLACE EXT. SIDING LOWER LFT. CORNER, 24" HIGH x 1 BR. WP.
8	ST.	ST.	REPLACE "6C" KNOB	SPP, P, REPLACE 1-LIGHT	RETAIN AND REPAIR WP FRAME SCREEN DOOR
9	ST (INTERIOR ONLY)	ST.	RETAIN	SPP, P	RETAIN SIGN ON DOOR
10	ST.	ST.	RETAIN	N.A.	RETAIN SIGN ON GLASS

WINDOW SCHEDULE					
NO.	TYPE	FRAME	FIN.	GLAZING	REMARKS
1	D	RB	SPP	P	ST, NA
2	D	RB	SPP	P	ST, NA
3	D	T	SPP	P, REPLACE 445	ST, NA
4	D	T	SPP	P	ST, NA
5	F	RB	SPP	P	ST, NA
6	C		SPP	P, REPLACE 446	ST, NA
7	D	SEE REMK.	SPP	P, REPLACE 146	ST, NA REPLACE LOWER PORTION OF SASH WHICH HAS BEEN DETACHED, RETAIN UPPER PORTION
8	D	SEE REMK.	SPP	P, REPLACE 1	ST, NA REPLACE LOWER PORTION OF SASH WHICH HAS BEEN DETACHED, RETAIN UPPER PORTION
9	C		SPP	P	ST, NA
10	B	R			ST, NA
11	B	RB, T	SPP	P	ST, NA
12	B	T	SPP	P	ST, NA
13	B		SPP	P	ST, NA
14	B		SPP	P	ST, NA
15	B		SPP	P	ST, NA
16	B	T	SPP	P	ST, NA
17	B		SPP	P	ST, NA SASH HAS BEEN MODIFIED BY REMOVING MULTI-LIGHT PANELS
18	B		SPP	P	ST, NA SASH HAS BEEN MODIFIED BY REMOVING MULTI-LIGHT PANELS
19	B		SPP	P	ST, NA
20	B		SPP	P	ST, NA
21	B	CB, RS, LFT	SPP	P	ST, NA
22	D				ST, NA REINSTALL WNDV. NOW IN STORAGE
23	D				ST, NA REINSTALL WNDV. NOW IN STORAGE
24	C		SPP	P	ST, T
25	C	R			ST, T
26	C		SPP	P	ST, T
27	C		SPP	P	ST, T
28	C		P		ST, T
29	C		ST	T	ST, T
30	C		SPP	P, REPLACE 547	ST, T
31	C		SPP	P	ST, T
32	A	T	SPP	P	ST, NA
33	C		SPP	P	ST, T
34	C		SPP	P	ST, T
35	C		SPP	P	ST, T
36	C		SPP	P	ST, T
37	E		SPP	P	ST, NA
38	C		SPP	P, REPLACE 7	ST, T
39	C		SPP	P	ST, T
40	C		SPP	P, REPLACE 7	ST, T
41	C		SPP	P	ST, T
42	A	T	SPP	P	ST, NA
43	H		SPP	P	ST, OK
44	C		SPP	P	ST, T
45	C		SPP	P	ST, T
46	A		SPP	P	ST, NA REPLACE MISSING SHUTTERS
47	A		SPP	P	ST, NA REPLACE MISSING SHUTTERS
48	A		SPP	P	ST, NA
49	A		SPP	P	ST, NA
50	J		SPP	P	ST, NA VESTIBULE
51	I		SPP	P	ST, NA VESTIBULE
52	J		SPP	P	ST, NA VESTIBULE



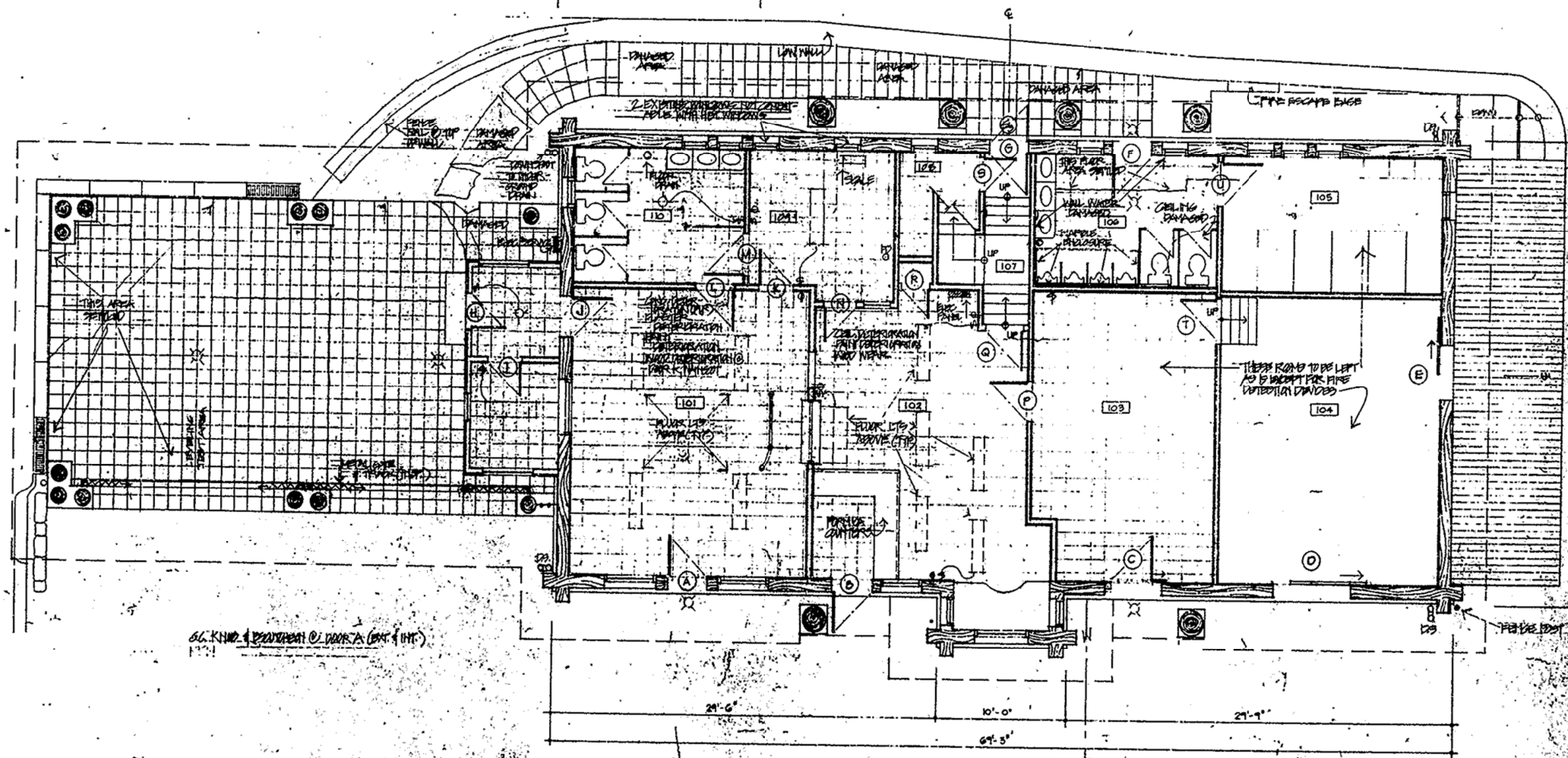
TREATMENT LEGEND	
RAFTER END TREATMENT	DOOR AND WINDOW TREATMENT
OK - RETAIN AS IS, STAIN AS BELOW	R - REPLACE SASH
ST - STAIN WITH APPROVED PRESERVATIVE-STAIN MIXTURE.	RB - REPLACE BOTTOM RAIL
SP - REMOVE DETEIORATED PORTION AND SPICE RAFTER END	RT - REPLACE TOP RAIL
SL - OUTLOOKERS; SLIDE OUTLOOKER FORWARD AND REMOVE DETEIORATED PORTION.	RS () - REPLACE SIDE RAIL, (LEFT/RIGHT) INDICATES RAIL LOCATION
EP - EPOXY PATCHING AND CONSOLIDATION OF EXISTING MEMBER.	REPLACE - REPLACE GLAZING PANEL AS INDICATED BY NUMBER TO RIGHT; REFERENCE WDV. DVG. B, C, D
	P - REPLACE PUTTY
	SPP - SAND, PRIME, AND PAINT
	T - TAKE OUT UNIT AND REGUE ALL JOINTS

PREPARED	DRAWING NO.
DESIGNED	113
DRAWN	80,031
CHECKED	PC/P
DATE	SHEET
	OF 2

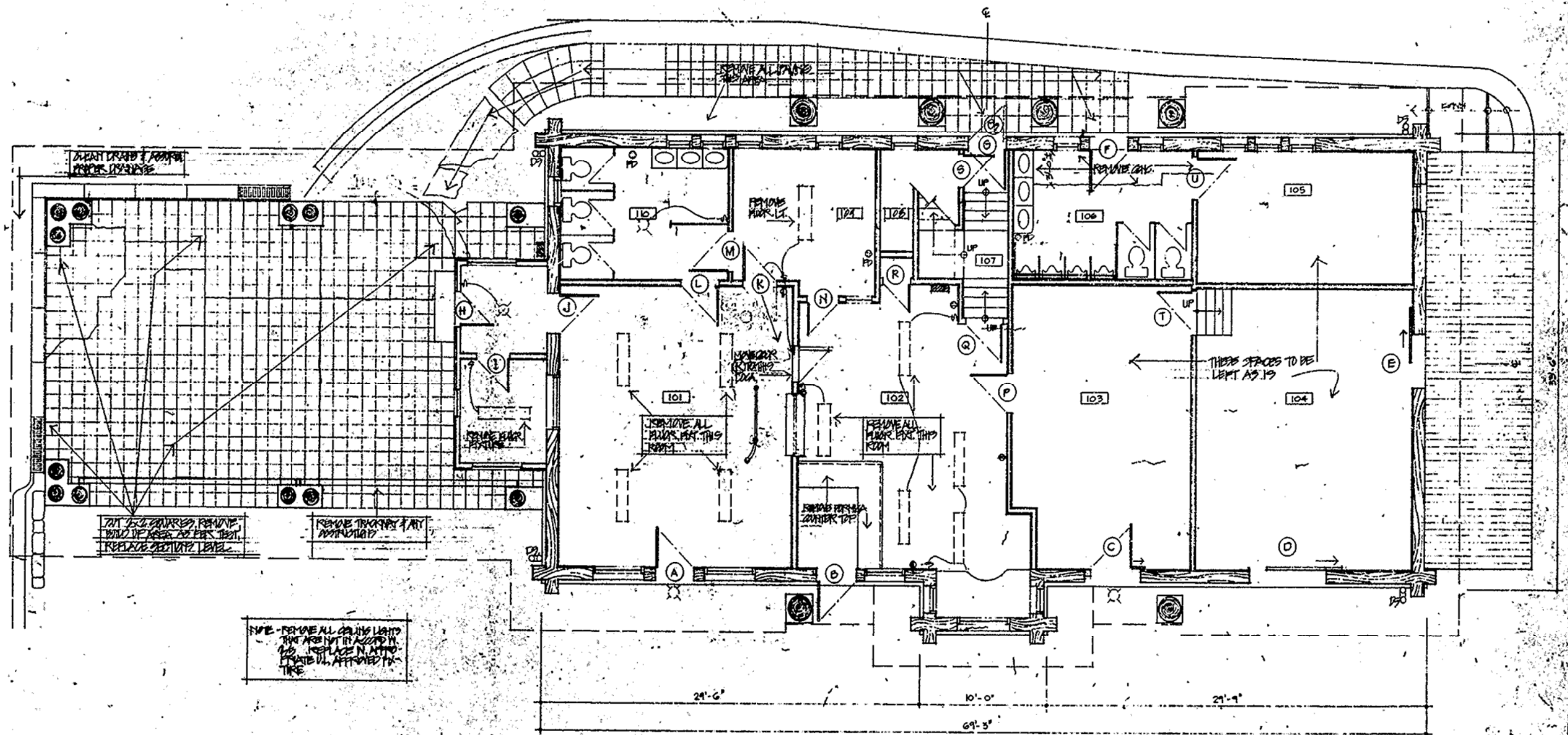
4.3.12 1986 ROOF REPAIR DRAWING

4.3.13 CIRCA 1990 DEPOT REHABILITATION DRAWINGS

NOTE: NORTHALL HAS DIFFERENTIAL SETTLEMENT PROBLEMS. TO BE DEALT WITH IN ANOTHER PHASE



EXISTING CONDITIONS FLOOR PLAN

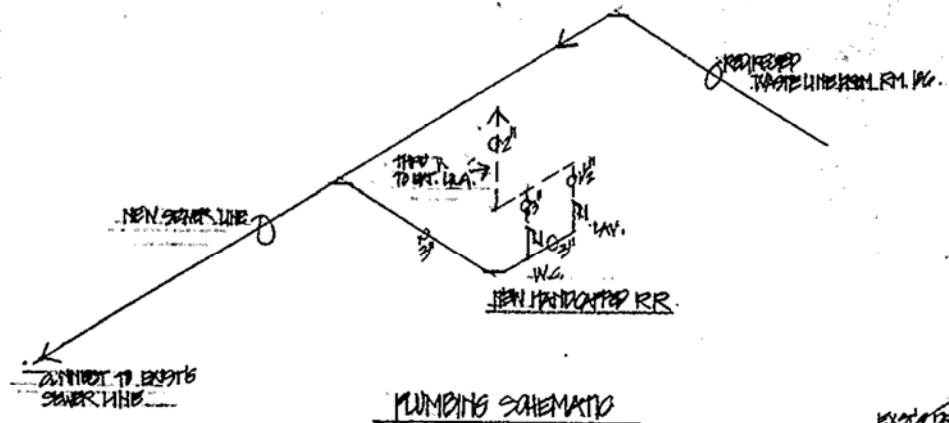


DEMOLITION PLAN

FLOOR PLAN

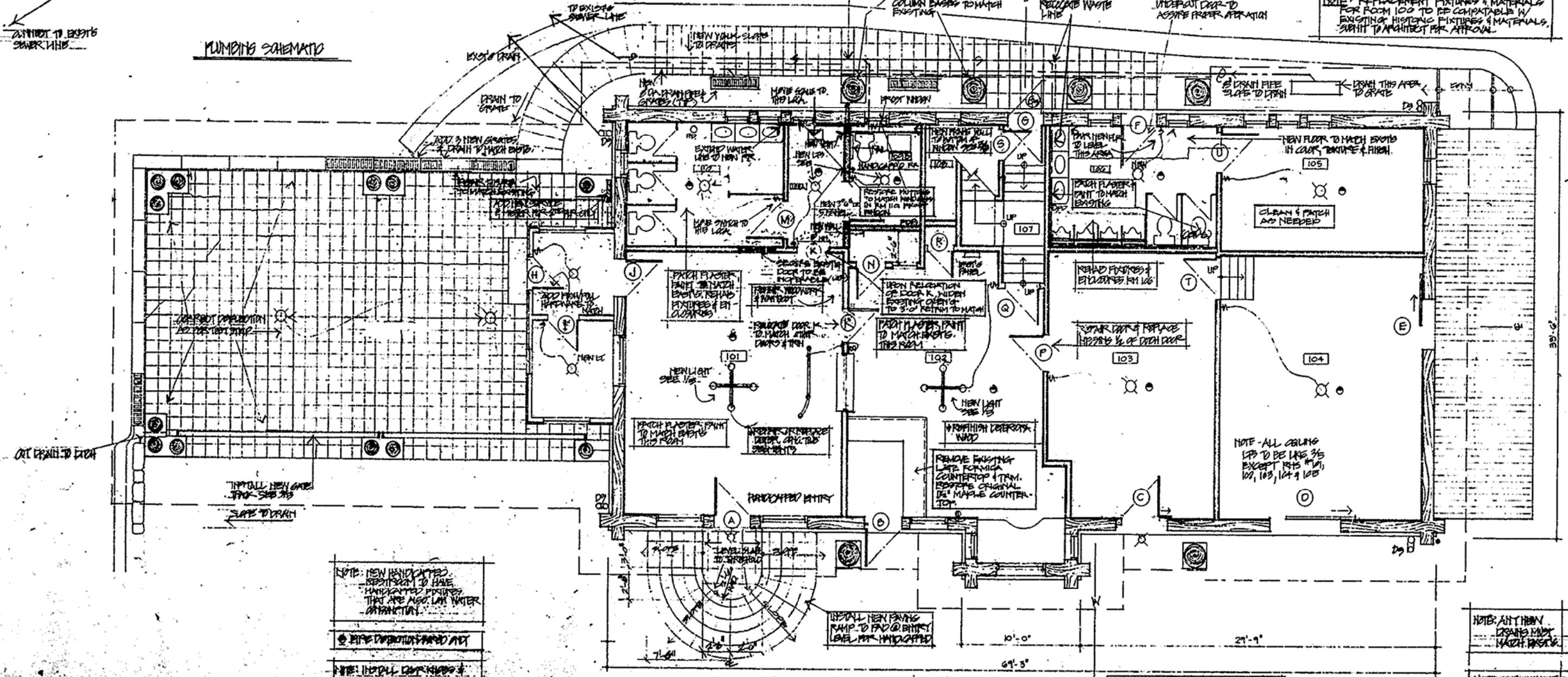
1/4" = 1'-0"





NOTE: SETTLEMENT REMAINS ARE NOT PART OF THIS PHASE I WORK. CONDITIONS ARE TO BE MONITORED FOR ONE (1) YEAR.

NOTE: REPLACEMENT FIXTURES & MATERIALS FOR ROOM 100 TO BE COMPATIBLE W/ EXISTING HISTORIC FIXTURES & MATERIALS. SUBMIT TO ARCHITECT FOR APPROVAL.



NOTE: NEW HANDCUT RR. REMAINS TO HAVE HANDCUT RR. THIS ARE ALSO IN WATER INTERSECTION.

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NOTE: NEW HANDCUT RR. REMAINS TO HAVE HANDCUT RR. THIS ARE ALSO IN WATER INTERSECTION.

REHABILITATION PLAN

FLOOR PLAN

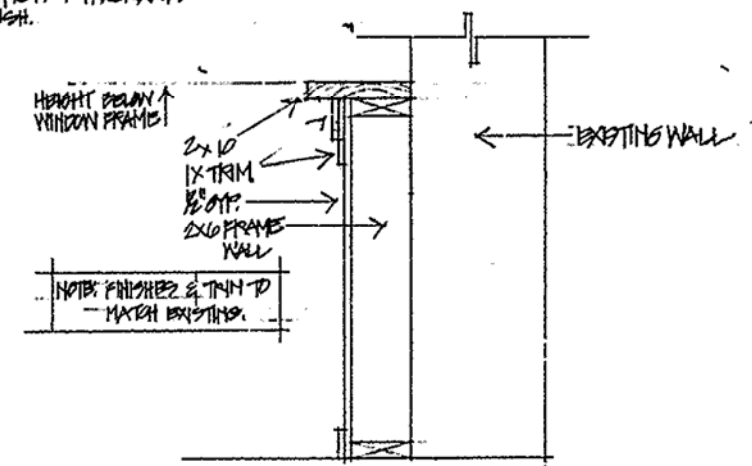
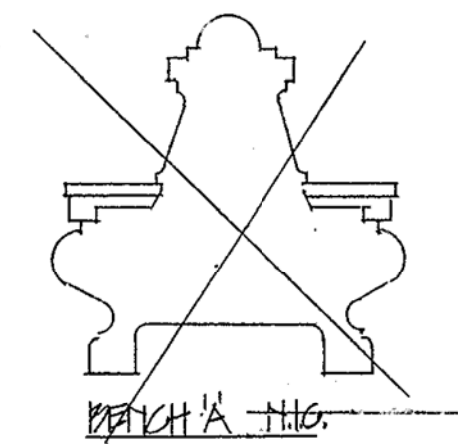
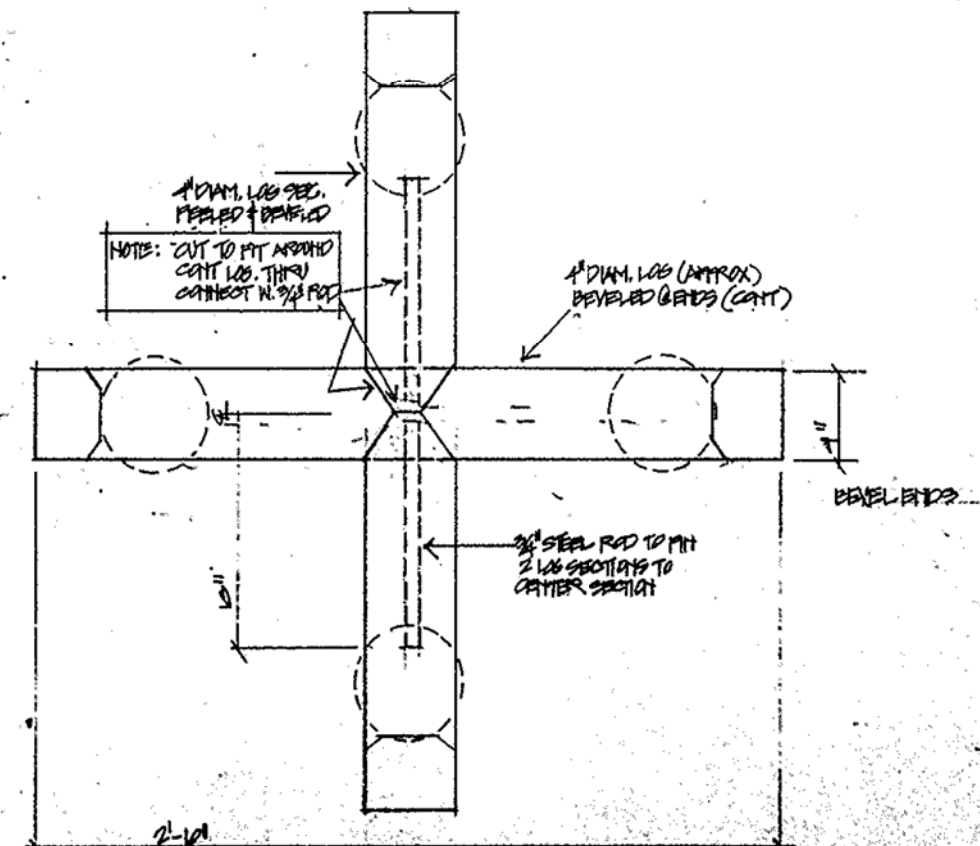
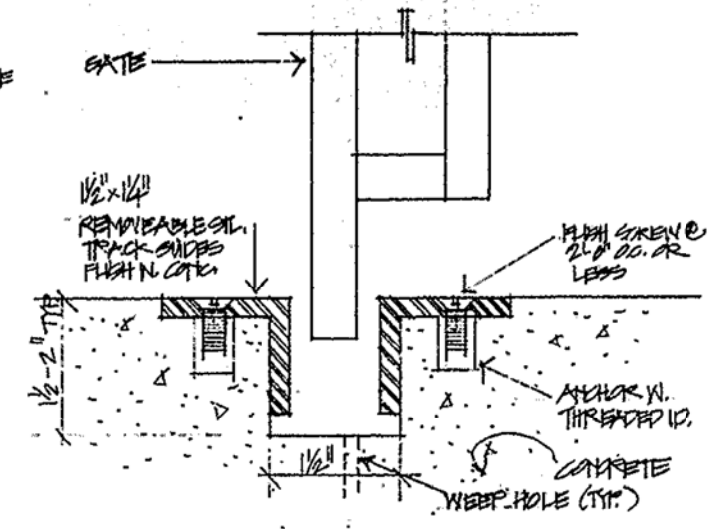
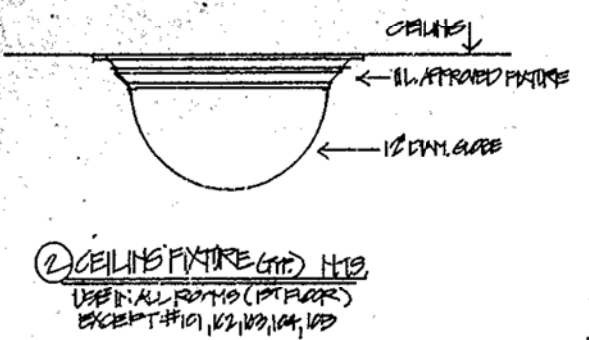
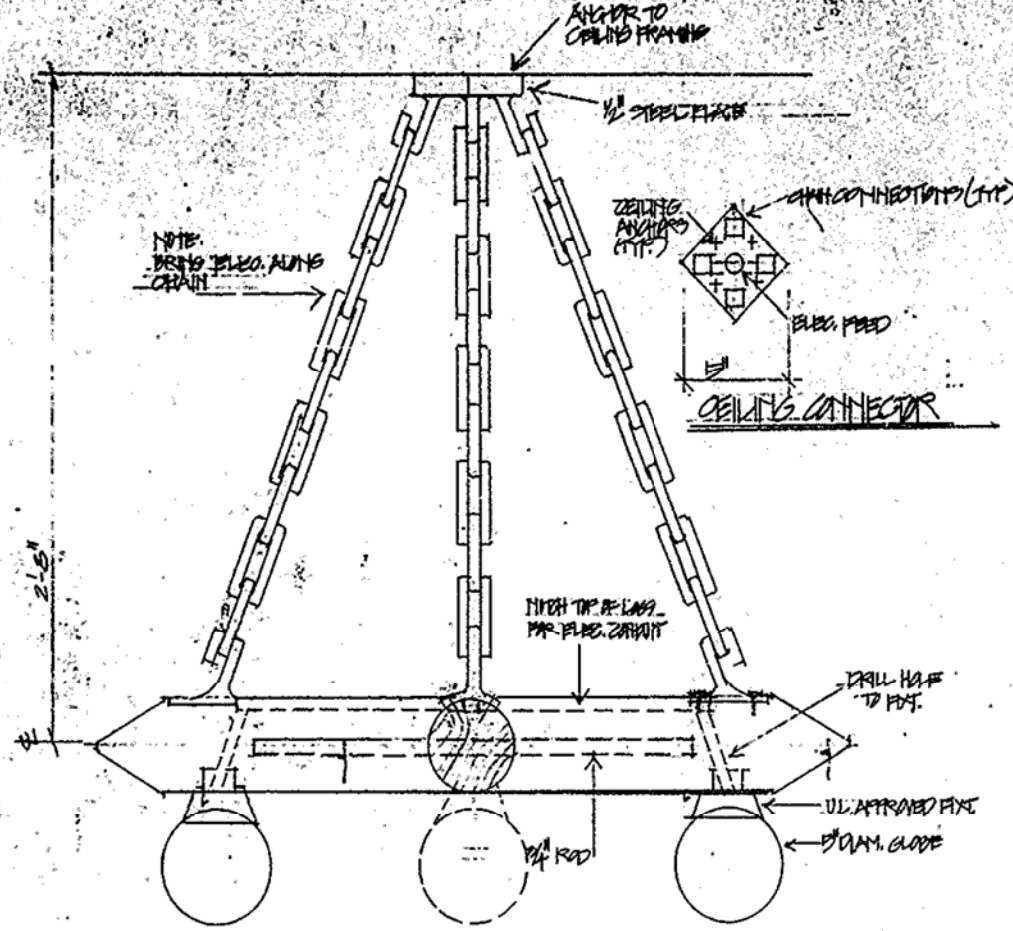
SEPARATE 2ND FLOOR WATER SYSTEM & FLOOR S/W WATER

NOTE: ALTHOUGH NOT PART OF PHASE I, SCOPE OF WORK REHAB. EXISTING SIGNS TO MEET PER STANDARDS. ANY ADDITIONAL SIGNAGE NOT PART OF THESE.

NOTE: ANY NEW SIGNS MUST MATCH EXISTING.

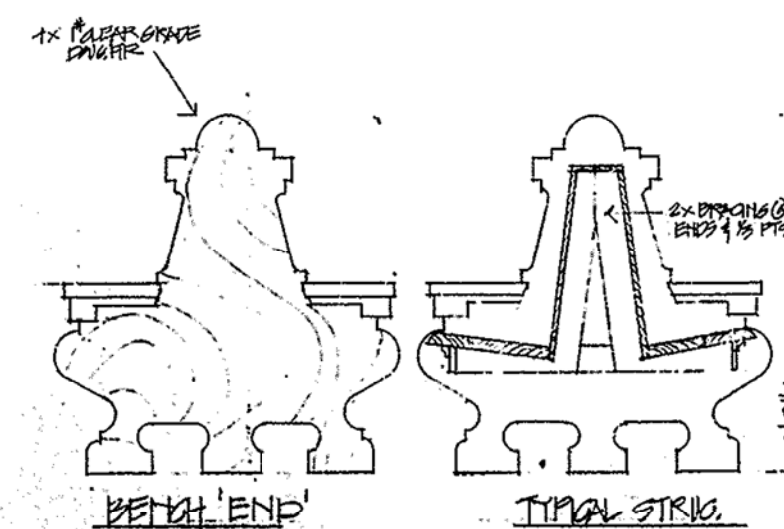
NOTE: ALTHOUGH NOT PART OF PHASE I, SCOPE OF WORK REHAB. EXISTING SIGNS TO MEET PER STANDARDS. ANY ADDITIONAL SIGNAGE NOT PART OF THESE.

NOTE: ANY NEW SIGNS MUST MATCH EXISTING.



⑤ SUGGESTED WALL SECTION 1 1/2" x 1 1/2"

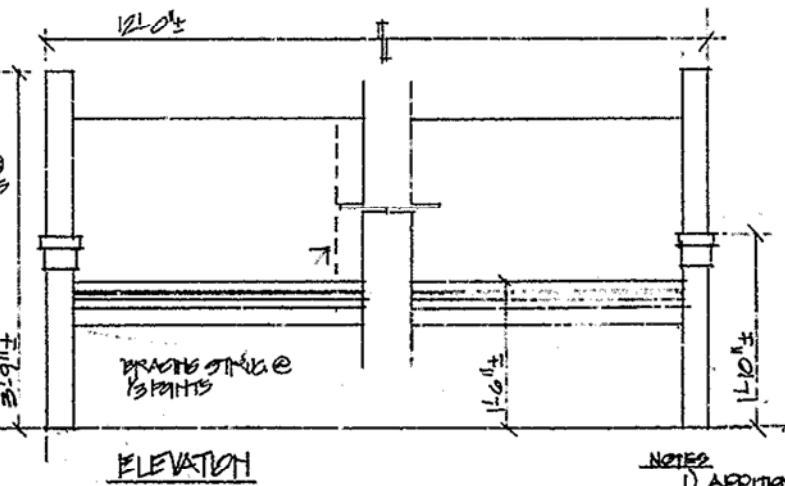
⑥ NEW PLUMBING - HANDICAPPED R.R.



④ BENCH DETAILS FIELD MEASURE ORIGINAL STEEL TOYAS HOTEL NORTH PORCH

1" x 1 1/2"

CONSTRUCT TWO (2) TO MATCH



NOTES

1) ADDITIONAL SIGNS NEEDED FOR USE OF THE DEPOT SHALL MEET RELEVANT SANTA FE STANDARDS.

2) FURNISHING PLAN TO BE SUBMITTED SEPARATELY BY RAILROAD

4.3.14 1996/2002 DEPOT VICINITY MAPS

GRAND CANYON NATIONAL PARK
SOUTH RIM VILLAGE
NATIONAL PARK SERVICE
U.S. DEPARTMENT OF INTERIOR
DEPOT YARD AND VICINITY

PREPARED FOR:
NATIONAL PARK SERVICE
AND
GRAND CANYON RAILWAY

SHEET INDEX

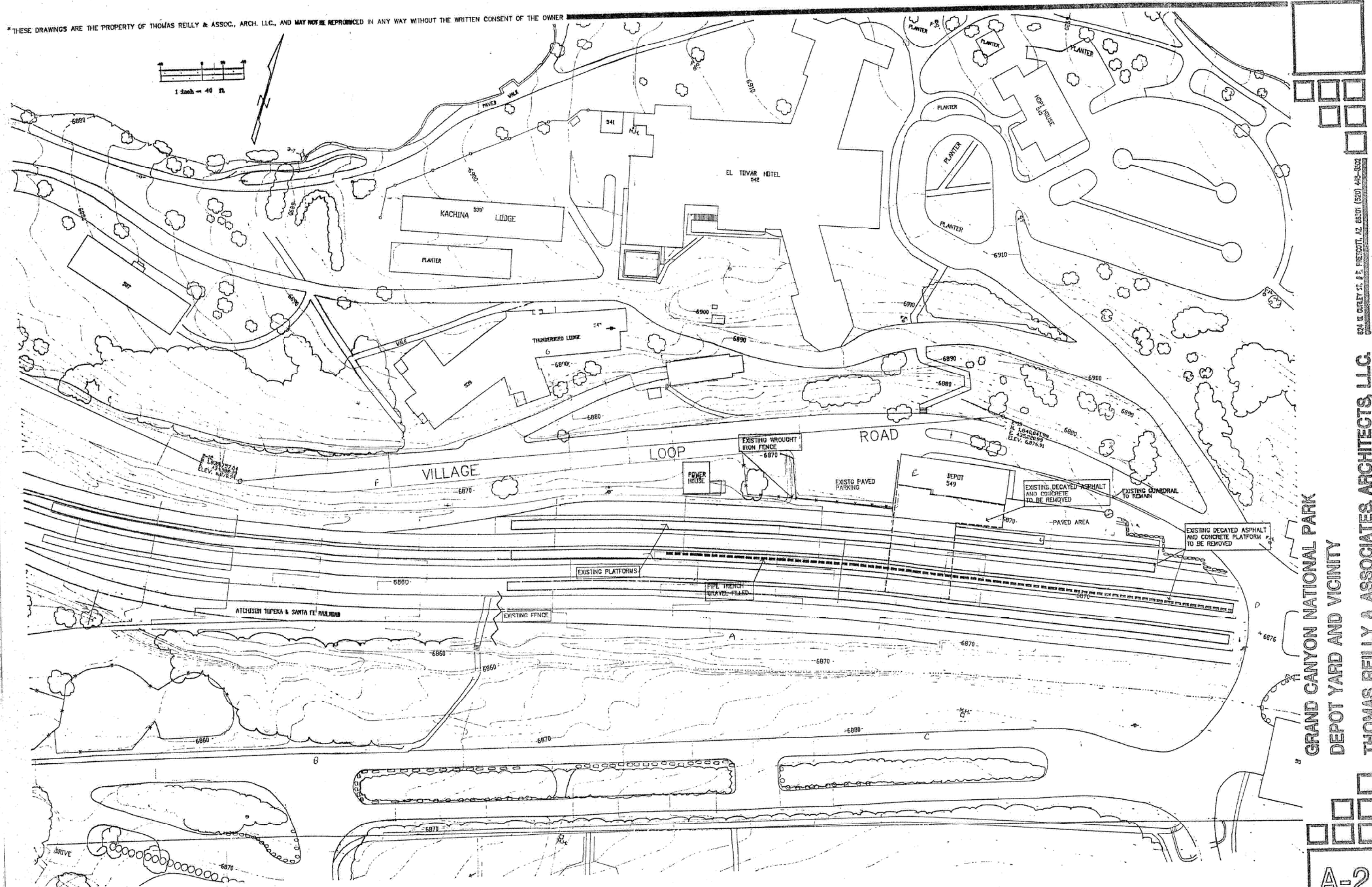
A-1 COVER SHEET
A-2 EXISTING SITE PLAN
A-3 SITE PLAN
A-4 DETAILS

GRAND CANYON NATIONAL PARK
DEPOT YARD AND VICINITY

THOMAS REILLY & ASSOCIATES, ARCHITECTS, LLC.

624 W. GURLEY ST., E. PRESCOTT, AZ 86301 (520) 444-4529

A-1



GRAND CANYON NATIONAL PARK
DEPOT YARD AND VICINITY

THOMAS REILLY & ASSOCIATES, ARCHITECTS, LLC.

224 W. CUREY ST., P.O. BOX 1000, ALBUQUERQUE, NM 87101 (505) 445-8002

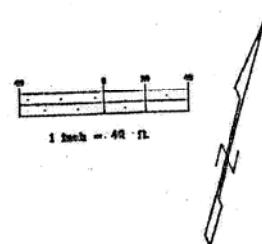
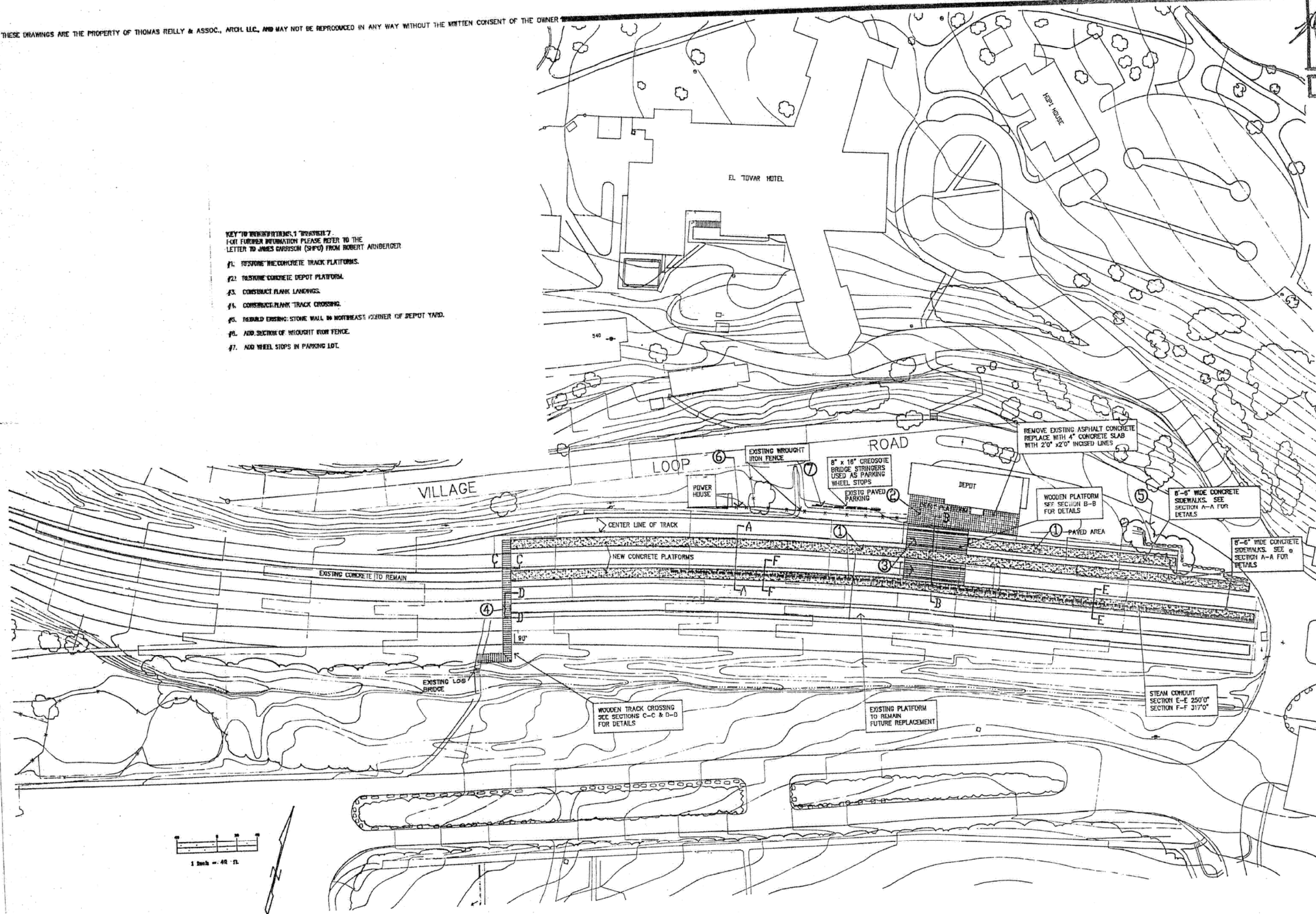
A-2



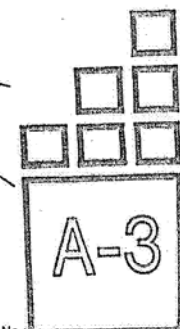
624 N. GILBERT ST., E. PRESCOTT, AZ 86301 (520) 445-8502

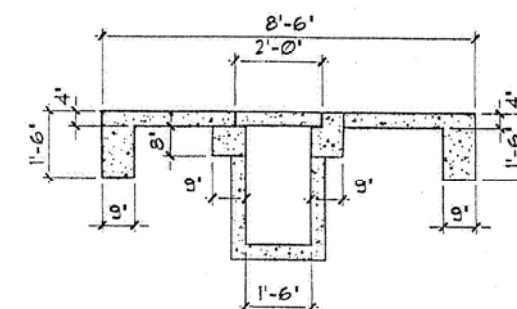
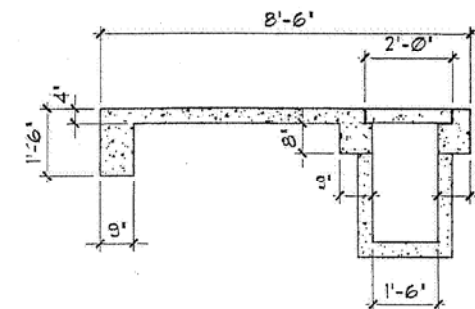
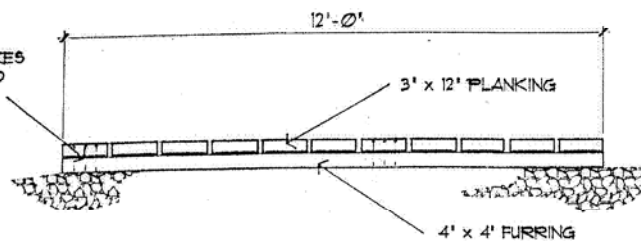
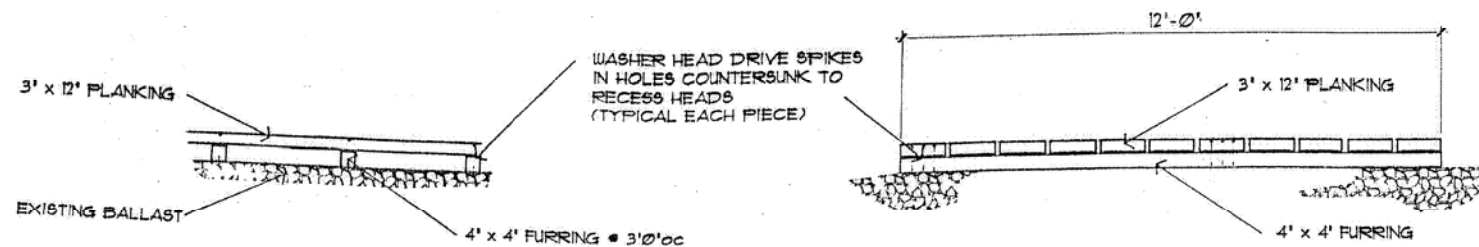
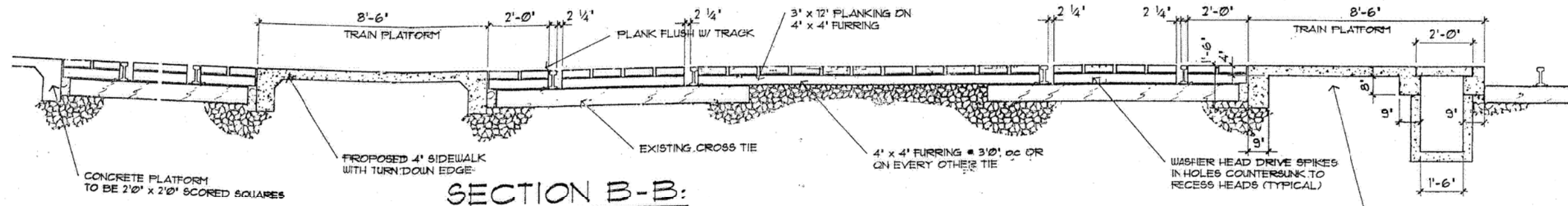
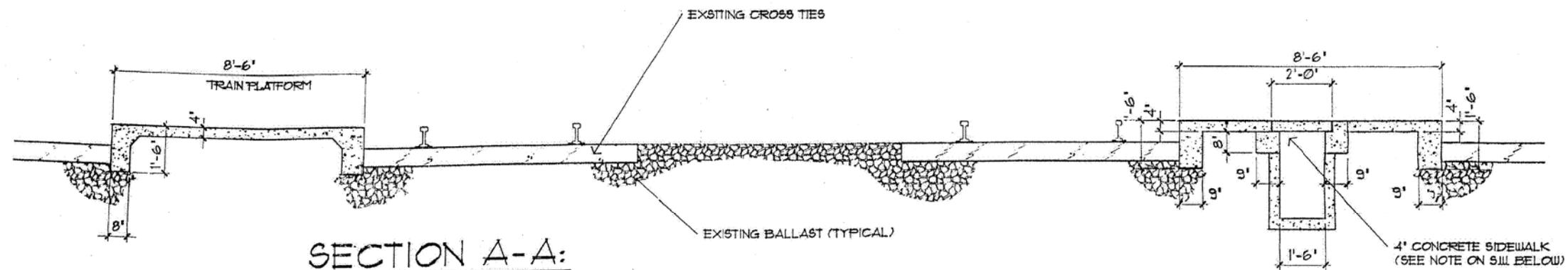
KEY TO REVISIONS: 1 THROUGH 7.
FOR FURTHER INFORMATION PLEASE REFER TO THE
LETTER TO JAMES CARROLLSON (SRP) FROM ROBERT ARNBERGER.

- #1. RESTORE THE CONCRETE TRACK PLATFORMS.
- #2. RESTORE CONCRETE DEPOT PLATFORM.
- #3. CONSTRUCT PLANK LANDINGS.
- #4. CONSTRUCT PLANK TRACK CROSSING.
- #5. REBUILD EXISTING STONE WALL IN NORTHEAST CORNER OF DEPOT YARD.
- #6. ADD SECTION OF WROUGHT IRON FENCE.
- #7. ADD WHEEL STOPS IN PARKING LOT.



GRAND CANYON NATIONAL PARK
DEPOT YARD AND VICINITY
THOMAS REILLY & ASSOCIATES, ARCHITECTS, LLC.





SECTION C-C:

SECTION D-D:

SECTION E-E:

SECTION F-F:

PER: FIELD NOTES OF 'The A.T. & S. Ry. Co. System'
Concrete Platforms Grand Canyon
Date: 11/12/1927. Page 5 of 11

PER: FIELD NOTES OF 'The A.T. & S. Ry. Co. System'
Concrete Platforms Grand Canyon
Date: 11/12/1927. Page 5 of 11

GRAND CANYON NATIONAL PARK
DEPOT YARD AND VICINITY
THOMAS REILLY & ASSOCIATES, ARCHITECTS, LLC.

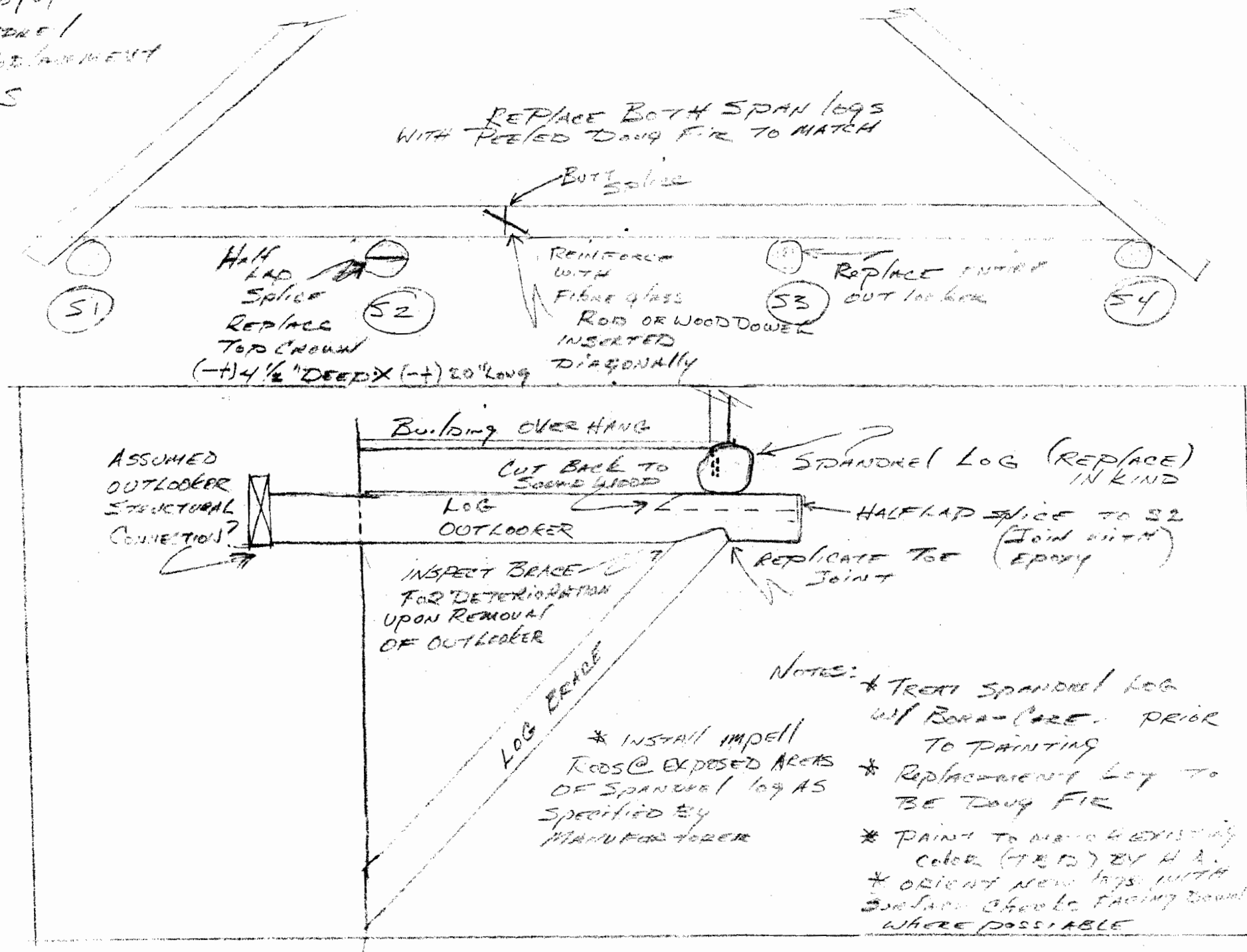
4.3.15 2004 SPANDREL LOG REPLACEMENT SKETCH

OKLA SANTA FE DEPOT

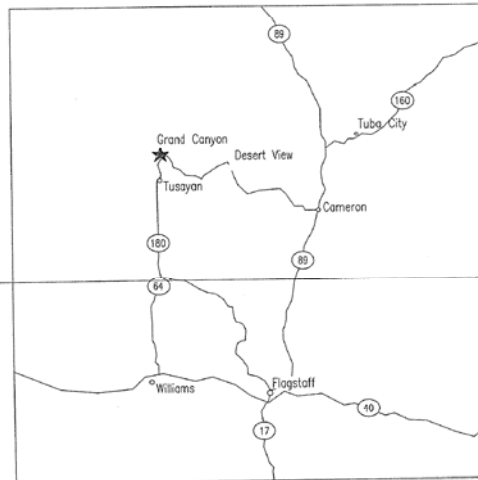
9/28/09

SPANDREL
LOG REPLACEMENT

NTS



4.3.16 2004 FIRE PROTECTION DRAWINGS



1 Project Location
SCALE: No Scale
(ARIZONA, U.S.A.)
NORTH

GROUP WATER FLOW TEST

CONTROL LOCATION: HYDRANT #2
FLOW LOCATION: HYDRANT #1
CONTROL ELEVATION: -5'-5" (RR DEPOT FF = -5'-5")
DATE: SEPT. 3, 2003 TIME: 8:30 AM
CONDUCTED BY: DAVE LOPEZ - PIPELINE REPAIR NATIONAL PARK SERVICE WATER UTILITY
WITNESSED BY: CHRIS MARZONIE KELLY, WRIGHT & ASSOCIATES, P.C.

FLOW TEST SUMMARY

STAT. PRESSURE: 86 PSI
OUTLET I.D.: 2.5" FLOW NOZZLE
FLOW OR VELOCITY PRESSURE: 75 PSI (1,453 GPM)
RESIDUAL PRESSURE: 82 PSI
HYDRANT COEFFICIENT: .90

FLOW FORMULA: $Q = 29.83 \times C \sqrt{P}$
Q = QUANTITY OF WATER IN GALLONS PER MINUTE (GPM)
C = DISCHARGE COEFFICIENT
D = INTERNAL DIAMETER OF DISCHARGE OUTLET
P = FLOW OR VELOCITY PRESSURE READ FROM PITOT OR SIDE MOUNT GAUGE

OUTLET COEFFICIENTS

0.8 COEF. 0.8 COEF. 0.7 COEF.

- SITE NOTES**
1. THE DESIGN OF THE UNDERGROUND WATER SUPPLY IS BY OTHERS. THE WATER SUPPLY INCLUDES THE PIPE FROM THE STREET WATER MAIN AND ALSO THE SUPPLY FROM THE FREE-STANDING FIRE DEPARTMENT CONNECTION. THIS SITE PLAN IS FOR REFERENCE ONLY, AND IS INTENDED TO REFLECT THE CONDITIONS OBSERVED AT THE SITE, AND THE VERBAL DIRECTION GIVEN AT THE SITE MEETING ON OCTOBER 26, 2003. THE SCOPE OF DESIGN FOR KELLY, WRIGHT & ASSOCIATES, P.C. BEGINS AT THE CONNECTION OF THE RISER MANIFOLD TO THE MAIN SUPPLY FLANGE AND FIRE DEPARTMENT CONNECTION FLANGE JUST ABOVE THE FINISHED FLOOR.
 2. THE SITE INFORMATION (BUILDINGS, ROADWAYS, AND WATER PIPES) DEPICTED ON THIS PLAN IS NOT TO SCALE, AND IS NOT A DUPLICATE OF ANY ELECTRONIC FILES THAT THE OWNER MAY HAVE. THE INFORMATION DEPICTED HERE IS BASED ON PHOTOGRAPHS OF THE WATER UTILITY PLANS, THAT WERE TAKEN AT THE PROJECT SITE. THE PURPOSE OF THIS SITE REFERENCE PLAN IS TO PROVIDE INFORMATION THAT PERTAINS TO THE HYDRAULIC CALCULATION OF THE FIRE SPRINKLER SYSTEM.
 3. WATER SUPPLY FOR THE SITE IS PROVIDED BY AN EXISTING 10" WATER LOOP THAT IS PART OF THE SOUTH RIM WATER DISTRIBUTION SYSTEM.
 4. SEE SHEET FP2.0 FOR HYDRAULIC CALCULATION DATA.

- GENERAL NOTES**
1. THE PROJECT IS FOR AN EXISTING BUILDING LOCATED ALONG THE VILLAGE LOOP ROADWAY AT THE GRAND CANYON VILLAGE (SOUTH RIM). THE BUILDING, KNOWN AS THE "GRAND CANYON DEPOT", IS A RAILROAD DEPOT THAT IS A NATIONAL HISTORIC LANDMARK. THE STRUCTURE WAS BUILT IN 1904-1910 AND DESIGNED BY ARCHITECT FRANCIS WILSON.
 2. THE HISTORIC NATURE OF THIS PROJECT IS OF THE UTMOST IMPORTANCE, AND THE GOAL IS TO PROVIDE A DESIGN AND INSTALLATION THAT WILL MINIMIZE THE IMPACT TO THE HISTORIC FINISHES AND THEME OF THE SITE. AS A RESULT, ANY DEVIATIONS FROM THE DESIGN HEREIN, OR ANY OBSERVATION OF QUESTIONABLE SITE CONDITIONS SHOULD BE TAKEN UP WITH PACIFIC GENERAL, INC. AND PROPERLY EVALUATED BY THE ARCHITECT, HIS CONSULTANT(S), AND THE OWNER.
 3. THE BUILDING CONSISTS PRIMARILY OF COMBUSTIBLE CONSTRUCTION. EXTERIOR WALLS CONSIST MOSTLY OF STRUCTURAL LOGS AND WOOD FRAMING. THE ROOF STRUCTURE IS PRIMARILY OPEN WOOD TRUSSES AND WOOD JOISTS WITH WOOD SHINGLES OVER TONGUE & GROOVE DECKING.
 4. THE BUILDING SHALL BE PROTECTED BY A COMBINATION OF WET AND DRY AUTOMATIC FIRE SPRINKLER SYSTEMS. THE WET SYSTEM SHALL PROTECT AREAS ON THE FIRST LEVEL, IN WHICH THE PIPING WILL NOT BE SUBJECT TO FREEZING CONDITIONS. THE DRY SYSTEM SHALL PROTECT THE REMAINING AREAS, IN WHICH CASE THE SYSTEM PIPING WILL BE SUBJECT TO FREEZING CONDITIONS.
 5. THE ROOM THAT HOUSES THE FIRE SPRINKLER RISERS SHALL BE MAINTAINED AT A MINIMUM OF 40° F. AT ALL TIMES.
 6. THIS SYSTEM IS DESIGNED PER NFPA 13, 2002 EDITION.
 7. WET SYSTEM OVERHEAD PIPING SHALL BE TYPE-L, HARD DRAIN, SEAMLESS COPPER TUBE WITH WROUGHT COPPER AND COPPER ALLOY SOLDER JOINT PRESSURE FITTINGS (ASME B16.22). JOINTS SHALL BE SOLDERED WITH 60-40 SOLDER METAL (TIN-ANTIMONY-GRADE 95A) ASTM B 32, OR BRAZED WITH BRAZING FILLER METAL (CLASSIFICATION BCuP-3 OR BCuP-4) AND AS.8. FLUXES FOR BRAZING SHALL BE OF A TYPE THAT IS NOT HIGHLY CORROSIVE. SOLDER TYPE JOINTS SHALL NOT BE USED ON THE DRY SYSTEM.
 8. DRY SYSTEM OVERHEAD PIPING SHALL BE TYPE-L, HARD DRAIN, SEAMLESS COPPER TUBE WITH WROUGHT COPPER AND COPPER ALLOY SOLDER JOINT PRESSURE FITTINGS (ASME B16.22). JOINTS SHALL BE BRAZED WITH BRAZING FILLER METAL (CLASSIFICATION BCuP-3 OR BCuP-4) AND AS.8. FLUXES FOR BRAZING SHALL BE OF A TYPE THAT IS NOT HIGHLY CORROSIVE. SOLDER TYPE JOINTS SHALL NOT BE USED ON THE DRY SYSTEM.
 9. UNDERGROUND PIPING WAS CALCULATED FOR ANNA CLASS 51 DUCTILE IRON PIPE.
 10. ALL UNDERGROUND AND OVERHEAD PIPING SHALL BE PROPERLY SECURED AND BRACED PER NFPA 13.
 11. ALL UNDERGROUND PIPE AND FITTINGS SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR A PERIOD OF NOT LESS THAN 2 HOURS AND WITNESSED BY PROPER AUTHORITIES.
 12. ALL UNDERGROUND PIPING SHALL BE THOROUGHLY FLUSHED IN ACCORDANCE WITH NFPA 13 AND WITNESSED BY PROPER AUTHORITIES. FLUSHING SHALL BE COMPLETED PRIOR TO CONNECTION OF OVERHEAD SYSTEM PIPING.
 13. THE OVERHEAD SYSTEM SHALL BE HYDROSTATICALLY TESTED AT 200 PSI FOR A PERIOD OF NOT LESS THAN 2 HOURS AND WITNESSED BY PROPER AUTHORITIES. IN ADDITION TO THE HYDROSTATIC TEST, THE DRY SYSTEM SHALL BE AIR TESTED AT 40 PSI FOR 24 HOURS WITH NO LEAKAGE IN EXCESS OF 1 1/2 PSI (PER NFPA 13 2002, SECTION 16.2.2.1.).
 14. PROVIDE A SPARE SPRINKLER HEAD CABINET AT THE RISER LOCATION AS WELL AS THE SPECIFIED WRENCH FOR EACH TYPE OF HEAD AND SPARE SPRINKLERS IN ACCORDANCE WITH NFPA 13.
 15. SEE SPRINKLER PIPING PLANS FOR ADDITIONAL NOTES AND DETAILS.

GRAND CANYON DEPOT
Grand Canyon National Park - South Rim
Grand Canyon Village, Arizona

CONSULTANTS:
PACIFIC GENERAL, INC.
ARCHITECT/ENGINEER
2003 AIAA 2003
2003 AIAA 2003
2003 AIAA 2003

SEAL
2003
DONOVAN F. KELLY
REGISTERED PROFESSIONAL ENGINEER
STATE OF ARIZONA
EXPIRATION 12/31/2006

KW
KELLY
WRIGHT
ASSOCIATES - P.C.
FIRE/PROTECTION
3205 EAST PIMA STREET SUITE #121
TUCSON, ARIZONA 85712
(520) 887-1918 FAX (520) 606-0280
http://www.kwfirm.com

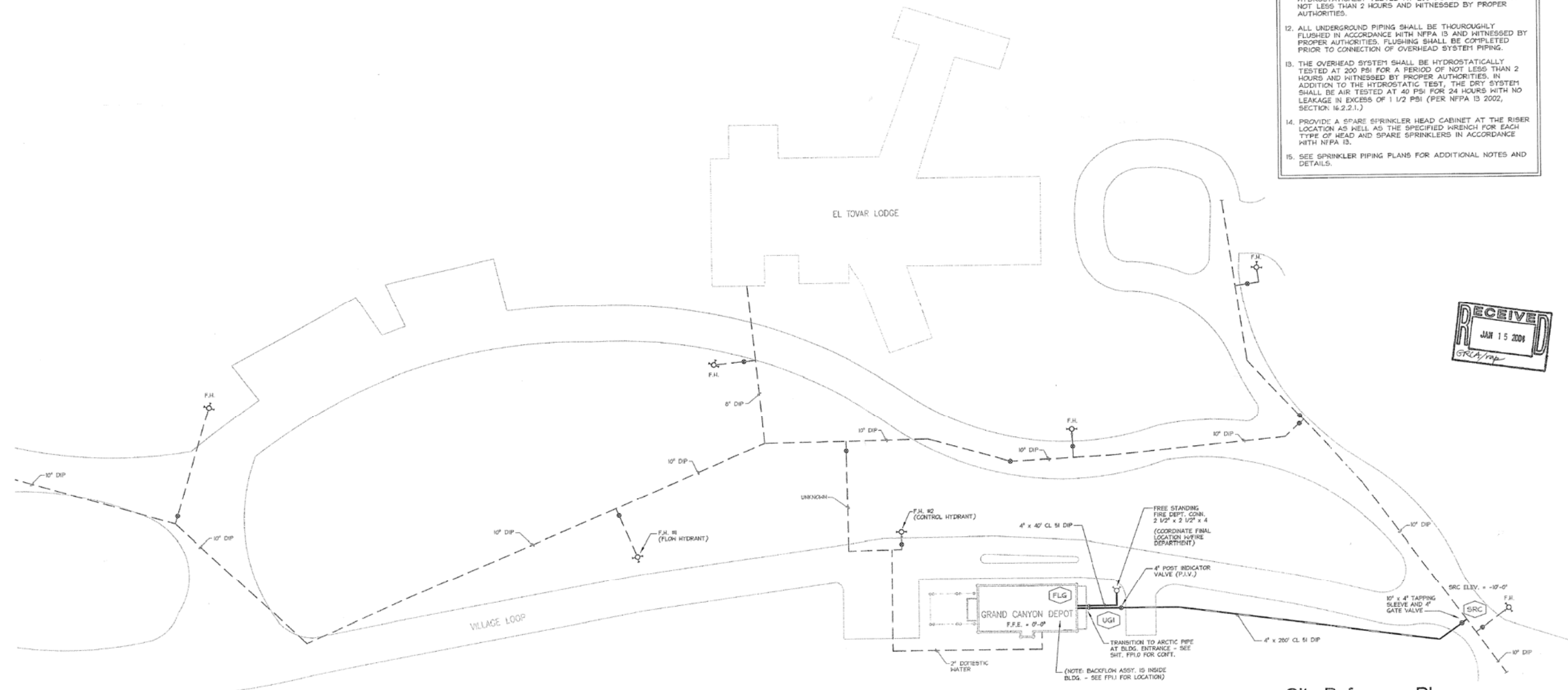
REVISIONS:
12-7-03
ADDED NOTES, CALC DATA, BACKFLOW ASSY.
1-7-04
Q.C. REVIEW

PROJECT NO: 00098
DATE: 01/06/04
DRAWN BY: CJM
DESIGNED BY: CJM
CHECKED BY: BWB

SHEET CONTENTS:
FIRE SPRINKLER
SITE REFERENCE

SHEET
FP1.0
1 OF 4

rap chk set



2 Site Reference Plan
SCALE: No Scale
NORTH

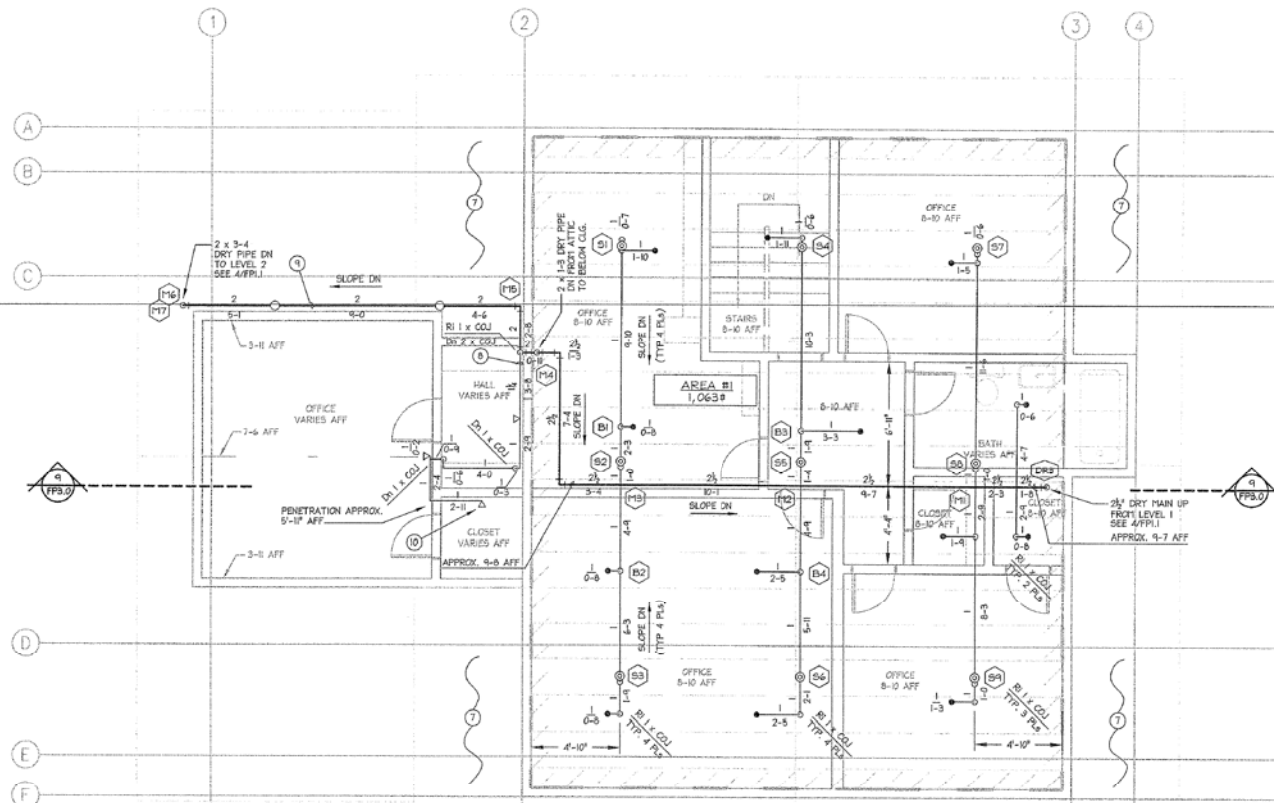
SYSTEM INSTALLATION NOTES

- UPRIGHT (ATTIC) PROTECTION IS PER NFPA 13 (2002) STANDARDS FOR UNRESTRICTED CONSTRUCTION. THE SPRINKLER DEFLECTORS SHALL BE APPROXIMATELY SIX INCHES BELOW THE BOTTOM OF THE TRUSS TOP CHORD, AND NO MORE THAN 12" FROM THE DECK.
- MAXIMUM SPRINKLER SPACING IN ATTICS IS 180 SQUARE FEET.
- AT EITHER ROOF SLOPE IN THE ATTIC, THE CENTERLINE OF BRANCH PIPING SHALL BE APPROXIMATELY 0'-6" BELOW THE TOP CHORD OF THE TRUSSES SO AS TO KEEP THE SPRINKLER DEFLECTORS WITHIN 0'-6" OF THE BOTTOM OF THE TOP CHORD AND ALIGNED WITH THE ROOF SLOPE.
- UPRIGHT SPRINKLERS CENTERED ON THE PEAKS OR RIDGELINES SHALL BE SITUATED TO KEEP THE DEFLECTORS PARALLEL TO THE FLOOR AND MAINTAIN AT LEAST 24" HORIZONTAL CLEARANCE FROM THE SLOPING TOP CHORDS. DEFLECTORS FOR THESE HEADS ALSO SHALL BE NO MORE THAN 36" FROM THE PEAK OF THE ROOF TRUSSES.
- SLOPE ALL DRY SYSTEM PIPING TOWARD DRAIN POINTS FOR COMPLETE SYSTEM DRAINAGE. MAINS SHALL BE PITCHED 1/4" PER 10 FT. MIN. AND BRANCH LINES SHALL BE PITCHED 1/2" PER 10 FT. MIN.
- PROVIDE SWING-JOINTS ON SPRIG-UPS WHERE REQUIRED, TO ALIGN UPRIGHT SPRINKLER DEFLECTORS PARALLEL TO THE ROOF DECK. SEE DETAIL 1/FP1.1.
- ALL PENETRATIONS THROUGH EXISTING SUBFLOORS SHALL BE COORDINATED WITH PACIFIC GENERAL, INC. TO ENSURE MINIMAL IMPACT TO HISTORICAL FINISHES PER THE ARCHITECT'S DIRECTION.

KEYNOTES

- 2 1/2" APES "COLT" 200 DOUBLE-CHECK BACKFLOW ASSEMBLY WITH UL/FM BUTTERFLY VALVES W/REIN-IT TAPPER SWITCHES. COORDINATE TAPPER SWITCH WIRING WITH ELECTRICAL/FIRE ALARM CONTRACTOR. TAPPER SWITCHES TO BE TIED INTO EXISTING FIRE ALARM PANEL. SEE DETAIL 4/FP3.0
- FIRE SPRINKLER RISERS - SEE DETAIL 4/FP3.0
- 4" UNDERGROUND SUPPLY FROM YARD TYPE, FREE-STANDING, 2 1/2" x 2 1/2" x 4" FIRE DEPT. CONNECTION WITH NPT THREADS AND BALL DRIP. SEE FP1.0 FOR APPROXIMATE LOCATION. CONSULT WITH CIVIL ENGINEER AND FIRE DEPT. FOR FINAL LOCATION AND DESIGN OF F.D.C. ASSEMBLY.
- 4" UNDERGROUND SUPPLY FROM STREET TAP. SEE FP1.0 FOR APPROXIMATE LOCATION. CONSULT WITH CIVIL ENGINEER AND ARCHITECT FOR ACTUAL LOCATION AND DESIGN OF WATER SUPPLY PIPING.
- EXPOSED PIPING BELOW CEILING - SEE SECTION VIEW 9/FP3.0
- TAP INTO BOTTOM OF MAIN AND PROVIDE A 1" INSPECTOR'S TEST/AUXILIARY DRAIN PIPE. RACK ON EXTERIOR WALL. PROVIDE A 1" GLOBE VALVE AND REMOVABLE PIPE SECTION AT 5'-0" AFF. DISCHARGE THROUGH 4" ELBOW WITH 1/2" SMOOTH BORE BRASS OUTLET OVER A CONCRETE SPLASH BLOCK. INCLUDE AN IDENTIFICATION SIGN PER NFPA-703. COORDINATE LOCATION ADJACENT TO EXISTING UTILITIES MOUNTED ON EXTERIOR WALL. SEE DETAIL 1/FP3.0
- EXTERIOR CORRESPONDING CANOPY OVER 4'-0" WIDE. GENERAL CONTRACTOR TO APPLY INTUMESCENT PAINT ACCORDING TO THE ARCHITECT'S INSTRUCTIONS. PER THE ARCHITECT AND AUTHORITY HAVING JURISDICTION, NO FIRE SPRINKLERS ARE REQUIRED.
- CONCEAL PIPING INSIDE OVERHEAD MILLWORK CABINET
- ROUTE PIPING INSIDE CONCEALED SPACE BEHIND PANEL WALL. COORDINATE ACCESS TO THIS AREA WITH PACIFIC GENERAL, INC. AND PARK SERVICE PERSONNEL.
- PROVIDE 1/2" AUXILIARY DRAIN WITH PLUG AT SIDEWALL SPRINKLER FITTING.

NOTE:
SEE SHEET FP2.0 (REFLECTED CEILING PLAN) FOR HYDRAULIC CALCULATION INFORMATION

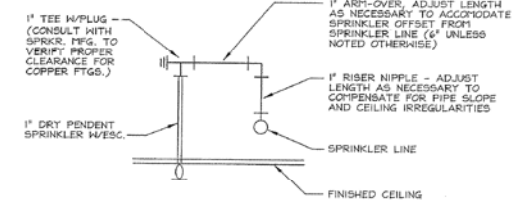


Level 2 Piping

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

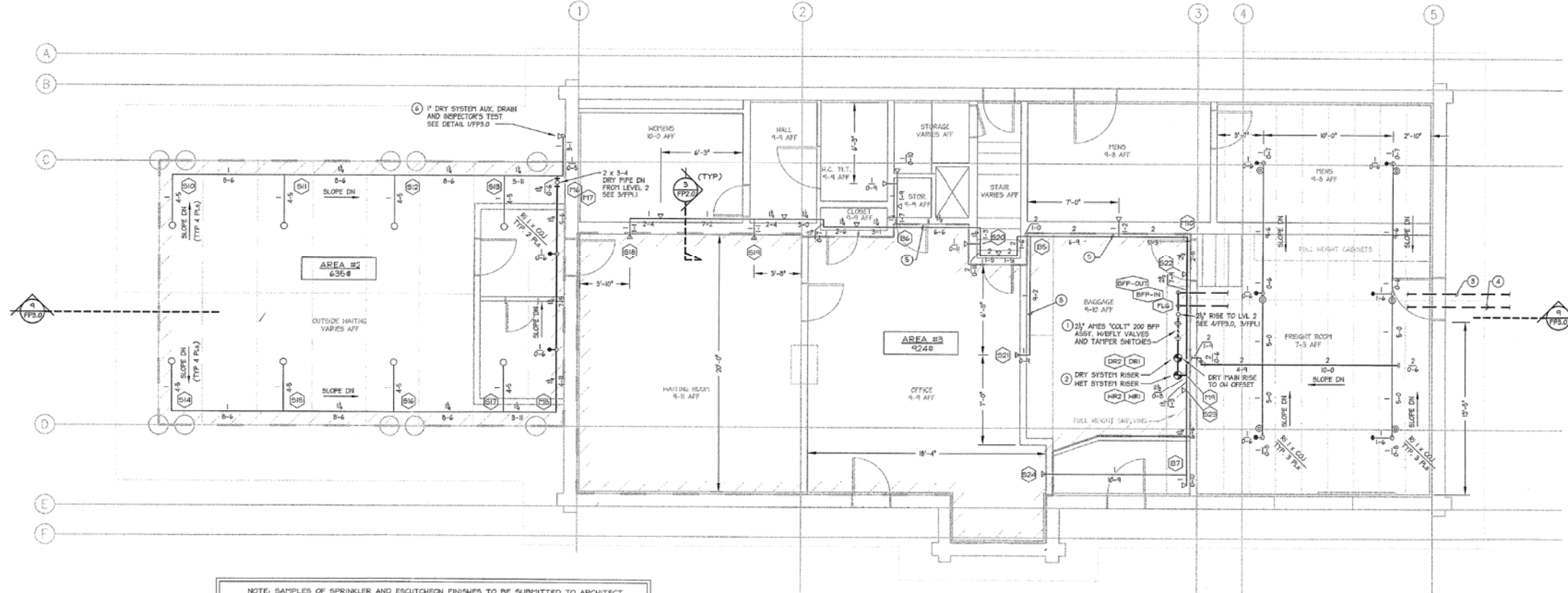
Sprig-up with Swing-Joint

SCALE: N.T.S.



1" Return Bend w/ Dry Pend. Spkr.

SCALE: N.T.S.



Level 1 Piping

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

SYMBOLS

- INDICATES CENTER-LINE OF PIPE ABOVE FINISHED FLOOR
- INDICATES HYDRAULIC NODE (SEE HYDRAULIC CALCULATIONS)
- INDICATES LOCATION OF SYSTEM RISER
- INDICATES LOCATION OF SYSTEM DOUBLE-CHECK BACKFLOW ASS'Y

HEAD LEGEND

SYM	DESCRIPTION	MFG. S.I.N.	FINISH	THD.	TEMP	K-FAC.	QTY.
●	QUICK RESPONSE, CONCEALED DRY PND	RELIABLE F30R	OFF-WHITE	1/2"	155°F	5.6	21
○	QUICK RESPONSE PENDENT (EXPOSED)	VIKING VK302	REG. BRASS	1/2"	200°F	5.6	-
○	QUICK RESPONSE UPRIGHT	VIKING VK300	REG. BRASS	1/2"	200°F	5.6	14
○	QUICK RESPONSE UPRIGHT ON SPRIG-UP	VIKING VK300	REG. BRASS	1/2"	200°F	5.6	15
▽	QUICK RESPONSE HORIZONTAL SIDEHALL	VIKING VK305	SEE NOTE 1	1/2"	155°F	5.6	15
▽	QUICK RESPONSE EC HORIZ SIDEHALL	VIKING VK406	SEE NOTE 1	3/4"	155°F	8.0	4
NOTE 1: BLACK FINISH FOR CORNICE AREAS (3/FP2.0) NAVAJO WHITE FOR OTHER AREAS							
TOTAL HEADS THIS PROJECT							69

NOTE: SAMPLES OF SPRINKLER AND ESCUTCHEON FINISHES TO BE SUBMITTED TO ARCHITECT FOR INSPECTION AND APPROVAL PRIOR TO ORDERING AND INSTALLATION

GRAND CANYON DEPOT
Grand Canyon National Park - South Rim
Grand Canyon Village, Arizona

CLIENT:

PACIFIC GENERAL, INC.
CORPORATE HEADQUARTERS
1000 N. GILBERT AVENUE, SUITE 100
TUCSON, ARIZONA 85712
(520) 795-1111 FAX (520) 795-1122

SEAL



KW
KELLY WRIGHT
ASSOCIATES - PC
HYDRAULIC/PLUMBING/FIRE PROTECTION
5200 EAST PIMA STREET SUITE #121
TUCSON, ARIZONA 85712
(520) 567-1919 FAX (520) 699-0290
kellywright@earthlink.net
www.kellywrightpc.com

REVISIONS:

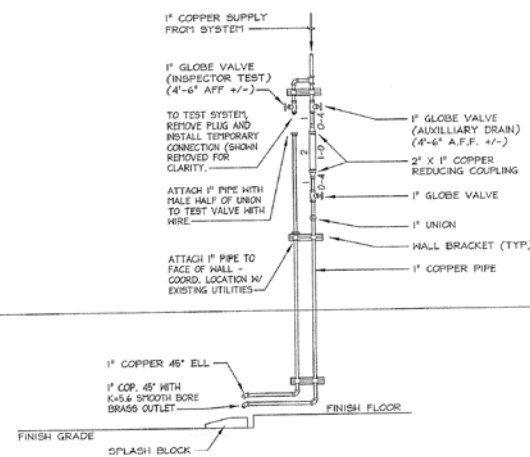
- 12-1-03 ADDED NOTES, CALC DATA, BACKFLOW ASS'Y.
- 1-7-04 Q.C. REVIEW

PROJECT NO: 00038
DATE: 11/07/03
DRAWN BY: CJM
DESIGNED BY: CJM
CHECKED BY: BWB

SHEET CONTENTS:
FIRE SPRINKLER
PIPING PLAN

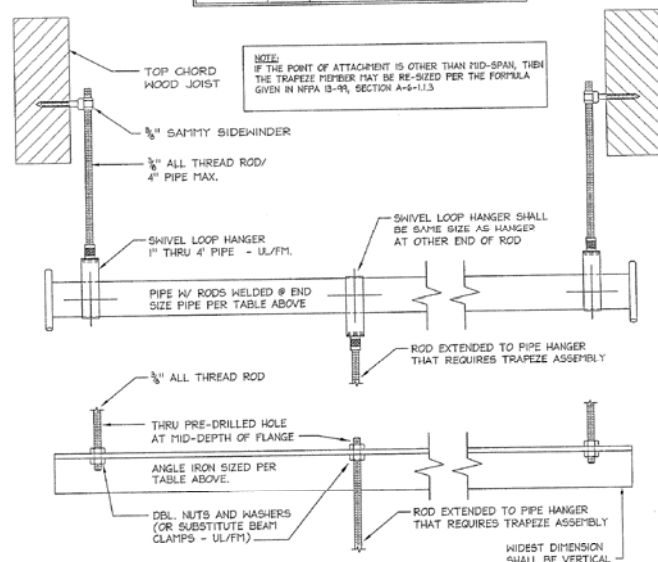
SHEET

FP1.1

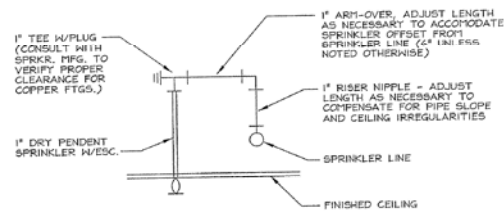


1 Dry System Aux. Drain/Insp. Test
SCALE: N.T.S.

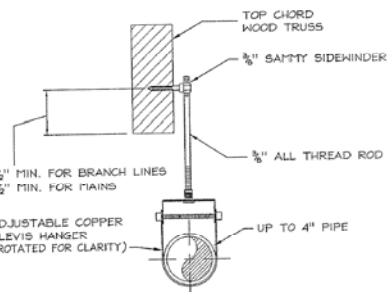
PIPE SIZE SUPPORTED	SPAN	TRAPEZE MATERIAL			
		ANGLE IRON	SCH-40	SCH-10	
2 1/2\" CUPPER	2'-0"	2" x 2" x 1/2"	1"	1 1/2"	
	4'-0"	2" x 2" x 3/8"	1 1/2"	2"	
	6'-0"	3" x 3" x 3/8"	2"	2 1/2"	
3\" CUPPER	2'-0"	2" x 1 1/2" x 3/8"	1 1/2"	1 1/2"	
	4'-0"	2 1/2" x 2 1/2" x 3/8"	2"	2"	
	6'-0"	3" x 2" x 3/8"	2"	2 1/2"	
4\" CUPPER	2'-0"	2" x 1 1/2" x 3/8"	1 1/2"	1 1/2"	
	4'-0"	2 1/2" x 2 1/2" x 1/2"	2"	2"	
	6'-0"	2 1/2" x 2 1/2" x 3/8"	2"	2 1/2"	



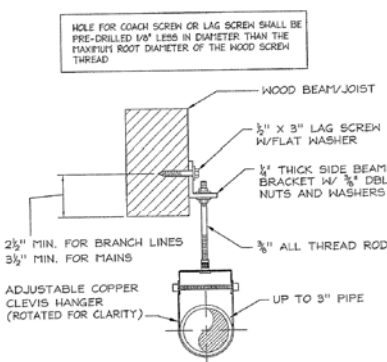
5 Trapeze Hanger Detail
SCALE: N.T.S.



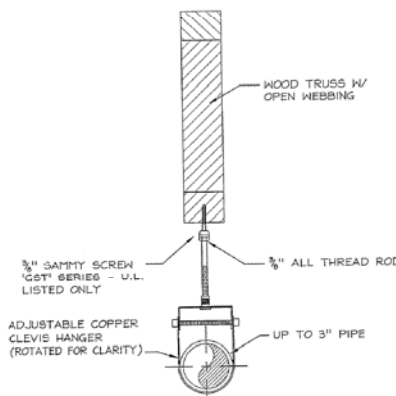
2 1" Return Bend w/ Dry Pend. Spkr.
SCALE: N.T.S.



3 Sammy Sidewinder Detail
SCALE: N.T.S.



6 Side Beam Bracket
SCALE: N.T.S.



7 Sammy Superscrew Detail
SCALE: N.T.S.

DRY SYSTEM RISER NOTES:

PROVIDE 2 1/2\" VICTAULIC #766 DRY VALVE WITH DRY ACTUATION TRIP KIT AND EXTERNAL RESET.

PROVIDE VICTAULIC EPS-10 OPTIONAL TRIP PRESSURE SWITCH CONNECTED TO SYSTEM ALARM (WIRING BY OTHERS). PRESSURE SWITCH SHALL BE SET TO ACTIVATE WHEN THE PRESSURE DECREASES TO 12 PSI OR INCREASES TO 32 PSI. SYSTEM PRESSURE SHALL BE MAINTAINED AT APPROXIMATELY 22 PSI.

PROVIDE GENERAL AIR PRODUCTS POLYISOCYANURATE ROUNTED AIR COMPRESSOR. CONSULT WITH PFG. FOR ADJUSTMENT TO COMPRESSOR PRESSURE SWITCH SETTINGS SO THE START PRESSURE IS SET FOR 21 PSI AND THE STOP PRESSURE IS SET FOR 23 PSI.

AIR COMPRESSOR WIRING BY OTHERS (COORDINATE REQUIRED VOLTAGE WITH THE ELECTRICAL ENGINEER AND ELECTRICAL CONTRACTOR).

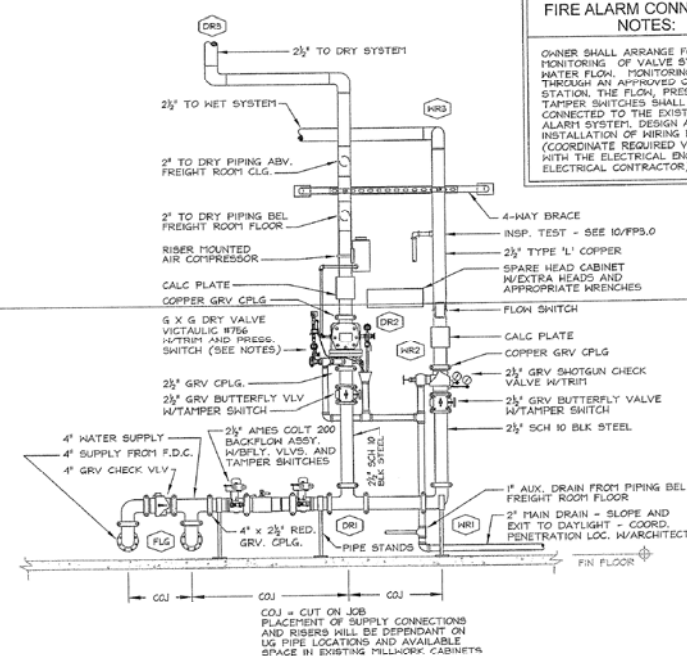
PROVIDE GENERAL AIR PRODUCTS AND-1 AIR MAINTENANCE DEVICE WITH PRESSURE RELIEF VALVE.

PROVIDE GENERAL AIR PRODUCTS WFO-1 AUTOMATIC DRAIN AND CONNECT TO SYSTEM MAIN DRAIN.

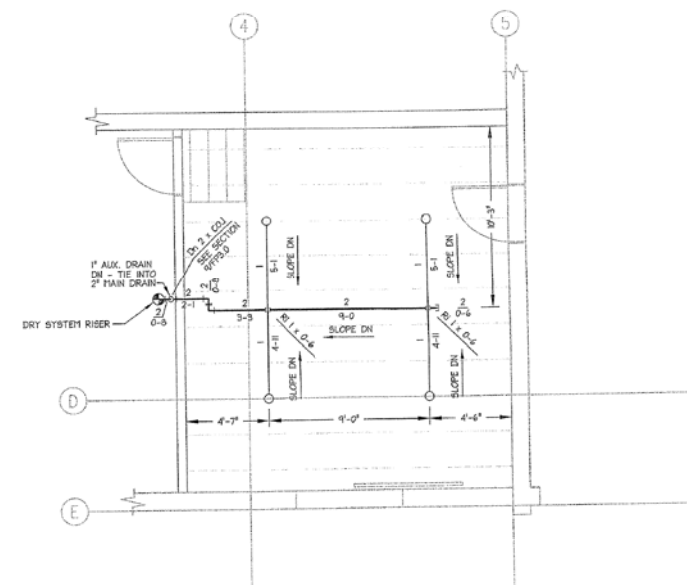
DRY SYSTEM VOLUME: 44 GALLONS

RISER ROOF SHALL BE MAINTAINED AT OR ABOVE 40' F AT ALL TIMES

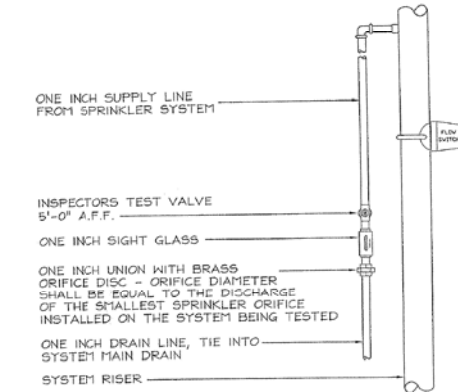
OWNER SHALL ARRANGE FOR 24 HOUR MONITORING OF VALVE STATUS AND WATER FLOW. MONITORING SHALL BE THROUGH AN APPROVED CENTRAL STATION.



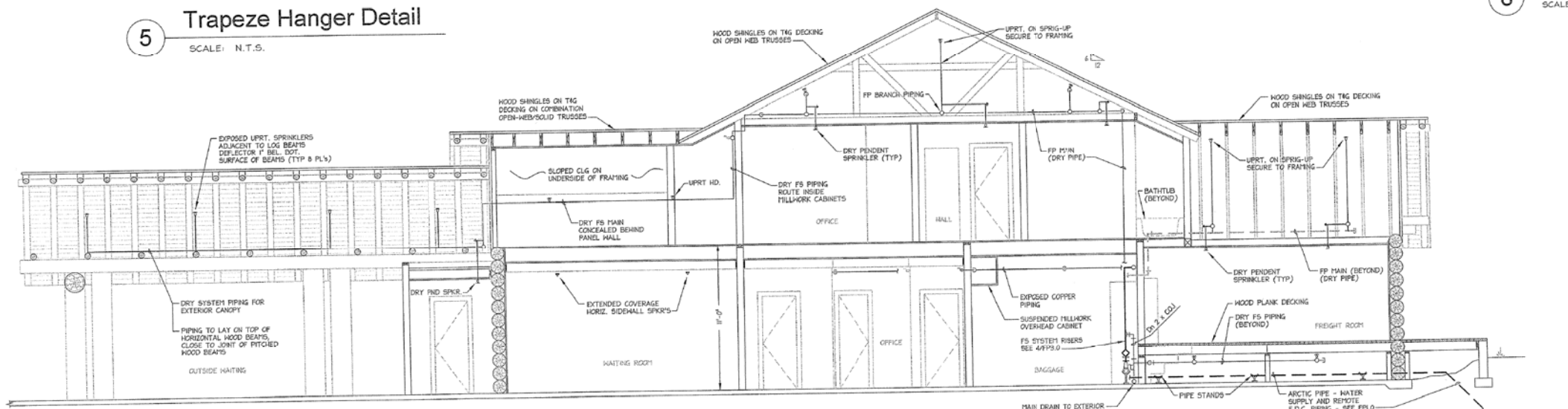
4 Fire Sprinkler Riser Manifold
SCALE: N.T.S.



8 Crawl Space Piping
SCALE: 1/4\" = 1'-0"



10 Wet System Insp. Test @ Riser
SCALE: N.T.S.



9 Building Section
SCALE: 1/4\" = 1'-0"

FIRE ALARM CONNECTION NOTES:

OWNER SHALL ARRANGE FOR 24 HOUR MONITORING OF VALVE STATUS AND WATER FLOW. MONITORING SHALL BE THROUGH AN APPROVED CENTRAL STATION. THE FLOW, PRESSURE, AND TAPPER SWITCHES SHALL BE CONNECTED TO THE EXISTING FIRE ALARM SYSTEM. DESIGN AND INSTALLATION OF WIRING BY OTHERS (COORDINATE REQUIRED VOLTAGE WITH THE ELECTRICAL ENGINEER AND ELECTRICAL CONTRACTOR).

GRAND CANYON DEPOT
Grand Canyon National Park - South Rim
Grand Canyon Village, Arizona

CLIENT: PACIFIC GENERAL, INC.
ARCHITECT/ENGINEER/DESIGNER
3550 EAST PRIMA STREET SUITE #121
TUCSON, ARIZONA 85712
(520) 627-1819 FAX (520) 696-5280
http://www.kellywright.com

SEAL: 3550 DONOVAN F. KELLY
REGISTERED PROFESSIONAL ENGINEER
STATE OF ARIZONA
No. 120703

KW KELLY WRIGHT ASSOCIATES, PC
INVAULT/FLAMING-FREE PROTECTION
3550 EAST PRIMA STREET SUITE #121
TUCSON, ARIZONA 85712
(520) 627-1819 FAX (520) 696-5280
http://www.kellywright.com

REVISIONS:
12-7-03
ADDED NOTES, CALC DATA, BACKFLOW ASSY.
1-7-04
Q.C. REVIEW

PROJECT NO: 03038
DATE: 11/07/03
DRAWN BY: C.J.M.
DESIGNED BY: C.J.M.
CHECKED BY: B.W.W.

SHEET CONTENTS:
FIRE SPRINKLER
SECTIONS
DETAILS
NOTES

SHEET

FP3.0

4 OF 4

4.3.17 2007 CONDITION DRAWINGS

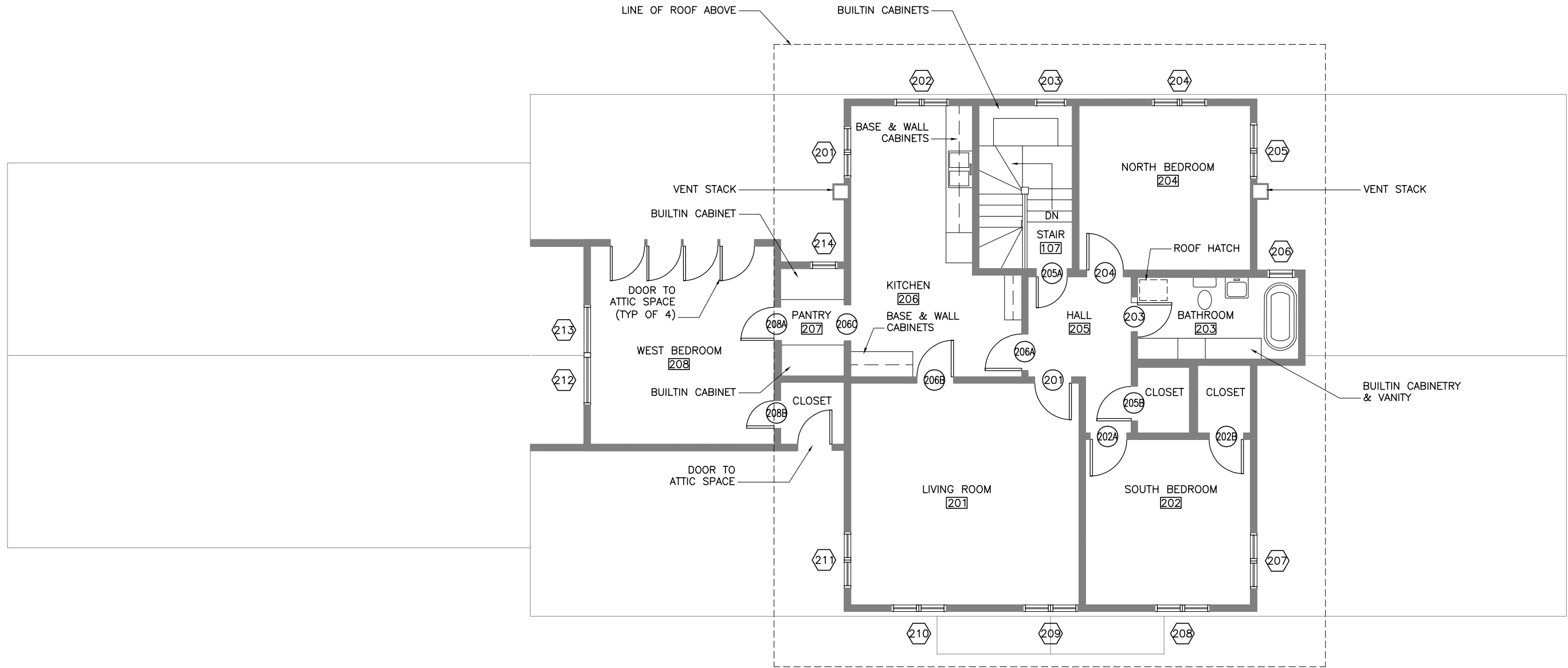
SCALE (A)

4 0 4 8

SCALE OF FEET

DESIGNED:	SUB SHEET NO.	TITLE OF SHEET	DRAWING NO.
CADD	A101	GRAND CANYON DEPOT	113
TECH. REVIEW:		2007 CONDITION	25012
DATE:		FIRST FLOOR PLAN	PMIS/PKG NO.
6/13/08		HISTORIC STRUCTURE REPORT	093652
		GRAND CANYON NATIONAL PARK	SHEET
			1 OF 4

6/9/08 17:19 REIMF R16 S:\020435 - GRAND CANYON DEPOT HSR\WORKING DRAWINGS\ARCH\A102-SECOND FLOOR PLAN.DWG XREFS: ..\BASE\YA-MASK.DWG; S:\020435 - GRAND CANYON DEPOT HSR\WORKING DRAWINGS\BASE\YA-PLANS.DWG;



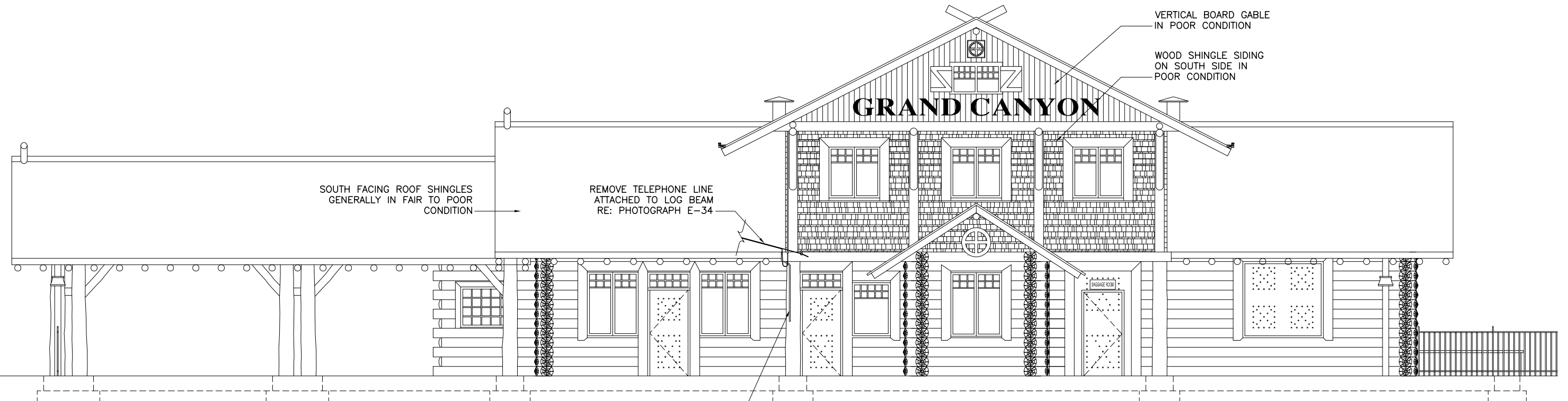
SECOND FLOOR PLAN

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

SCALE (A) 4 0 4 8
SCALE OF FEET

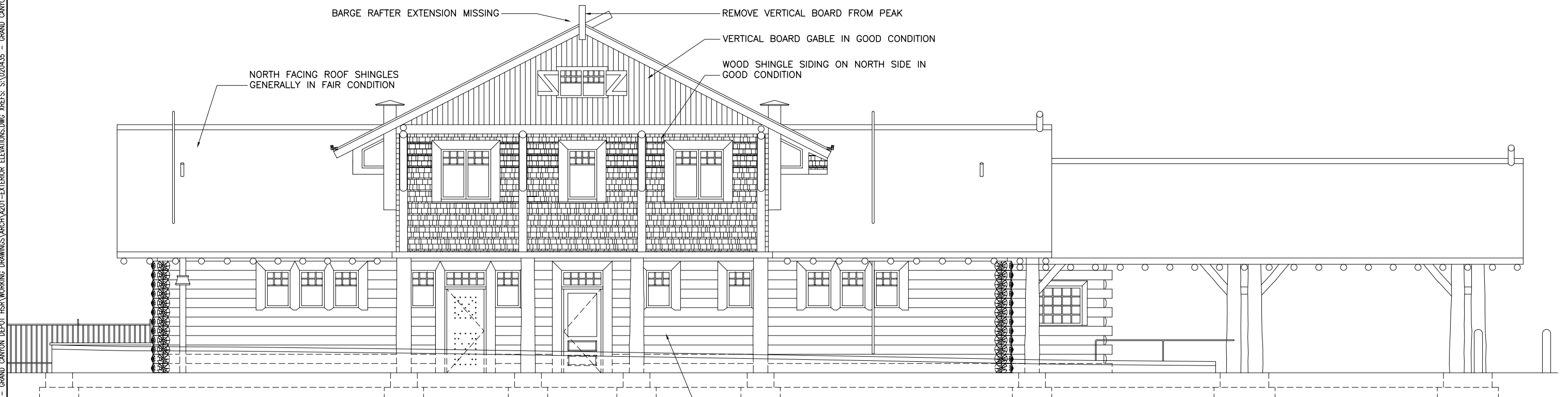
DESIGNED: GADE	SUB SHEET NO. A102	TITLE OF SHEET GRAND CANYON DEPOT 2007 CONDITION SECOND FLOOR PLAN HISTORIC STRUCTURE REPORT GRAND CANYON NATIONAL PARK	DRAWING NO. 113 25012
TECH. REVIEW:			PMIS/PKG. NO. 093652
DATE: 6/13/08			SHEET 2 OF 4

6/9/08 17:18 RENAF R16 S:\020435 - GRAND CANYON DEPOT HSR WORKING DRAWINGS\ARCH\A201-EXTERIOR ELEVATIONS.DWG XREFS: S:\020435 - GRAND CANYON DEPOT HSR WORKING DRAWINGS\BASE\VA-EXT ELEVATIONS.DWG;



1 SOUTH ELEVATION
A201 SCALE (A)

REMOVE UNUSED CONDUIT
& EXPOSED WIRING, TYP



2 NORTH ELEVATION
A201 SCALE (A)

LOG WALLS IN GOOD CONDITION SOME
GAPS BETWEEN LOGS DUE TO SETTLEMENT

SCALE (A)



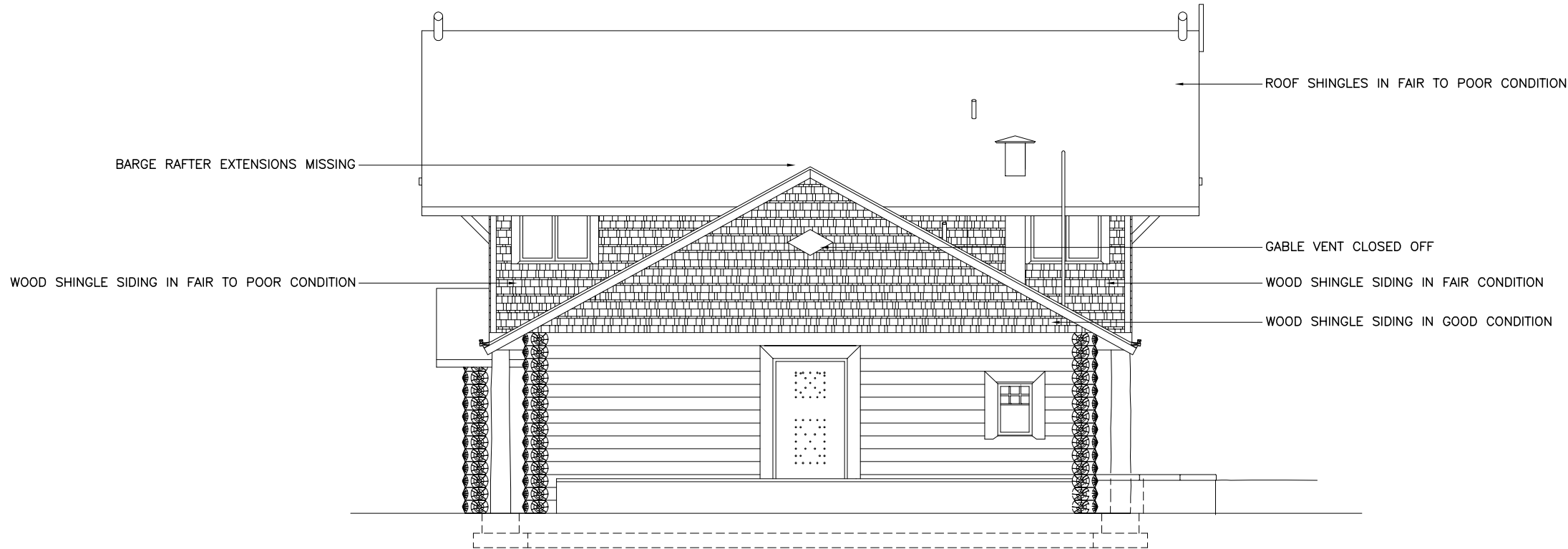
SCALE OF FEET

DESIGNED: GADD	SUB SHEET NO. A201	TITLE OF SHEET GRAND CANYON DEPOT 2007 CONDITIONS ELEVATIONS HISTORIC STRUCTURE REPORT GRAND CANYON NATIONAL PARK	DRAWING NO. 113 25012 PMIS/PKG NO. 093652 SHEET 3 OF 4
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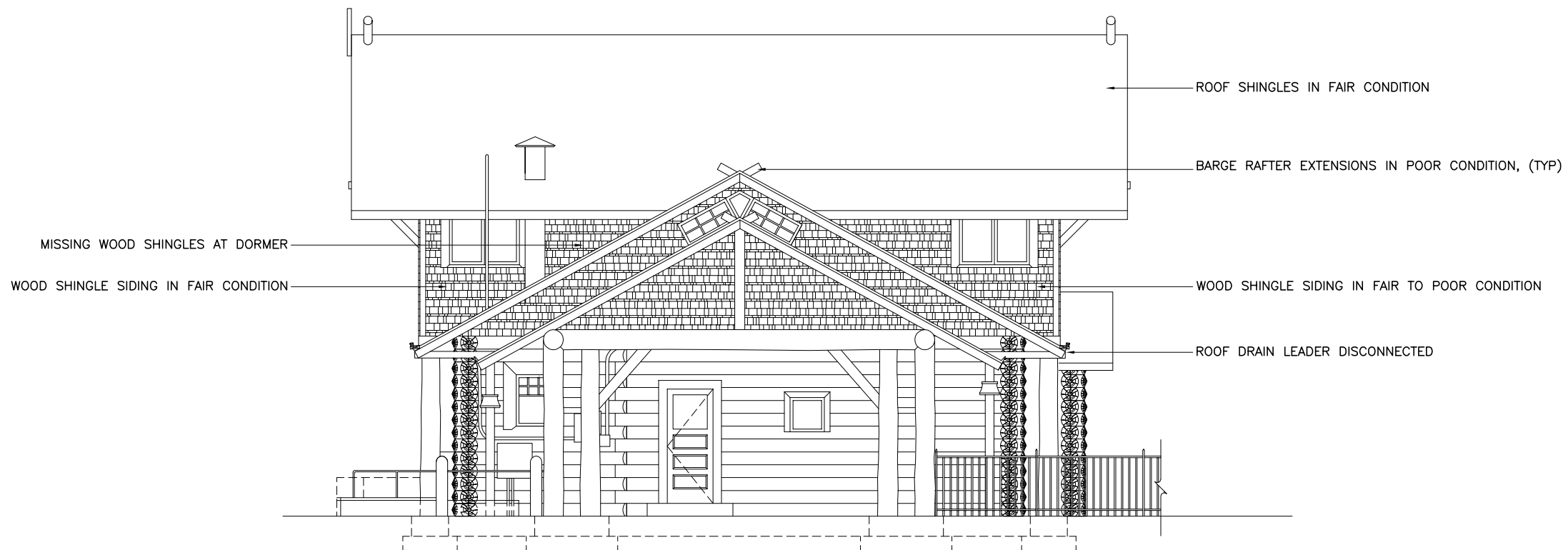
DATE:
6/13/08

TECH. REVIEW:

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1 EAST ELEVATION
A202 SCALE (A)



2 WEST ELEVATION
A202 SCALE (A)

SCALE (A) 4 0 4 8
SCALE OF FEET

DESIGNED: GAD	SUB SHEET NO. A202	TITLE OF SHEET GRAND CANYON DEPOT 2007 CONDITION ELEVATIONS HISTORIC STRUCTURE REPORT GRAND CANYON NATIONAL PARK	DRAWING NO. 113 25012 PMIS/PKG. NO. 093652 SHEET 4 OF 4
TECH. REVIEW:			
DATE: 6/13/08			

4.3.18 2007 WINDOW AND DOOR CONDITION SCHEDULE

Window Condition Schedule

Window Number	Condition Level	Comments
	1=Poor	
	2=Fair	
	3=Good	
First Floor		
101	3	Ribbed glass with hexagonal wire
102 ¹	3	Ribbed glass with hexagonal wire
103	2	Ribbed glass with hexagonal wire
104	3	Hammered glass with diamond wire
105	3	Hammered glass with diamond wire
106	2	Ribbed glass with hexagonal wire except upper left pane of six seeded glass without wire
107	3	Ribbed glass with hexagonal wire
108	3	Ribbed glass with hexagonal wire
109	3	Ribbed glass with hexagonal wire – boarded over on interior
110	3	Ribbed glass with hexagonal wire – boarded over on interior
111	3	Ribbed glass with hexagonal wire – boarded over on interior
112	1	Ribbed glass with hexagonal wire
113	3	
114	1	Exterior deterioration, sill poor
115 ²	2	Hole through sash in upper right
116	1	Exterior deterioration
117 ³	1	Exterior deterioration, sill poor
118	1	Exterior deterioration, sill poor
119	3	
120	3	
121	3	
122	3	
Second Floor		
201	2	1/8" to 3/8" gap between sash and frame
202	3	
203 ⁴	3	
204	3	
205	2	Paint deterioration, sash for window and screen notched lower right to run a cable out
206	3	
207	1-2	Exterior deterioration
208	1-2	Exterior deterioration, especially bottom sash and sill
209	1	Exterior deterioration
210	1	Exterior in very poor condition
211	1	Exterior deterioration, hardware missing or broken
212	3	

213	3	
214	3	
Gable		
301	3	North side – at least one screen louver insert exists in fair condition
302	3	South side

¹ North windows presumably the first floor – see September, 1988 Maintenance Log: repair due to damaged when the Depot was closed, removed green paint. The log mentions a “top coat of yellow gold over original whit [sic] enamel covering a grey primer.”

² The August, 1988 Maintenance Log indicated that the hole in the sash “may have been egress for the singing wire.”

³ Waiting Room windows – see July, 1988 Maintenance Log: “The windows were stripped to reveal a top layer of high gloss Grand Canyon dark brown cover coat of unique composition...[It] appears to be a varnish stain mixture that lends depth to the surface it covers. The underlying, and most likely original coating was discovered to be much darker and penetrated the wood grain as is characteristic of a stain.”

⁴ The October, 1988 Maintenance Log indicates that this “window is equipt [sic] with post 1935 hardware that would indicate it was not originally designed to be opened.”

Door Condition Schedule

Door Number	Condition Level 1=Poor 2=Fair 3=Good	Comments
First Floor		
101A	2	Wood plank with "GC" hardware. Lower 18 to 24 inches of exterior very deteriorated. Inside in good conditions. Bottom rubs on the floor so cannot be fully opened. 10-light transom in good condition.
101B	2	Wood plank with "GC" hardware. Contemporary slide latch on interior. Lower 4 inches of both interior and exterior in poor condition. Sign on exterior "Ticket Office"
101C	3	4-panel door with deadbolt and closer but no knob or mortise.
101D	3	Cased opening
102A	2	Wood plank with non-"GC" hardware. Exterior fair to good except bottom 12 inches of casing deteriorated. 10-light transom in good condition.
102B	3	4-panel door with "GC" hardware. Top corners of casing pulling apart due to settlement.
102C	3	3-panel door with non-"GC" hardware. Patterned glass sidelight.
102D	3	Narrow 4-panel door with "GC" hardware, latchbolt. Inner mechanism missing.
102E	3	Dutch door with one leaf only and 9 inch shelf. No hardware.
103A	2-3	Fixed sliding door with man-door cut into it. Non-"GC" hardware, latchbolt and closer. Exterior shows wear and abuse but in fair to good condition. Sign "Baggage Room".
103B	3	Cage door with latchbolt. Sign "Positively No Admittance".
103C	3	4-panel door with non-"GC" hardware and latchbolt.
104A	2-3	Sliding wood panel with hasp. UV deterioration of door and deterioration of lower part of casings.
104B	2-3	Sliding wood panel with hasp. Loading door, sill is about 3 feet above grade. Deterioration on lower part of door. Sill is worn. Damage to logs below doors. Casing in fair condition.
105	2-3	4-panel door, painted. No hardware. Bottom rubs on floor and is very difficult to open and close.
106	3	Wood plank with "GC" hardware. Latchbolt and modern closer. 10-light transom in good condition. Sign universal symbol for men's restroom.
107A	3	Wood plank with "GC" hardware and latchbolt. Screen door in good condition. 10-light transom in good condition. Push button (door bell?) on right casing.
107B	3	4-panel door with "GC" hardware and slide latch.
108	3	4-panel door. Typical "GC" type escutcheon plate but non-"GC"

109	3	knob. Some damage on door from the latch on door 107A 4-panel door, painted. Typical “GC” type escutcheon plate but accessible lever.
110	3	4-panel door, painted, with “GC” hardware.
111 ¹	3	3-panel door with glass panel above. “GC” hardware and latchbolt.
112	3	2-panel door with glass panel above. Non-“GC” hardware and latchbolt.
Second Floor		
201	3	4-panel door. Typical “GC” type escutcheon plate but no knob or mortise.
202A	3	4-panel door. Typical “GC” type escutcheon plate but no knob or mortise.
202B	3	4-panel door. Typical “GC” type escutcheon plate but no knob or mortise.
203	3	4-panel door with “GC” hardware.
204	3	4-panel door with “GC” hardware but no mortise.
205A	3	4-panel door with “GC” hardware but no mortise.
205B	3	4-panel door with “GC” hardware but no mortise.
206A	3	4-panel door. Typical “GC” type escutcheon plate but no knob or mortise.
206B	3	4-panel door with “GC” hardware but no mortise.
206C	3	Door missing. Casing has strike plate and rabbeted stops. Hinge mortises patched.
208A	3	4-panel door with non-“GC” hardware, no knobs. Unlike all other wood panel doors the panels are in four quadrants.
208B	3	Bead board, painted.

¹ A July-August 1987 Historic Preservation Report by Dennis Dorman indicates that the exterior entry door previous to 1987 had lettering on the glass. The report states that the “window in the door with lettering “ticket office and waiting room” broken, the glass replaced without the hand lettering.”

4.4.1 1974 NATIONAL REGISTER OF HISTORIC PLACES NOMINATION FORM

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM
FOR FEDERAL PROPERTIES
(Type all entries - complete applicable sections)

STATE:	Arizona
COUNTY:	Coconino
FOR NPS USE ONLY	
ENTRY DATE	SEP 6 1974

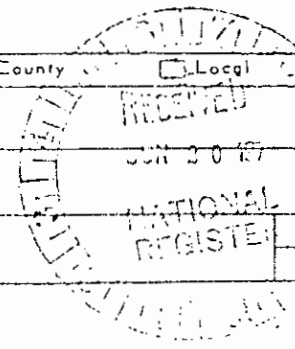
NAME			
COMMON: Grand Canyon Railroad Station			
AND/OR HISTORIC:			
LOCATION			
STREET AND NUMBER: Park Route 8a (Village Loop) Building No. 549			
CITY OR TOWN: Grand Canyon		CONGRESSIONAL DISTRICT: Third	
STATE: Arizona	CODE 04	COUNTY: Coconino	CODE 86023
		005	

CLASSIFICATION			
CATEGORY (Check One)	OWNERSHIP		STATUS
<input checked="" type="checkbox"/> District <input type="checkbox"/> Site <input type="checkbox"/> Object	<input type="checkbox"/> Building <input type="checkbox"/> Structure <input type="checkbox"/> Object	<input type="checkbox"/> Public <input checked="" type="checkbox"/> Private <input type="checkbox"/> Both	<input type="checkbox"/> Occupied <input checked="" type="checkbox"/> Unoccupied <input type="checkbox"/> Preservation work in progress
PRESENT USE (Check One or More as Appropriate)		ACCESSIBLE TO THE PUBLIC	
<input type="checkbox"/> Agricultural <input type="checkbox"/> Commercial <input type="checkbox"/> Educational <input type="checkbox"/> Entertainment		<input type="checkbox"/> Yes: <input checked="" type="checkbox"/> Restricted <input type="checkbox"/> Unrestricted <input type="checkbox"/> No	
<input type="checkbox"/> Government <input type="checkbox"/> Industrial <input type="checkbox"/> Military <input type="checkbox"/> Museum		<input type="checkbox"/> Park <input type="checkbox"/> Private Residence <input type="checkbox"/> Religious <input type="checkbox"/> Scientific	
<input type="checkbox"/> Transportation <input checked="" type="checkbox"/> Other (Specify) Vacant		<input type="checkbox"/> Comments	

AGENCY			
OWNER OF PROPERTY: Atchison Topeka and Santa Fe Railway Company			
REGIONAL HEADQUARTERS: (If applicable)		STREET AND NUMBER: 80 East Jackson Blvd.	
CITY OR TOWN: Chicago	STATE: Illinois	CODE	
LOCATION OF LEGAL DESCRIPTION			
COURTHOUSE, REGISTRY OF DEEDS, ETC: Coconino County Courthouse			
STREET AND NUMBER:			
CITY OR TOWN: Flagstaff	STATE: Arizona	CODE 04	

REPRESENTATION IN EXISTING SURVEYS			
TITLE OF SURVEY:			
DATE OF SURVEY:	<input type="checkbox"/> Federal	<input type="checkbox"/> State	<input type="checkbox"/> County
DEPOSITORY FOR SURVEY RECORDS:			
STREET AND NUMBER:			
CITY OR TOWN:	STATE:	CODE	

STATE:	Arizona
COUNTY:	Coconino
ENTRY NUMBER	SEP 6 1974
DATE	



DESCRIPTION

CONDITION

☐ Excellent☐ Good☒ Fair☐ Deteriorated☐ Ruins☐ Unexposed

(Check One)

(Check One)

☒ Altered☐ Unaltered

(Check One)

☐ Moved☐ Original Site

DESCRIBE THE PRESENT AND ORIGINAL (if known) PHYSICAL APPEARANCE

Exterior: The front of Grand Canyon Station faces south. The roof of the building has three levels; two on an east-west axis, with a porch roof lower than the roof of the main building. The third level is on a north-south axis and crosses the main roof in the center. The main level and supports for the porch and overhangs of the upper stories are made of logs. The second story is a frame structure with shingles for the exterior wall. The words, "Grand Canyon" stand out from the exterior wall of the attic. The dispatcher's office, upper story, and attic walls all extend out slightly from the walls of the main level. A platform and tracks extend to the south in front of the building. A parking lot is on the west and Park Loop incircles the north and south sides. On the south end of the building, there is a small loading dock. On the west, under the porch roof, a small frame addition has been made of planks. A telephone booth is attached to the southwest corner of this small structure. The overall structure covers approximately 3,000 square feet.

Interior: The interior of the station is divided into two levels. Entrance may be gained on all sides of the main floor. The waiting room is in the southwest end of the building with entrances from the south and west. The rest of the station leads east from the waiting room. The agent's office is in the north portion of the building with access to both the waiting room and ticket office. The ticket office is directly east of the waiting room and the ticket window is in the adjoining wall. Entrance to the ticket office is gained through a south door and from the north through a small hallway which houses the staircase. The railway express and baggage and freight areas compose the east end of the building. The restrooms occupy the northeast and northwest corners with the agent's office, rear entrance and staircase in between. The interior walls of the station are plastered except for the small extension which is unfinished and the baggage and freight rooms which have wooden walls. The ticket office and waiting room have wood trim on the lower third of the walls. The floors are cement except for the freight room which has a wooden floor.

The only entrance to the upstairs apartment is by the staircase and rear entrance. The stairs lead into a small entranceway. The bathroom is to the left, the kitchen to the right, and living room straight ahead. The bedrooms are in the northeast and southeast corners with bathroom and closet space between. The living room is in the northwest corner with the kitchen leading off to the southwest. A small pantry and utility area are off to the west in the attic of the waiting room. The apartment walls are plastered and the floors are wood. The kitchen and bathroom have linoleum on the floors.

There are no furnishing in any part of the building; however, the cabinets and fixtures are still in place. The plaster in the apartment is beginning to chip and fall off, and several holes have been punched in the cement floor of the main level. The walls and floors of the addition on the west are almost completely unfinished. Many of the original door knobs are gone and a few of the exterior logs at ground level show signs of rotting.

SEE INSTRUCTIONS

5..SIGNIFICANCE

PERIOD (Check One or More as Appropriate)

- ☐ Pre-Columbian ☐ 16th Century ☐ 18th Century ☒ 20th Century
☐ 15th Century ☐ 17th Century ☐ 19th Century

SPECIFIC DATE(S) (If Applicable and Known) 1890s

AREAS OF SIGNIFICANCE (Check One or More as Appropriate).

- | | | | |
|--|---------------------------------------|--|--|
| <input type="checkbox"/> Aboriginal | <input type="checkbox"/> Education | <input type="checkbox"/> Political | <input type="checkbox"/> Urban Planning |
| <input type="checkbox"/> Prehistoric | <input type="checkbox"/> Engineering | <input type="checkbox"/> Religion/Philosophy | <input type="checkbox"/> Other (Specify) |
| <input type="checkbox"/> Historic | <input type="checkbox"/> Industry | <input type="checkbox"/> Science | _____ |
| <input type="checkbox"/> Agriculture | <input type="checkbox"/> Invention | <input type="checkbox"/> Sculpture | _____ |
| <input type="checkbox"/> Architecture | <input type="checkbox"/> Landscape | <input type="checkbox"/> Social/Humanitarian | _____ |
| <input type="checkbox"/> Art | <input type="checkbox"/> Architecture | <input type="checkbox"/> Theater | _____ |
| <input type="checkbox"/> Commerce | <input type="checkbox"/> Literature | <input checked="" type="checkbox"/> Transportation | _____ |
| <input type="checkbox"/> Communications | <input type="checkbox"/> Military | | _____ |
| <input checked="" type="checkbox"/> Conservation | <input type="checkbox"/> Music | | _____ |

STATEMENT OF SIGNIFICANCE

Begun in 1898, primarily to provide transportation for the evolving Tusayan Development Company copper mine, this railroad, owned by Lombard, Goode, and Company originally made little progress and the company folded. Its rights and interests were acquired by the Santa Fe Railroad and that company completed the laying of track in September 1901 from Williams to the South Rim of the Grand Canyon.

The first depot at the South Rim was a shack and was located at the terminus of the line just west of the present depot. Within a few years, a new and larger station was needed, and the Santa Fe Railway began building the present one, completing it around 1909.

The coming of the railroad to the South Rim of Grand Canyon permitted more and more people to visit this natural phenomena. In short order, the railroad became the principal means of access to the Grand Canyon, bringing passengers to its lodges and hotels. The slow, expensive stagecoach ceased carrying passengers.

The depot served as a passenger terminal until regular train service to Grand Canyon was ended in 1968.

Today, the railroad depot and tracks at the South Rim of the Grand Canyon symbolize the early period of the park when it was becoming known to the general public. The railroad, in a very material way, contributed to the popularization of the Grand Canyon and the national park idea. Moreover, the railroad is a surviving representative of the branch lines that penetrated into the hinterlands of the West, providing lines of communication deep into the heart of the country and thus, binding the Nation together into a reasonably cohesive whole.



SEE INSTRUCTIONS

MAJOR BIBLIOGRAPHICAL REFERENCES

Austin, Edwin Grand Canyon Items-1886-1914 Arizona Champion & Coconino Sun
 Black, W. J. The Grand Canyon of Arizona
 Hamilton, Leslie Pioneer Memories of the Grand Canyon
 Hughes, Donald J. The Story of Man at Grand Canyon
 James, George W. Grand Canyon of Arizona: How to See it.
 Walters, L. L. Steel Trails to Santa Fe
 Grand Canyon Superintendent's Narrative Reports - 1920-1928
 Historical Files - Grand Canyon National Park Research Library

GEOGRAPHICAL DATA

LATITUDE AND LONGITUDE COORDINATES DEFINING A RECTANGLE LOCATING THE PROPERTY			OR	LATITUDE AND LONGITUDE COORDINATES DEFINING THE CENTER POINT OF A PROPERTY OF LESS THAN TEN ACRES		
CORNER	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	
	Degrees Minutes Seconds	Degrees Minutes Seconds		Degrees Minutes Seconds	Degrees Minutes Seconds	
NW	" " "	" " "		36° 03' 22"	112° 08' 09"	
NE	" " "	" " "				
SE	" " "	" " "				
SW	" " "	" " "				

APPROXIMATE ACREAGE OF NOMINATED PROPERTY:

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE:	CODE	COUNTY:	CODE
Arizona	04	Coconino	005
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE
STATE:	CODE	COUNTY:	CODE

FORM PREPARED BY

NAME AND TITLE: Ezekiel D. Jaramillo		DATE: 12/15/71
BUSINESS ADDRESS: National Park Service (Grand Canyon National Park)		
STREET AND NUMBER: P. O. Box 129		PHONE:
CITY OR TOWN: Grand Canyon	STATE: Arizona	CODE: 04

CERTIFICATION OF NOMINATION	NATIONAL REGISTER VERIFICATION
<p>State Liaison Officer recommendation:</p> <p><input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> None</p> <p><i>Daniel McCarthy</i> State Liaison Officer Signature</p> <p>In compliance with Executive Order 11593, I hereby nominate this property to the National Register, certifying that the State Liaison Officer has been allowed 90 days in which to present the nomination to the State Review Board and to evaluate its significance. The recommended level of significance is <input type="checkbox"/> National <input type="checkbox"/> State <input type="checkbox"/> Local</p> <p><i>Paul M. Wilson</i> Federal Representative Signature</p> <p>ACTING REGIONAL DIRECTOR, WESTERN REGION</p> <p>Title</p>	<p>I hereby certify that this property is included in the National Register.</p> <p><i>A. P. Mortenson</i> Director, Office of Archeology and Historic Preservation</p> <p>Date <i>9/6/74</i></p> <p>ATTEST:</p> <p><i>Charles A. Herring</i> Keeper of The National Register</p> <p>Date <i>9-6-74</i></p>

SEE INSTRUCTIONS

NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY - NOMINATION FORM

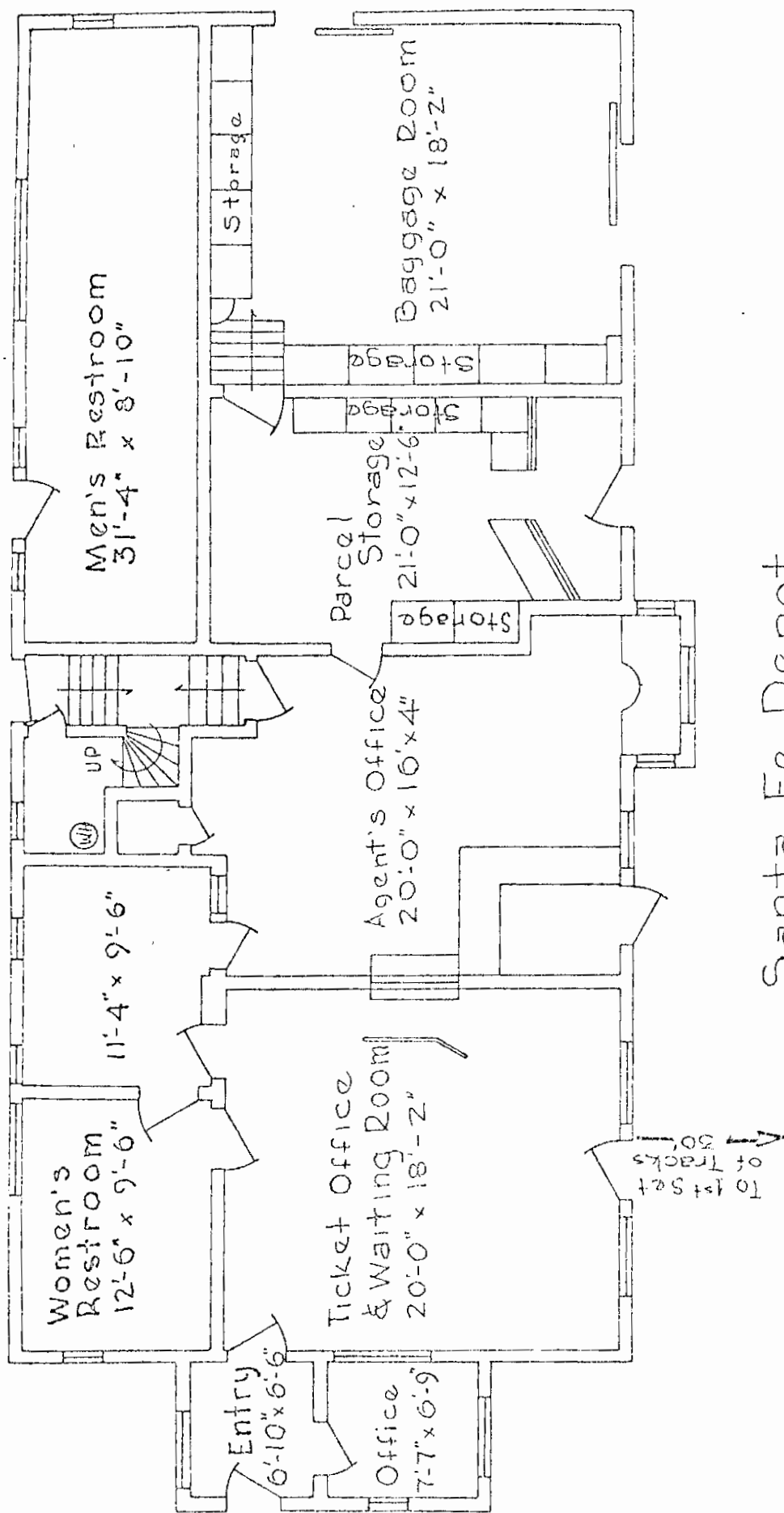
(Continuation Sheet)

COUNTY	
Sonoma	
FOR NPS USE ONLY	
ENTRY NUMBER	DATE
SEP 6	1974

(Number all entries)

Boundary: The east end of this property is bounded by the bridge connecting the North and South Loop Roads. The south boundary runs along the north edge of the South Village Loop road. The north boundary runs along the south edge of the North Village Loop Road. The west boundary is formed by a north-south line about 200 feet west of the station and connecting the north and south boundaries.





Men's Restroom
3'-4" x 8'-10"

11'-4" x 9'-6"

9-01-6
6-10-6
5-11-6

Office

Ticket Office
& Waiting Room
20'-0" x 18'-2"

Agent's Office
20:0" x 16' x 4"

Parcel Storage

Baggage Room
21'-0" x 18'-2"

$$\begin{array}{r} 2020 \\ + 5 \\ \hline 2025 \end{array}$$

548

TO 1st Sgt
of Tracks

Santa Fe Depot
Grand Canyon National Park

SCALE $1/8"=1'$

35

loading book

4.4.2 1987 NATIONAL LANDMARK NOMINATION FORM



IN REPLY REFER TO:

H34(418)

United States Department of the Interior

NATIONAL PARK SERVICE

P.O. BOX 37127

WASHINGTON, D.C. 20013-7127

JAN 7 1987

RECEIVED
Grand Canyon National Park

JAN 15 '87

Initial C-4

Superintendent		
Deputy Supt.		
Chief of Admin.		
Personnel		
Procurement		
Budget		
Chief Ranger		
Chief Maint.		
Chief Concessions		
Chief Interp.		
Chief Res. Mgt.	Sh	2/27
Mgt. Ass.		
Safety		
Sanitation		
Carroll EYL	Sh	1/29
Files		

Honorable Bob Stump
House of Representatives
Washington, DC 20515

Dear Mr. Stump:

We are pleased to inform you that the National Park Service has completed the studies of the properties identified on the enclosed sheet for the purpose of nominating them for possible designation as National Historic Landmarks. We enclose copies of the study reports. The National Park System Advisory Board will consider the nominations during its next meeting at the time and place indicated on the enclosure. The Board will make its recommendations to the Secretary of the Interior based upon the criteria of the National Historic Landmarks Program.

You have 60 days before the meeting of the Advisory Board to submit your views in writing if you so desire. After the 60-day period, we will submit the nominations and your comments to the Advisory Board and then inform the Secretary of the Board's recommendations for his final action.

To assist you in considering this matter, we have enclosed a copy of the regulations that govern the National Historic Landmarks Program. They describe the criteria for designation (Sec. 65.4), the effects of designation (Sec. 65.2), and specify how you may comment on a proposed designation (Sec. 65.5 (d)(4-5)). Should you wish to comment, please send your comments to Mr. Edwin C. Bearss, Chief Historian, National Park Service, History Division (418), P.O. Box 37127, Washington, DC 20013-7127.

Sincerely,

/Sgd, Jerry L. Rogers

William Penn Mott, Jr.
Director

Enclosures

PROPERTIES STUDIED FOR NATIONAL HISTORIC LANDMARK DESIGNATION

- (1) El Tovar, Grand Canyon National Park
- (2) Grand Canyon Railway Depot, Grand Canyon National Park
- (3) Grand Canyon Lodge, Grand Canyon National Park
- (4) Grand Canyon Power House, Grand Canyon National Park
- (5) Grand Canyon Park Operations Building, Grand Canyon National Park
- (6) M. E. J. Colter Buildings (Desert View Watchtower, Hopi House, Hermit's Rest, and Lookout Studio), Grand Canyon National Park

☐ As a private owner of the properties identified above you may concur in or object to designation. Your comments may govern whether or not the properties will be designated. You can find guidance for your comments in Section 65.5(d)(4-5) of the enclosed regulations.

☒ In commenting on the possible designation of the above indicated properties you can find guidance in Section 65.5(d)(4) of the enclosed regulations.

The above properties will be considered for possible designation as National Historic Landmarks by the National Park System Advisory Board at its meeting on April 9, 1987, beginning at 8:00 a.m., at the Port of the Islands Resort in Marco, Florida. Should you wish to obtain information about the meeting, or about the National Historic Landmarks Program, please contact Ben Levy at the National Park Service, History Division (418), P.O. Box 37127, Washington, DC 20013-7127, 202-343-8164 or FTS-343-8164.

If you have questions about the study reports, you may contact Ms. Laura Soulliere Harrison at P.O. Box 65 - Lodgepole, Sequoia National Park, California 93262, (209) 565-3419.

cc: Superintendent, Grand Canyon NP
Regional Director (WRO) (8000) Attn: G. Chappell
M. Pepin-Donat (WRO) (8000)
190-Congressional Liaison
001 Reading File
400 Reading File
418-EL TOVAR, GRAND CANYON NP (NHL PENDING)
418-GRAND CANYON RAILWAY DEPOT, GRAND CANYON NP (NHL PENDING)
418-GRAND CANYON LODGE, GRAND CANYON NP (NHL PENDING)
418-GRAND CANYON POWER HOUSE, GRAND CANYON NP (NHL PENDING)
418-M. E. J. COLTER BUILDINGS (DESERT VIEW WATCHTOWER, HOPI HOUSE, HERMIT'S
REST, LOOKOUT STUDIO), GRAND CANYON NP (NHL PENDING)
418-GRAND CANYON PARK OPERATIONS BUILDING, GRAND CANYON NP (NHL PENDING)
IFeller:pt:12/19/86



United States Department of the Interior

NATIONAL PARK SERVICE

SOUTHWEST REGION

P.O. Box 728

Santa Fe, New Mexico 87501

RECEIVED
Grand Canyon National Park

JUN 13 '86

Superintendent	
Deputy Super.	
Chief of Admin.	
Personnel	
Procurement	
Budget	
Chief Ranger	
Chief, Maintenance	
Chief, Concessions	
Chief, Interpretation	
Chief, Park Mgmt.	
Asst. Dir.	
Adm. Asst.	
Secretary	

Garrett 4/22

IN REPLY REFER TO:

H34(SWR-PCH)

JUN 11 1986

Memorandum

To: Regional Director, Western Region
From: Acting Regional Director, Southwest Region
Subject: National Historic Landmark nomination form

Enclosed for your information is a copy of the final National Historic Landmark nomination form for:

Grand Canyon Depot

The nomination form has been submitted to the Washington Office, History Division. This form, along with 29 others, will be presented to the Secretary of the Interior's Advisory Board at its fall meeting as part of the landmark theme study on "Architecture in the Parks." Please note that the property at this time is under consideration for landmark status, but that the decision will not be made until autumn. After the fall meeting, you will receive formal notification from Washington; and the park will receive a final copy of the nomination with original photographs.

s/ DONALD A. DAYTON

Enclosure

cc:

Ed Bearss, WASO-414, w/o enclosure

Superintendent, Grand Canyon, w/c enclosure

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
**NATIONAL REGISTER OF HISTORIC PLACES
INVENTORY -- NOMINATION FORM**
FOR FEDERAL PROPERTIES

FOR NPS USE ONLY

RECEIVED

DATE ENTERED

SEE INSTRUCTIONS IN HOW TO COMPLETE NATIONAL REGISTER FORMS
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC

Grand Canyon Depot

AND/OR COMMON

2 LOCATION

STREET & NUMBER

South Rim

CITY, TOWN

Grand Canyon National Park

VICINITY OF

NOT FOR PUBLICATION

CONGRESSIONAL DISTRICT

3rd

STATE

Arizona

CODE

04

COUNTY

Coconino

CODE

005

3 CLASSIFICATION

CATEGORY

☐ DISTRICT☒ BUILDING(S)☐ STRUCTURE☐ SITE☐ OBJECT

OWNERSHIP

☒ PUBLIC☐ PRIVATE☐ BOTH

PUBLIC ACQUISITION

☐ IN PROCESS☐ BEING CONSIDERED

STATUS

☐ OCCUPIED☒ UNOCCUPIED☐ WORK IN PROGRESS

ACCESSIBLE

☒ YES: RESTRICTED☐ YES: UNRESTRICTED☐ NO

PRESENT USE

☐ AGRICULTURE☐ COMMERCIAL☐ EDUCATIONAL☐ ENTERTAINMENT☐ GOVERNMENT☐ INDUSTRIAL☐ MILITARY☐ MUSEUM☐ PARK☐ PRIVATE RESIDENCE☐ RELIGIOUS☐ SCIENTIFIC☐ TRANSPORTATION☒ OTHER Storage**4 AGENCY**

REGIONAL HEADQUARTERS: (If applicable)

National Park Service -- Western Regional Office

STREET & NUMBER

450 Golden Gate Avenue, Box 36063

CITY, TOWN

San Francisco

VICINITY OF

STATE

California

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE,

REGISTRY OF DEEDS, ETC.

Coconino County Courthouse

STREET & NUMBER

South San Francisco Street

CITY, TOWN

Flagstaff

STATE

Arizona

6 REPRESENTATION IN EXISTING SURVEYS

TITLE

National Register of Historic Places

DATE

1974

☒ FEDERAL ☐ STATE ☐ COUNTY ☐ LOCALDEPOSITORY FOR
SURVEY RECORDS

National Park Service

CITY, TOWN

Washington

STATE

D. C.

7 DESCRIPTION

CONDITION

☐ EXCELLENT ☐ DETERIORATED
☐ GOOD ☐ RUINS
☒ FAIR ☐ UNEXPOSED

CHECK ONE

☐ UNALTERED
☐ ALTERED

CHECK ONE

☒ ORIGINAL SITE
☐ MOVED DATE _____

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The Grand Canyon Depot is a log and wood-frame structure with a central section two-and-a-half stories in height and wings to the east and west each one-and-a-half stories. The building's foundation is concrete. The gable roof of the two-story section runs on a north-south axis, and those of the wings on an east-west axis. The intersecting gable roofs are finished with green-painted asbestos shingles. The south gable end frames the Santa Fe logo near the ridge, with the identifying "Grand Canyon" name below in green copper letters. Centered below that on the first floor is a log bay projecting out from the building's mass, sheltered by a small gable roof. Another Santa Fe logo is centered in this gable end. The baggage loading platform and baggage room are at the east end of the building. The waiting platform and ticket booth are at the west end. The front elevation faces south and overlooks the remaining tracks.

The design details of the log construction are unusual. The logs are squared on three sides creating bearing surfaces and flat interior surfaces. The bottom sides of each log are routed to hold wood strips wrapped in building paper which drapes between the logs and over the faces of the lower logs. The squared logs are drawn tightly together at the corners and again lined with building paper. These techniques have limited the amount of moisture penetration throughout the years, leaving the logs in good structural condition. The false crowns of the logs are axe-cut, giving the building a frontier/western feeling. Building corners in the main two-story portion are finished with peeled log posts. All of the walls of the buildings are logs, with the exceptions of the log-slab addition at the west end, waiting platform, and the upper story whose walls are finished with wood shingles double-coursed every second row. The second story overhangs the first by more than one foot. Log brackets on the upper story support the roof whose gable ends project out two feet from the second story. The shadows created by the long eaves and overhangs reinforce the building's horizontal emphasis. The building logs and shingles are stained dark brown. Most of the windows in the building are paired wood-frame casements with six-light fixed transoms above. Paired log posts support the roof over the passenger-loading area. The log framing of the roof structure above it is exposed.

The first floor of the building contains the former waiting room, ticket office, restrooms, baggage room, and various other public and work spaces. The floor is scored concrete. The log-slab wainscoting and molding around the doors and windows contributes to the building's rustic quality. Above the wainscoting is off-white plaster. The dark stain of the wainscoting and

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National Park Service

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Continuation sheet

Item number 7

Page 2

moldings is similar in color to the log slab panelling on the interior of El Tovar. An interior staircase leads from the first floor up to the apartment formerly occupied by the station agent. The apartment contains living room, kitchen, pantry, bath, two bedrooms, and storage and utility areas. The floors in the apartment are wood, with linoleum finishes in the kitchen, pantry, and bath. The walls are plaster.

The building contains a considerable amount of its original hardware bearing the stylized letters "GC" for Grand Canyon, although some of this hardware has been stolen in its years of abandonment. All original doors remain and are either solid planks with wrought-iron bolts and hardware, or glazed or solid with multiple wood inset panels.

An iron fence at the east and west ends of the building, with a gate for access to the baggage loading dock at the east end, is extant but is in damaged condition. The collapsible metal fencing closing off the track side of the outdoor passenger waiting area from the tracks is in better condition. What remains of the track, platforms and passenger yard are an essential part of the historic scene of the Grand Canyon depot, for the depot could not have functioned without them.

A new Victorian-style depot was designed by a railway employee in 1907, but it was not built. That design, however, did serve as the basic floor plan for the larger 1909 design done by Santa Barbara architect Francis Wilson. Wilson's log depot was constructed in 1909-1910. The original copper letters on the front elevation spelling out "Grand Canon" were changed to "Grand Canyon" by 1911. Probably in 1925, the size of the women's restroom was reduced to create additional office space. A storm vestibule and small ticket office of log-slab siding were added to the west end of the building under the covered passenger platform in 1929. That same year, the iron fence was built at the east and west edges of the depot to enclose the railroad yard. The agent's office inside the depot was remodelled in 1939, but the nature and extent of this work is not known. Asbestos shingles, replacing the original wood shingles, were installed on the roofs in 1940. The original pole lookouts at the gable ends reminiscent of those at Old Faithful Inn at Yellowstone were probably removed at the same time. Some foundation work was done in 1948 to discourage termites. Copper steam pipes were also installed, and the baggage loading platform at the east end of the depot was rebuilt, also in 1948. The floor plan was revised in 1949 to show changes in the women's restroom. It is unclear whether these plans reflected existing

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National Park Service****National Register of Historic Places
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Continuation sheet

Item number 7

Page 3

conditions from the 1925 change or perhaps served as the documents for interior changes made in 1949. Fluorescent lights to augment existing lights were added in 1954 at the same time that additional interior changes of an unspecified nature were completed. The last passenger train used the depot in 1968, and the freight office closed a year later. The building has been used intermittently since that time but is now vacant.

8 SIGNIFICANCE

PERIOD	AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW			
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE
<input type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input checked="" type="checkbox"/> TRANSPORTATION
<input checked="" type="checkbox"/> 1900-Present	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input checked="" type="checkbox"/> OTHER (SPECIFY)
		<input type="checkbox"/> INVENTION		Tourism

SPECIFIC DATES 1909 - Present

BUILDER/ARCHITECT Francis Wilson for the
Atchison, Topeka and Santa Fe Railway

STATEMENT OF SIGNIFICANCE

The Grand Canyon Depot has multiple aspects of significance. First, the building is one of approximately 14 log depots known to have been constructed in the United States, and it is one of three remaining. Out of those three, the Grand Canyon depot is the only one where logs were used as the primary structural material, rather than as ornament to make the building seem more rustic [1]. As an architectural symbol, the building served as the introduction to the Grand Canyon setting the tone for the visitor experience during days of train travel; and it continues to contribute a substantial sense of place to the area so painstakingly developed as a "destination resort" by the Atchison, Topeka, and Santa Fe Railway. The depot is integrally connected with the development of El Tovar and the South Rim of the Grand Canyon and as such had a major impact on revenues of the Santa Fe system and on the nation's entire railway network through connecting service with other railroads. The depot is at the branch-line terminus of the only railroad line inside national park boundaries--the railroad came first and then the park was created. The massive publicity campaign undertaken by the Santa Fe increased public awareness of the Grand Canyon and undoubtedly aided in efforts to establish the area as a national park in 1919.

The first railroad into the Grand Canyon vicinity was the Santa Fe and Grand Canyon Railroad, organized in 1897. The company went bankrupt in 1900, when its tracks were still eight miles short of their South Rim destination. The Grand Canyon Railway, organized by a subsidiary of the Atchison, Topeka, and Santa Fe Railway, bought out the bankrupt short line and finished construction of the rails in 1901. The Railway developed the railroad yard and the luxurious El Tovar hotel and built a small frame depot to accomodate passengers coming and going. The boom in railroad tourism, brought about by railroad promotions of destination resorts like the South Rim, created the need for a larger depot that would contribute to the image the railway was seeking. The economic push behind the idea of a destination resort was not that the railway made money off accomodations when visitors came to an area and vacationed there for several weeks; their biggest revenues came from increased passenger traffic.

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Continuation sheet

Item number 8

Page 2

The use of the Grand Canyon--as a main resort and the key feature depicted in advertising and timetables--was so successful that the "Grand Canyon Line" which originally referred only to the branch line between Williams, Arizona, and the Grand Canyon, became synonymous with the entire Atchison, Topeka, and Santa Fe Railway system.

To visitors the depot still represents the concept of a western national park: rustic and scenic. When train travel was the primary mode of getting to Grand Canyon even before the area was set aside as a park, the depot was the gateway through which they entered the developed area of the South Rim. The building's style and ambience was perfect for the feeling of civilized frontier that the Railway created in their south rim development. The depot, with the "Grand Canyon" name prominently displayed on its front elevation, remains an architectural focal point continuing to draw attention to that rustic image. Today visitors are consistently causing traffic jams when they stop on the road to photograph that symbol of a national park. The building is the most photographed structure at Grand Canyon.

The architect of the depot was Francis Wilson, who designed a number of residences and community buildings around Santa Barbara, including a residence for Edward Payson Ripley, president of the Santa Fe Railway. Wilson's training had been as a draftsman working with Albert Pissis, designer of major neo-classical revival buildings in San Francisco, and through the study of European architecture during his extensive travels there. His first job with the railroads was designing the Santa Barbara passenger depot for the Southern Pacific. He then moved on to employment with the Atchison, Topeka, and Santa Fe Railway--undoubtedly based on his previous work for Ripley--designing depots and depot hotels at Ash Fork and Williams, Arizona, and Needles and Barstow, California. He was involved with the remodelling of Bright Angel Hotel at Grand Canyon, and then began work on the Grand Canyon depot in 1909. Most of Wilson's designs were typically Californian in nature: buildings with mission-revival and mediterranean influences with a hint of an arts-and-crafts character--typical of what other California architects of the time were doing. His log depot at Grand Canyon, however, was unique in his work as the only log building and the only rustic building he designed. Yet even this building had some classical undercurrents, with its symmetrical configuration and rustic pediments.

Francis Wilson designed the building with obvious connections to El Tovar. The logs were compatible with the log slab siding of

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Item number 8

Page 3

the large hotel. The chandelier in the waiting room was similar to those in El Tovar. The dark wood wainscoting was the same deep brown as the interior panelling at El Tovar. Even the local newspaper commented in 1909 that the railway was in the process of building a "rustic bungalow station at Grand Canyon, patterned after the El Tovar Hotel." The rustic feeling inspired by this building was subordinate to, yet complimented the finer appointments of El Tovar. Wilson's choice of details in construction--fitting the logs together so tightly that water could not penetrate, and allowing for good drainage whenever possible--were far superior to the log construction details of El Tovar.

Passenger service to Grand Canyon ended in 1968. A railroad agent remained at the depot to handle freight, but that operation was shut down a year later. The National Park Service acquired the property in 1982 in a series of legal proceedings involving other Santa Fe properties and rights-of-way at the Grand Canyon. Since the depot's closing as a railway office, the building has been used as construction offices, as a small interpretive center, and as a concession for renting hiking and backpacking equipment. In recent years a private firm has shown interest in reviving the train ride from Williams to the Canyon, and putting the depot back to its original use. Funding problems have slowed their progress. The depot's present lack of functional integrity may yet be restored.

1. Gordon Chappell, "Statements on Architectural and Historical Significance," ms., 1985, available in the National Park Service's Western Regional Office, no pagination.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

Borjes, Ric, and Gordon Chappell, The Grand Canyon Depot and Railroad Yard: 1901-1984. Historic Structures Report. San Francisco: National Park Service, Western Regional Office, 1984.

Chappell, Gordon, "Statements on Architectural and Historical Significance," Ms. material. 1985.

Cleek, P.G. "Francis W. Wilson, Architect," Noticias (Journal of the Santa Barbara Historical Society), Vol. XXVI, No. 3, Fall 1985

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY _____

UTM REFERENCES

A

1	2	3	9	7	6	5	2	3	9	9	0	6	5	0
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

ZONE EASTING NORTHING

B

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

ZONE EASTING NORTHING

C

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

D

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

VERBAL BOUNDARY DESCRIPTION

The boundary for this property is the same as listed on the National Register form. The eastern edge is bounded by the bridge connecting the North and South Loop Roads; the southern boundary is the north edge of South Village Loop Road; the north boundary is the south edge of North Village loop Road; the west boundary is a north-south line 200 feet west of the western edge of the waiting platform connecting the north and south boundaries.

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
N/A			

STATE	CODE	COUNTY	CODE
N/A			

11 FORM PREPARED BY

NAME / TITLE

Laura Soulliere Harrison

Architectural Historian

ORGANIZATION

National Park Service, Southwest Regional Office

DATE

1986

STREET & NUMBER

P.O. Box 728

TELEPHONE

(505) 988-6787

CITY OR TOWN

Santa Fe

STATE

New Mexico

12 CERTIFICATION OF NOMINATION

STATE HISTORIC PRESERVATION OFFICER RECOMMENDATION

YES___

NO___

NONE___

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

In compliance with Executive Order 11593, I hereby nominate this property to the National Register, certifying that the State Historic Preservation Officer has been allowed 90 days in which to present the nomination to the State Review Board and to evaluate its significance. The evaluated level of significance is ___ National ___ State ___ Local.

FEDERAL REPRESENTATIVE SIGNATURE

TITLE

DATE

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST:

DATE

KEEPER OF THE NATIONAL REGISTER

South elevation and railroad tracks,
Grand Canyon Depot

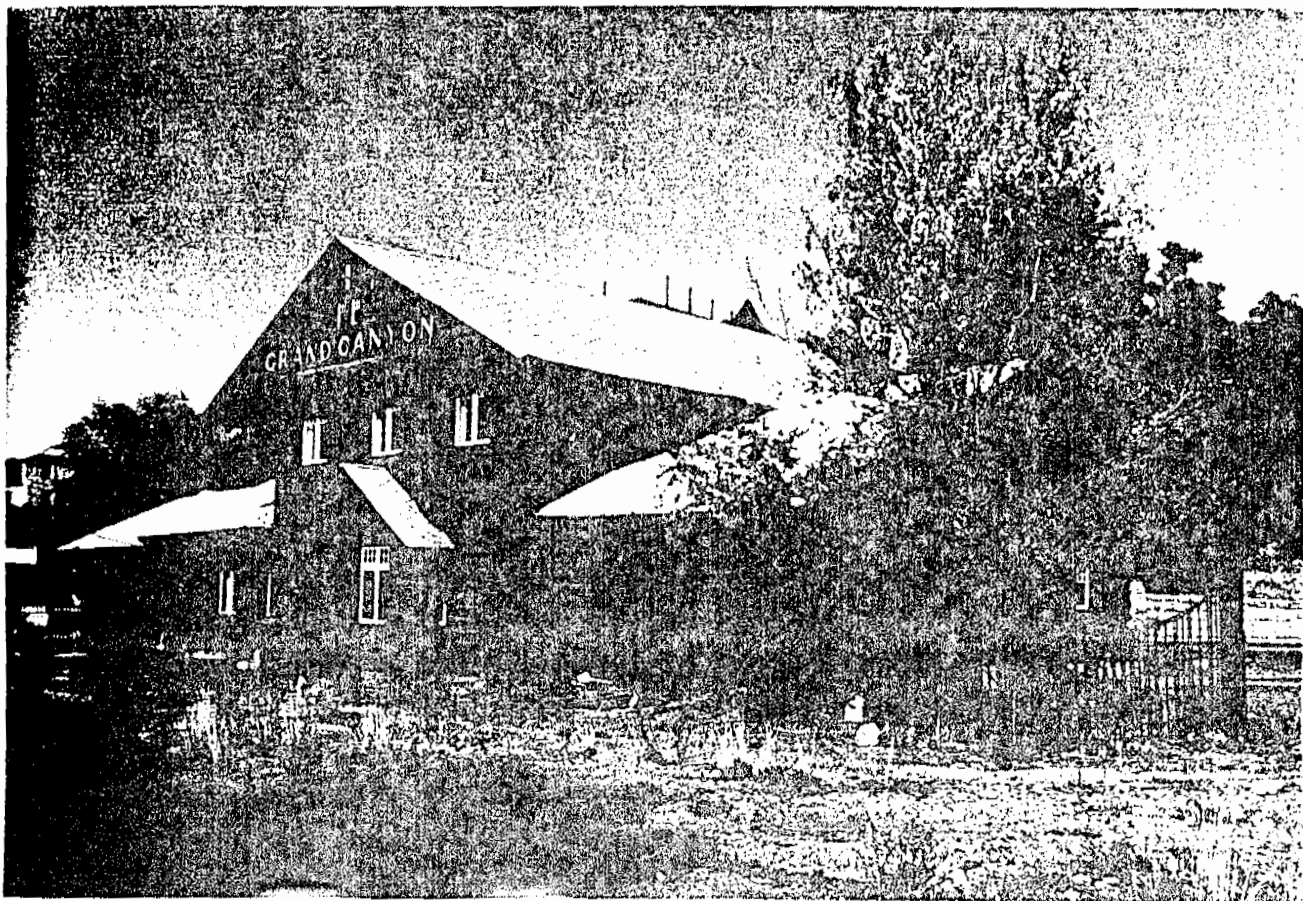
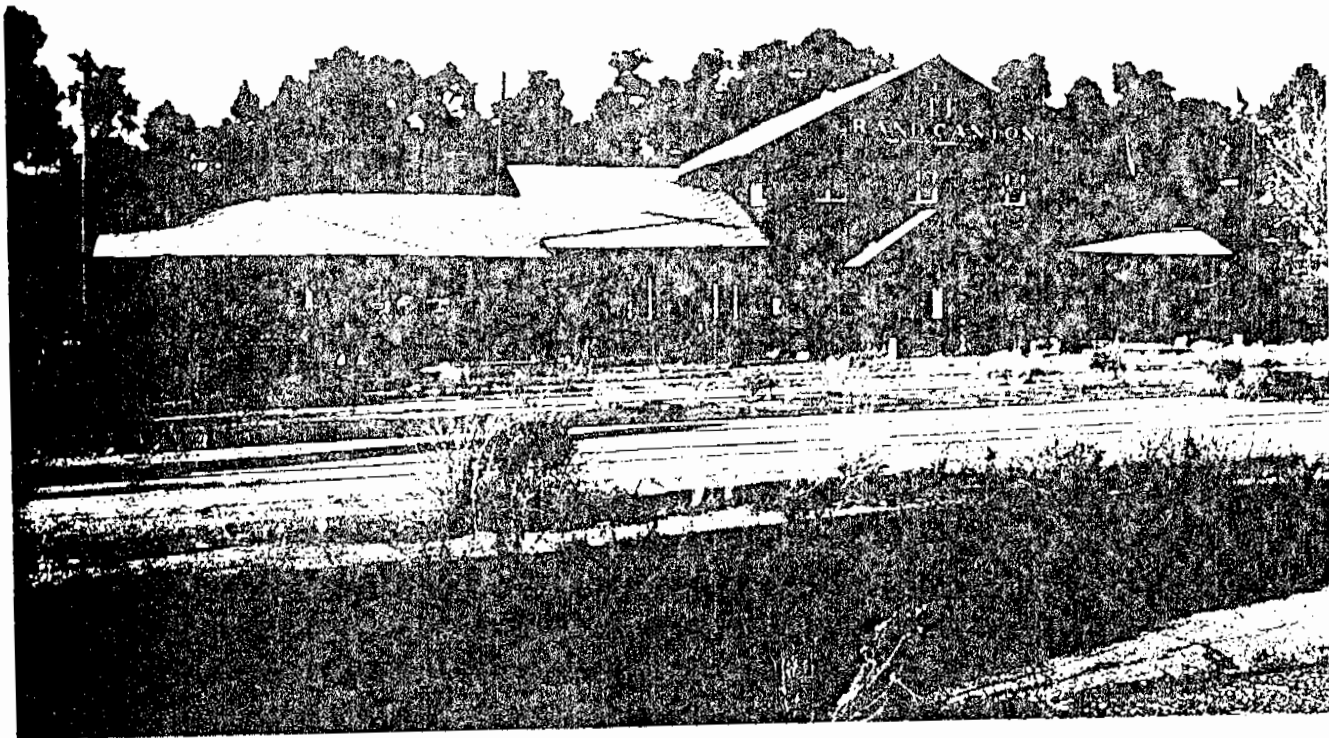
Grand Canyon National Park

NPS photo by Laura Soulliere Harrison
10/85

2

Grand Canyon Depot, looking northwest

Grand Canyon National Park
NPS photo by Laura Soulliere Harrison
10/85



Grand Canyon Depot, south elevation

Grand Canyon National Park

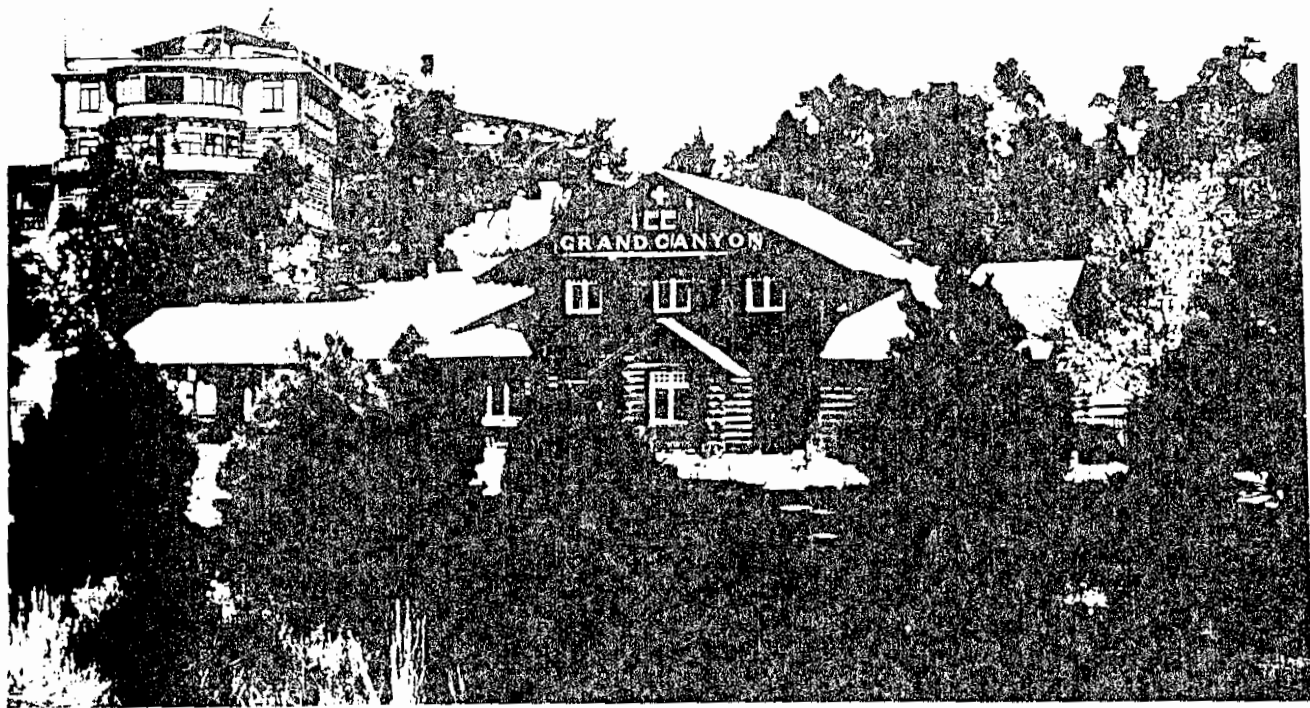
NPS photo by Laura Soulliere Harrison
10/85

4

Grand Canyon Depot, from the southeast

Grand Canyon National Park

NPS photo by Laura Soulliere Harrison
10/85



Grand Canyon Depot, east elevation

Grand Canyon National Park

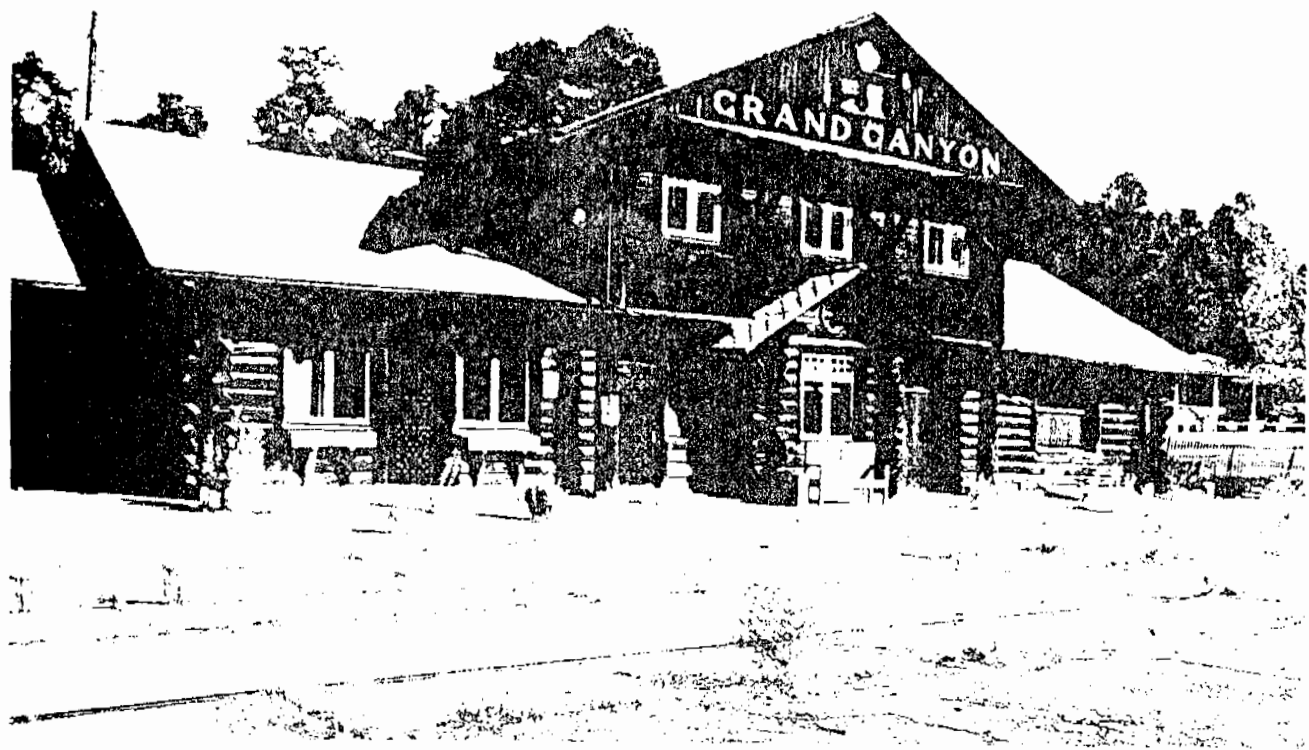
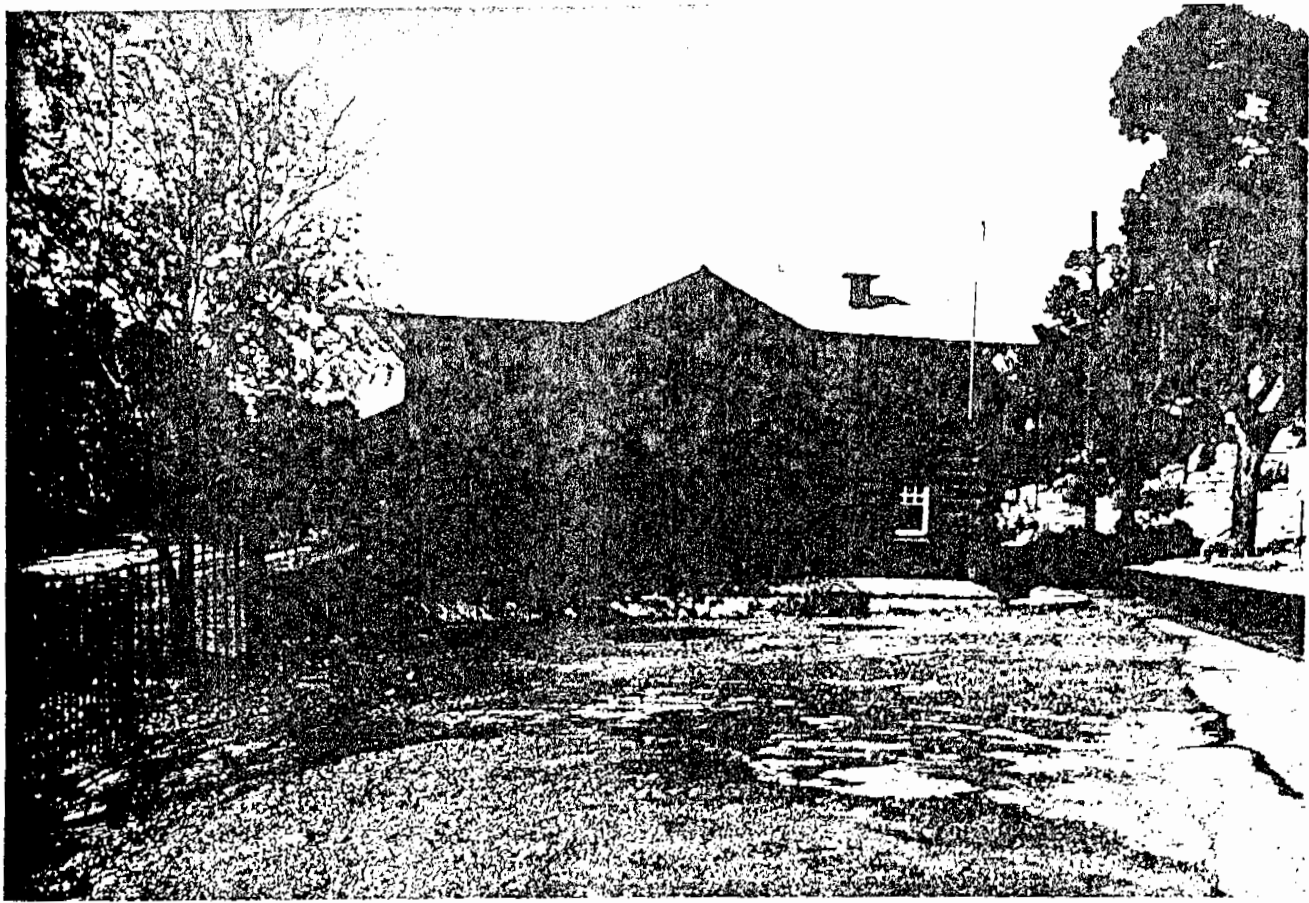
NPS photo by Laura Soulliere Harrison
10/85

6

Grand Canyon Depot, from the southwest

Grand Canyon National Park

NPS photo by Laura Soulliere Harrison
10/85



7

Grand Canyon Depot, from the southwest

Grand Canyon National Park

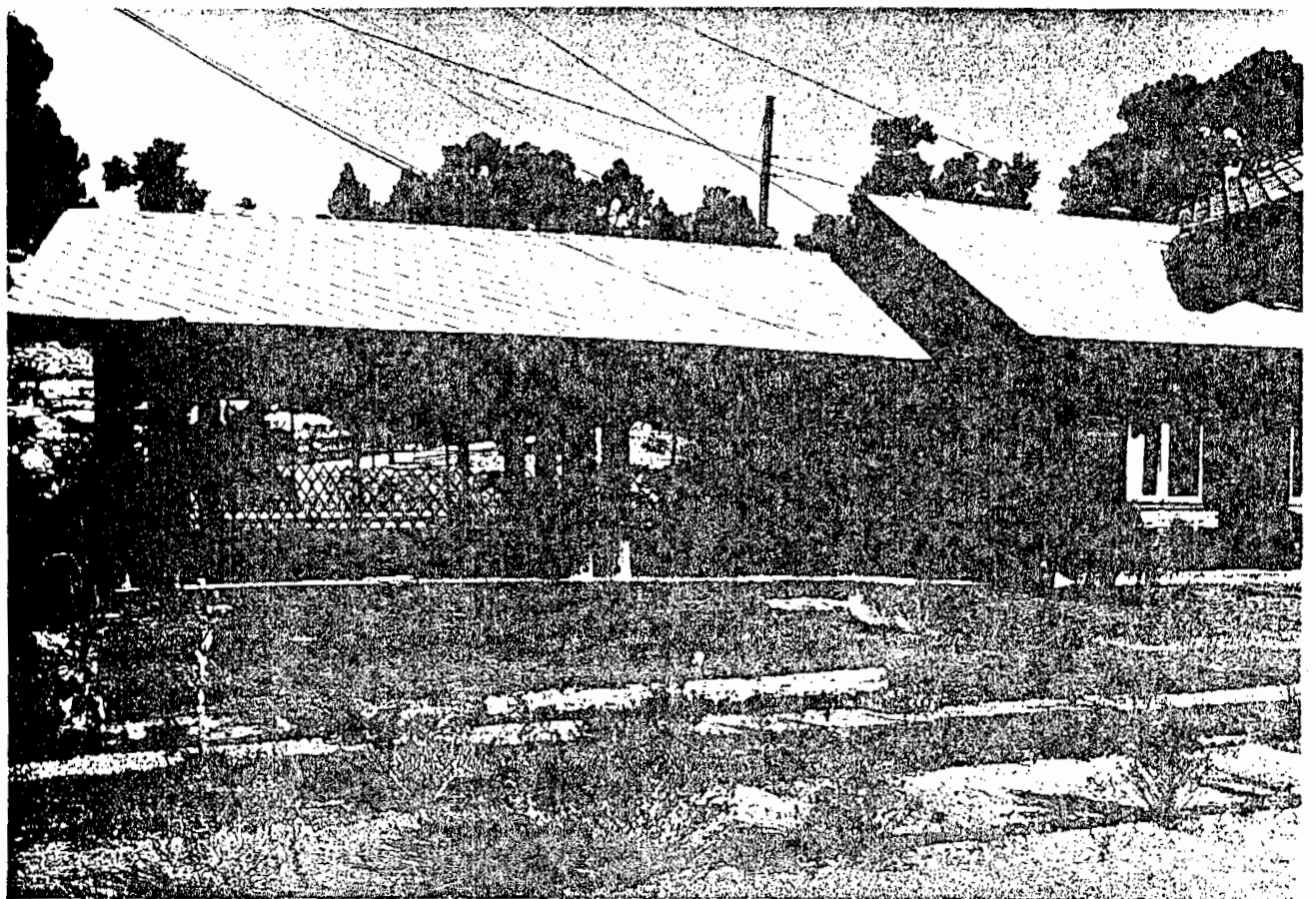
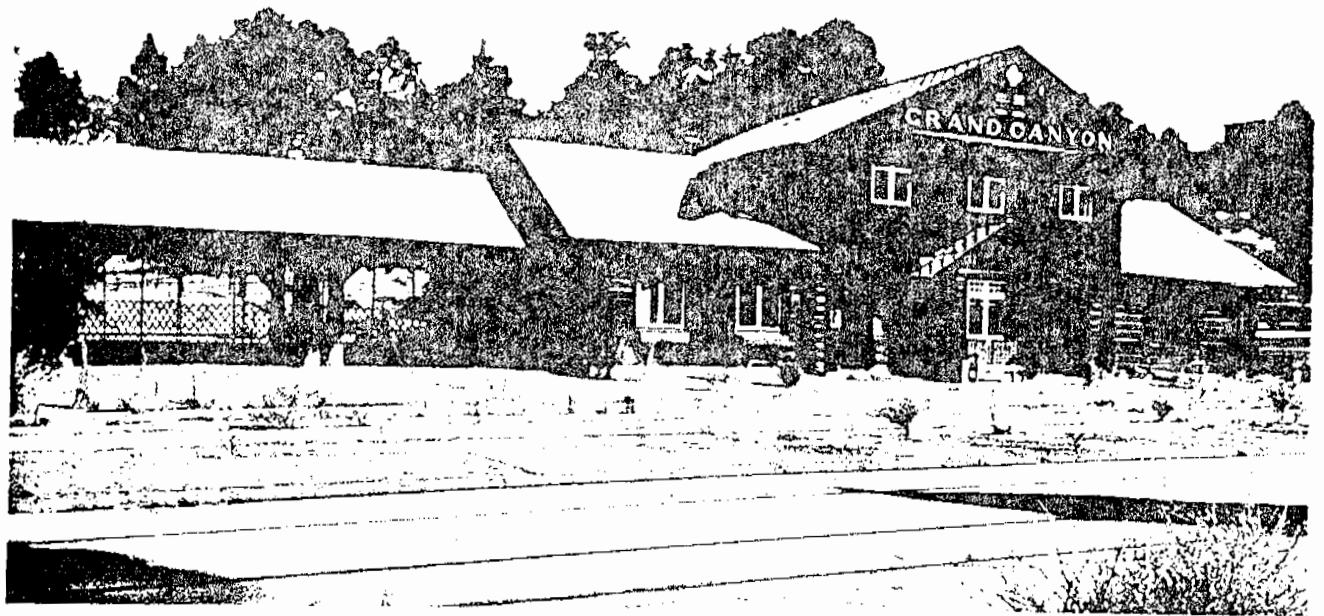
NPS photo by Laura Soulliere Harrison
10/85

8

Grand Canyon Depot loading platform

Grand Canyon National Park

NPS photo by Laura Soulliere Harrison
10/85



Iron fence at Grand Canyon Depot

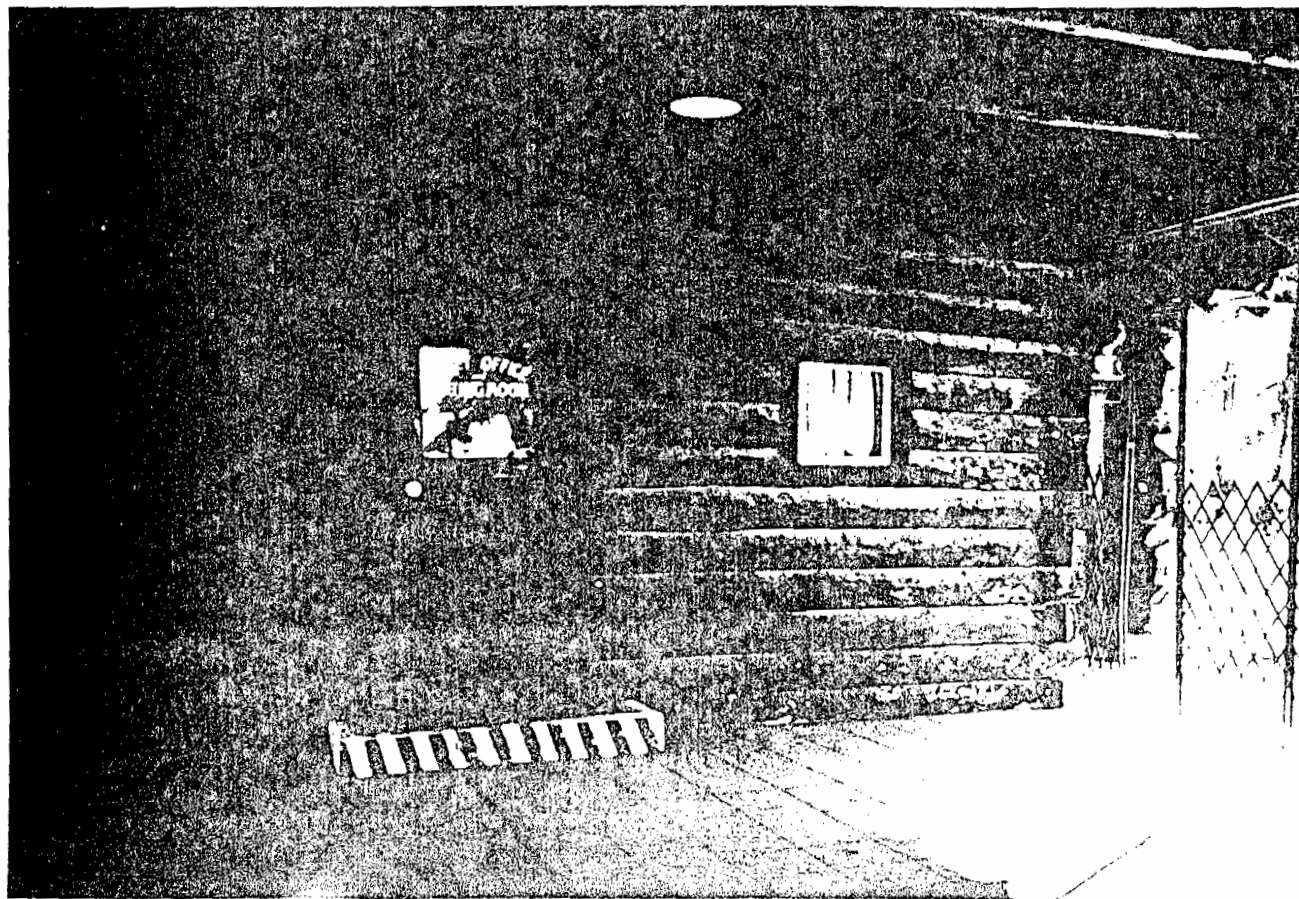
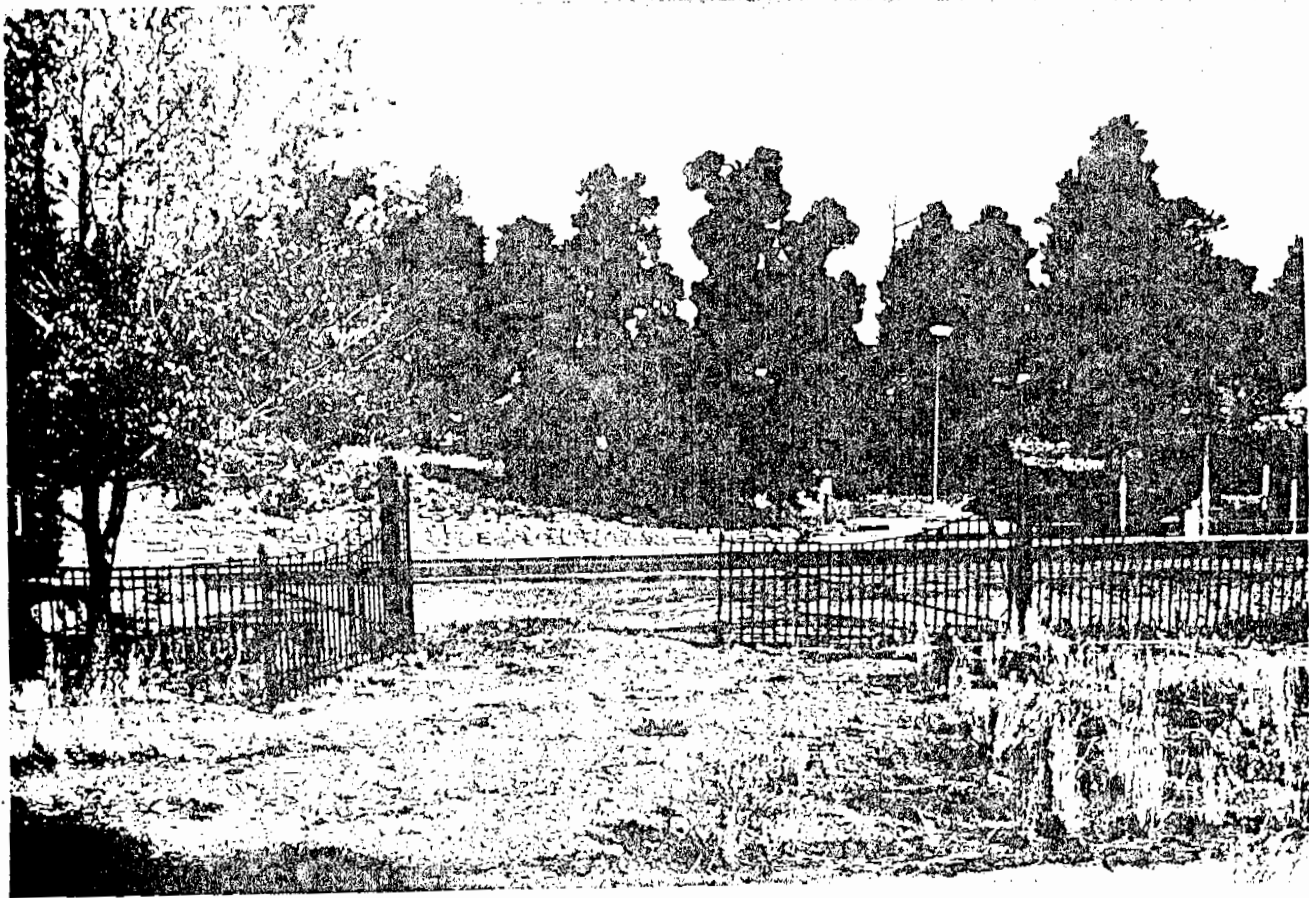
Grand Canyon National Park

NPS photo by Laura Soulliere Harrison
10/85

Loading platform and entrance to ticket office

Grand Canyon Depot
Grand Canyon National Park

NPS photo by Laura Soulliere Harrison
10/85



Grand Canyon Depot, west elevation

Grand Canyon National Park

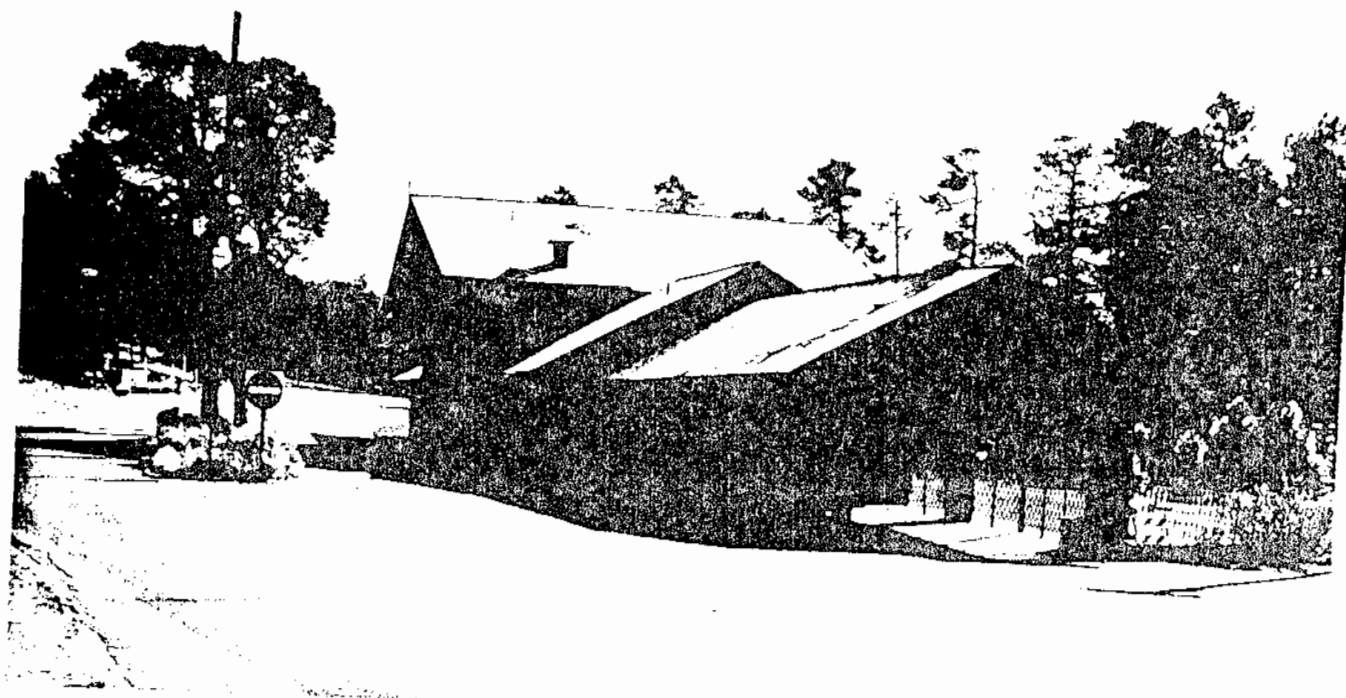
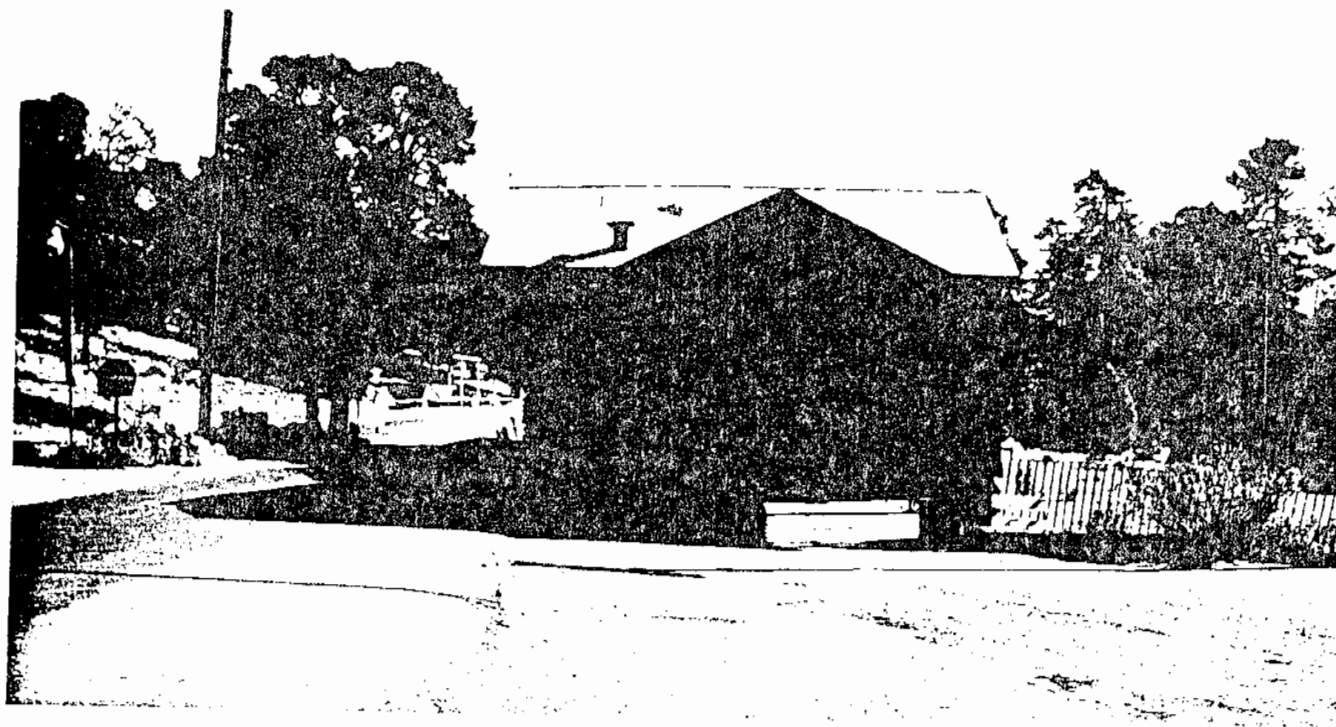
NPS photo by Laura Soulliere Harrison
10/85

17

Grand Canyon depot from the northwest

Grand Canyon National Park

NPS photo by Laura Soulliere Harrison
10/85



Grand Canyon Depot from the north-northwest

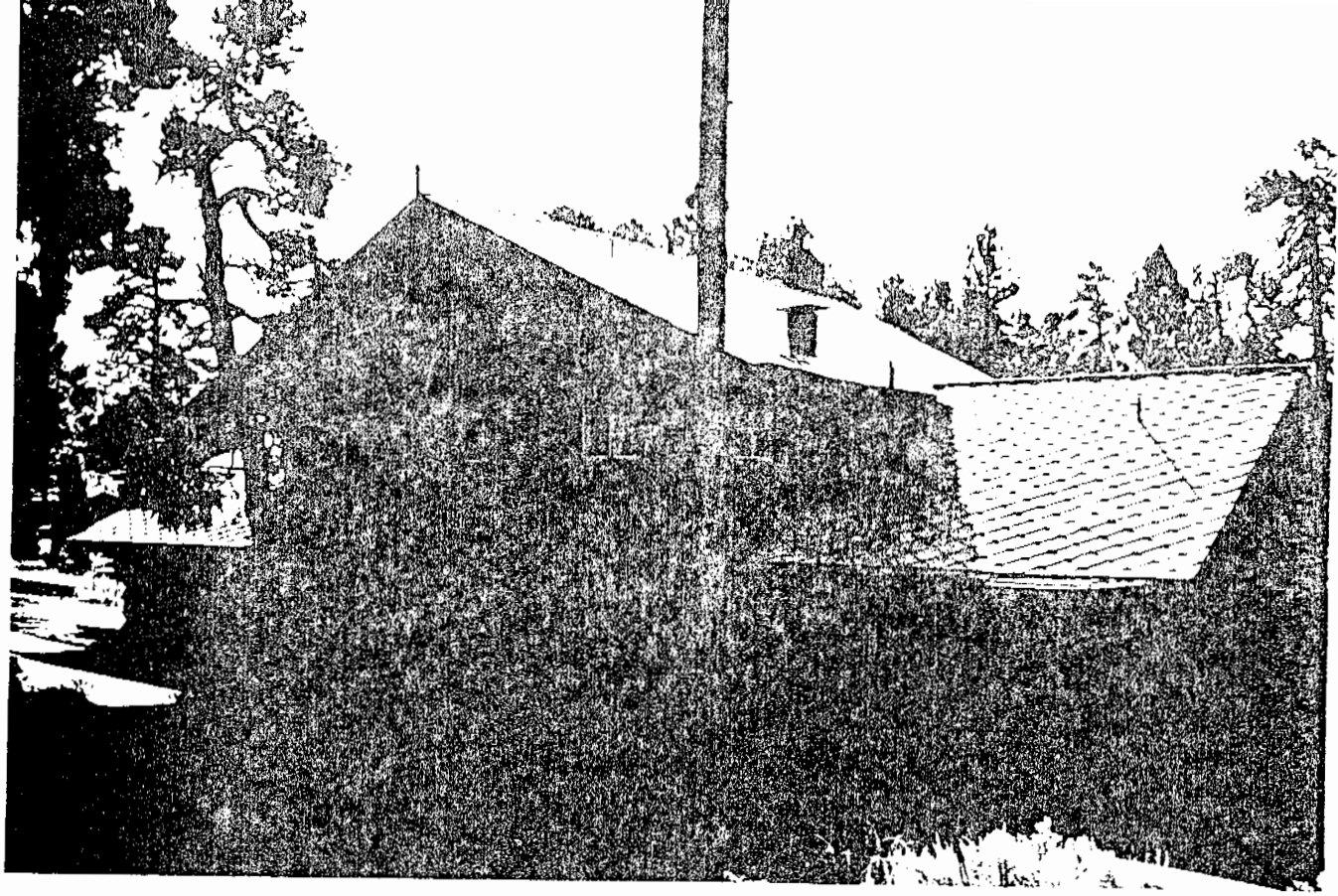
Grand Canyon National Park

NPS photo by Laura Soulliere Harrison
10/85

Grand Canyon Depot, north elevation

Grand Canyon National Park

NPS photo by Laura Soulliere Harrison
10/85



Southeast corner of Grand Canyon Depot and
iron yard fence

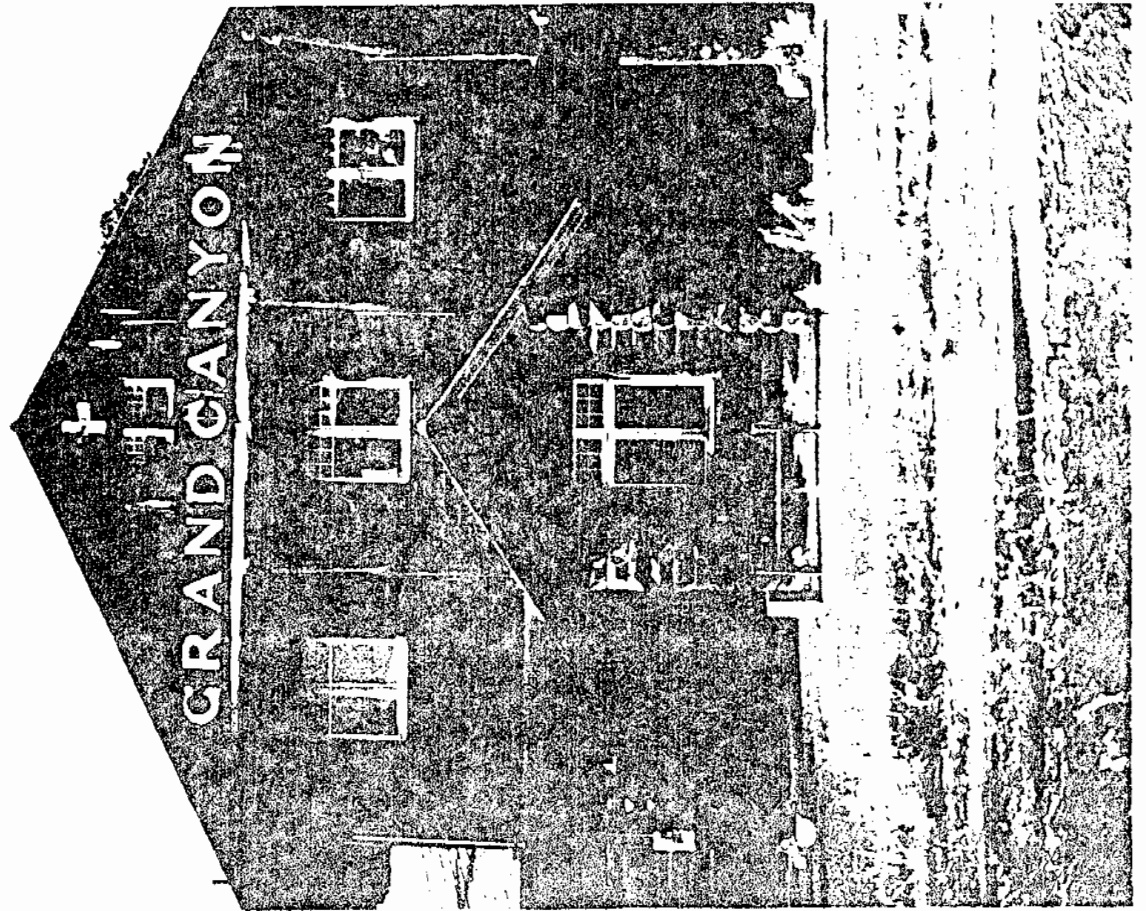
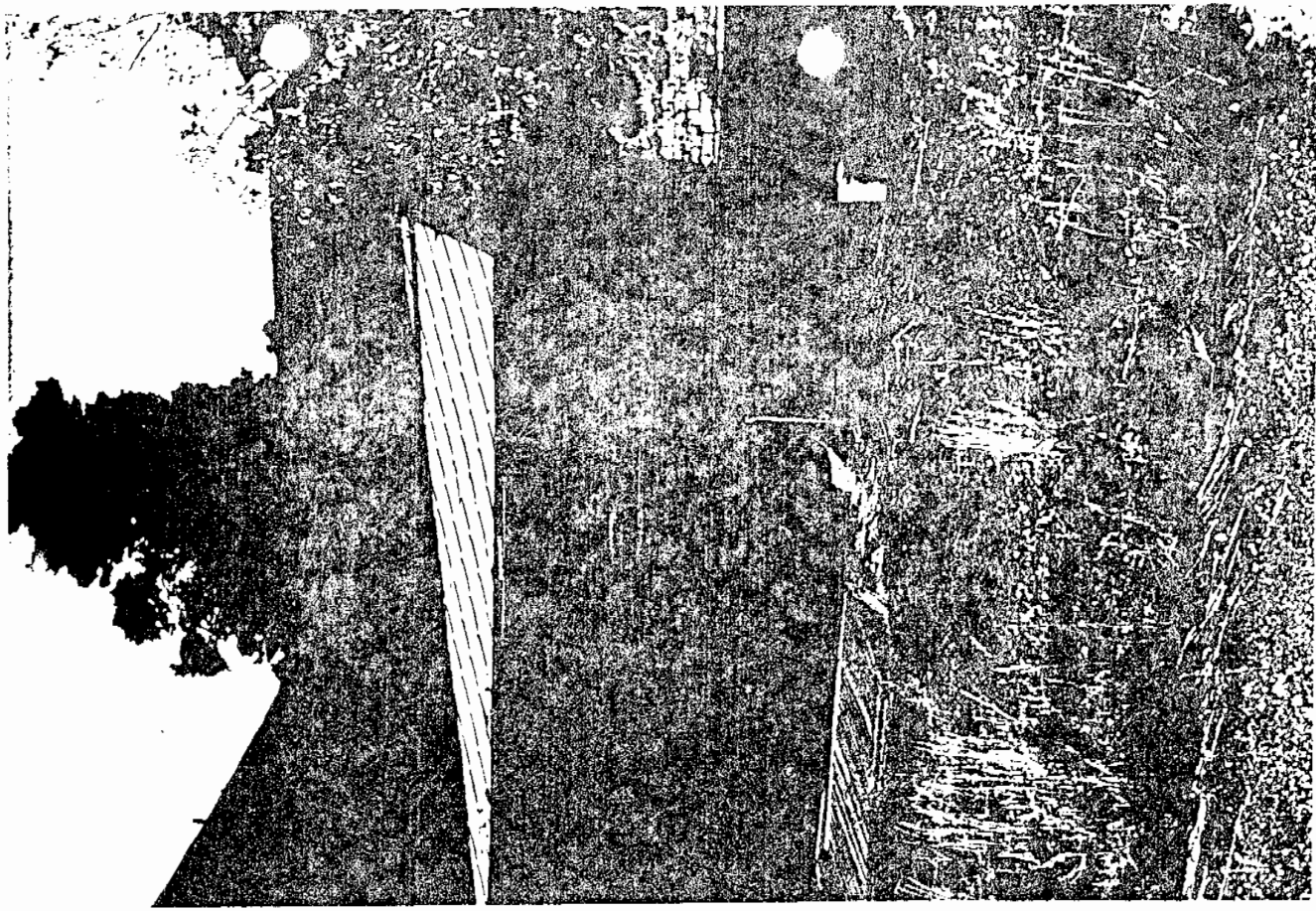
Grand Canyon National Park

NPS photo by Laura Soulliere Harrison
10/85

Central portion of front (south) elevation,
Grand Canyon Depot

Grand Canyon National Park

NPS photo by Laura Soulliere Harrison
10/85



South elevation, Grand Canyon Depot

Grand Canyon National Park

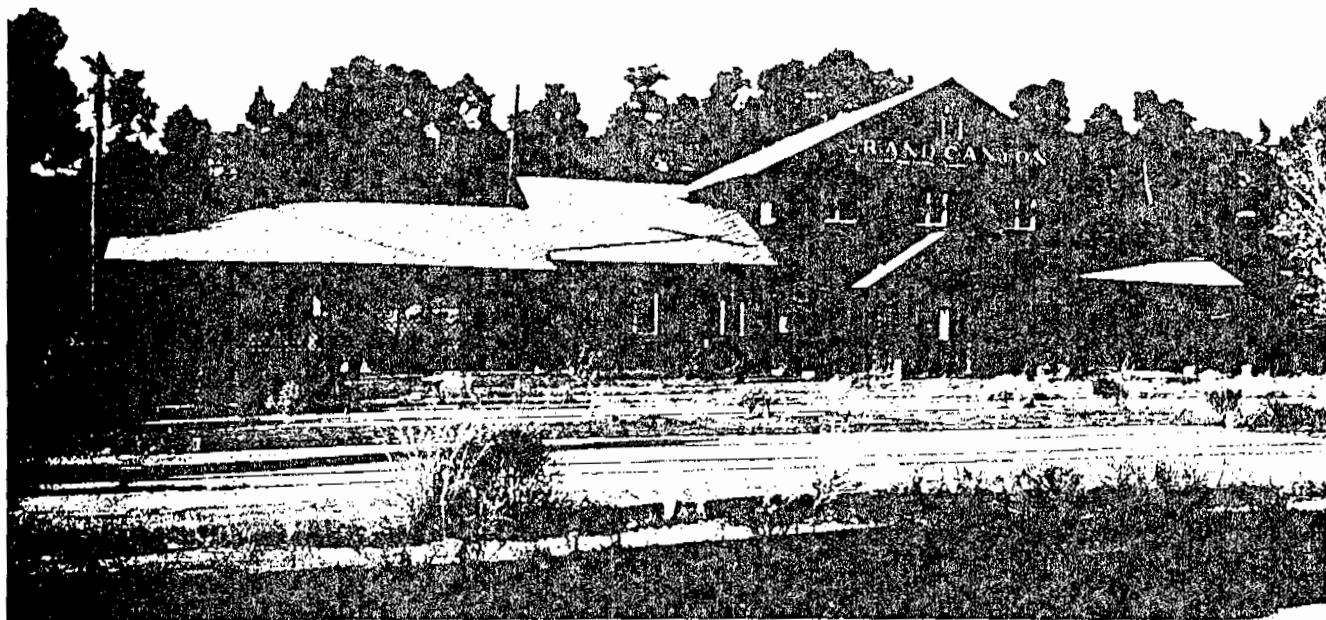
NPS photo by Laura Soulliere

19

Grand Canyon Depot from the northwest

Grand Canyon National Park

NPS photo by Laura Soulliere Harrison
10/85

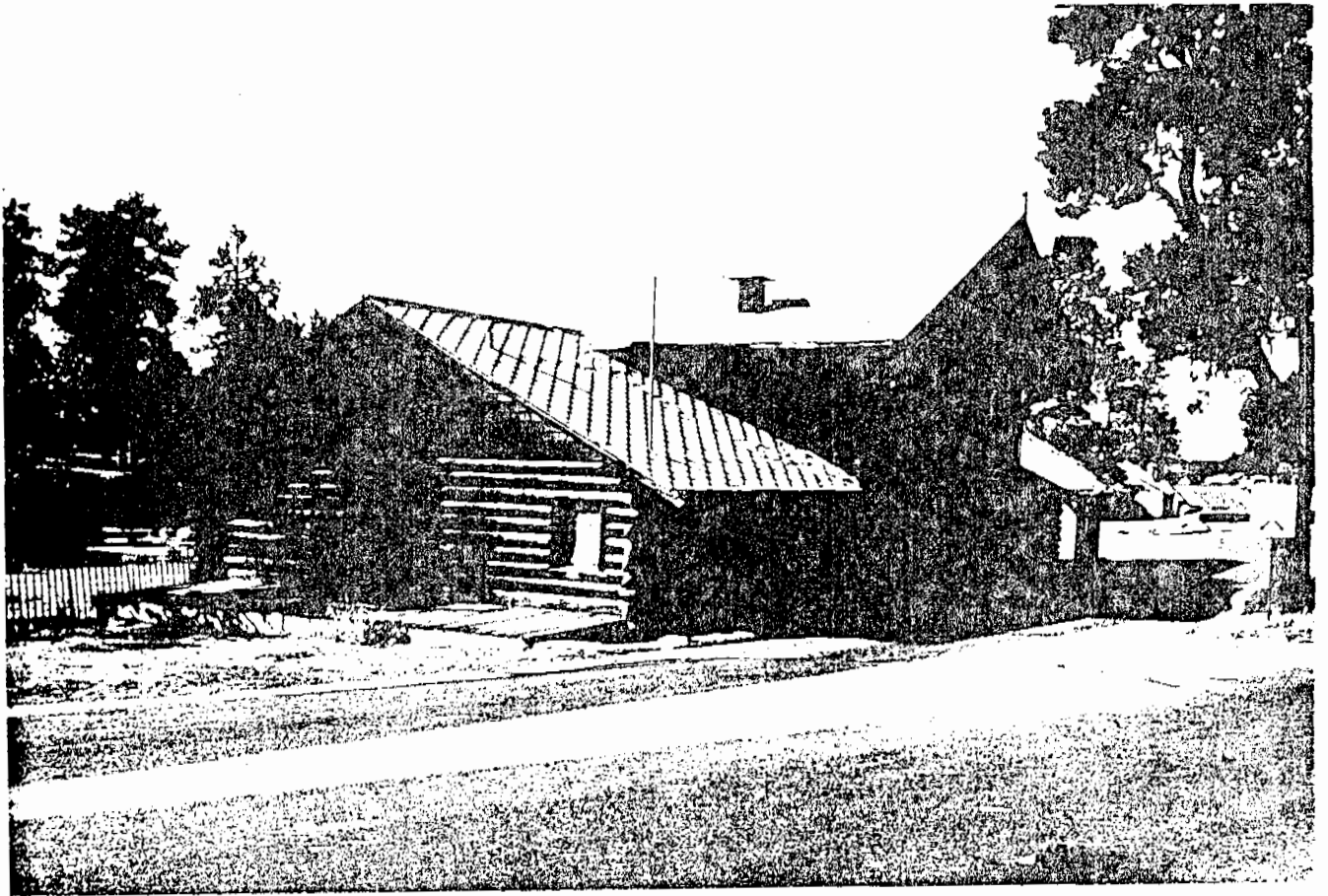


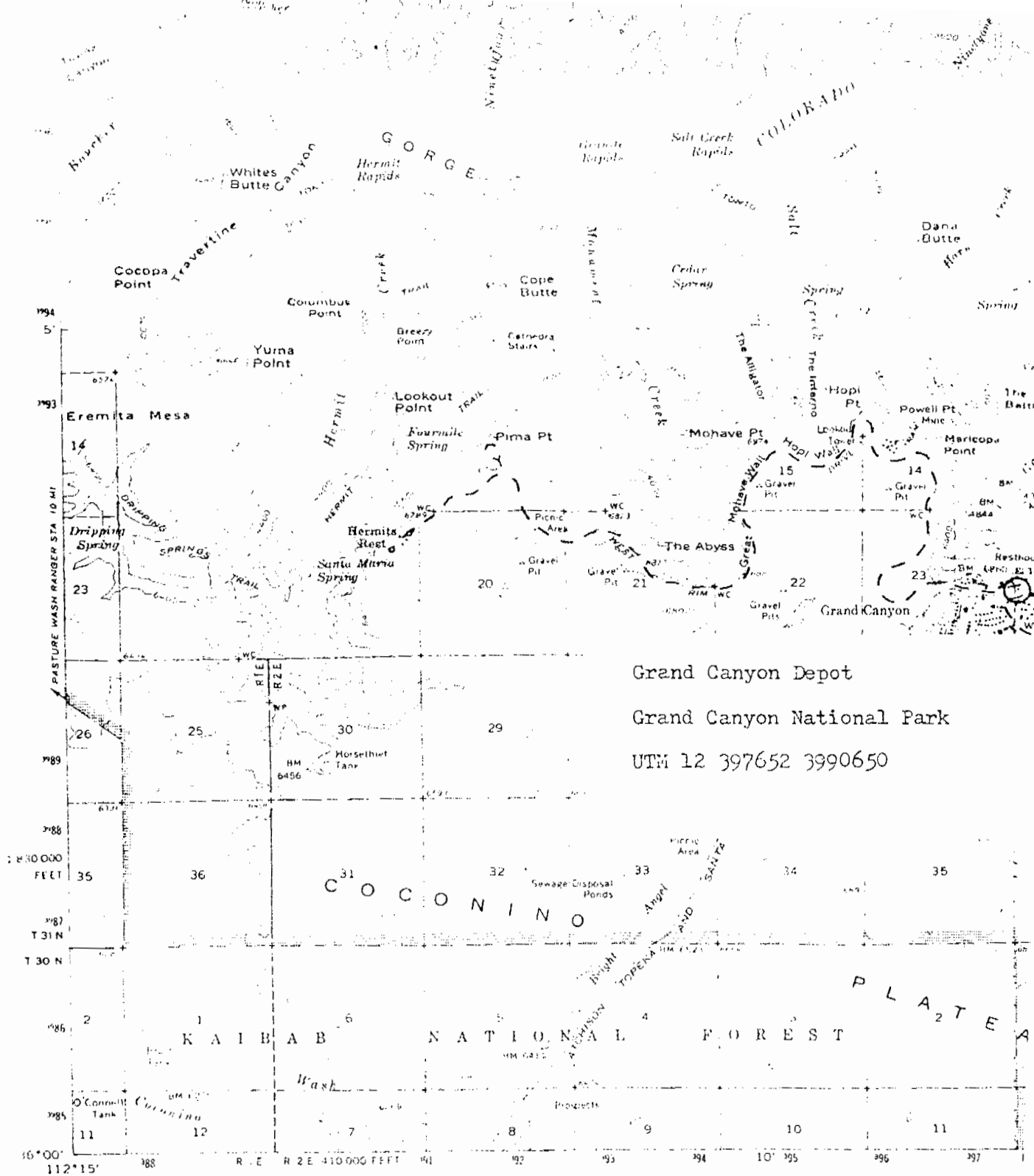
19

Grand Canyon Depot, looking southwest

Grand Canyon National Park

NPS photo by Laura Soulliere Harrison
10/85





Grand Canyon Depot

Grand Canyon National Park

UTM 12 397652 3990650

Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography by photogrammetric methods from aerial photographs taken 1954 and 1960. Field checked 1962.

Polyconic projection. 1927 North American datum. 10,000-foot grid based on Arizona coordinate system. Contour lines. 1000 metre Universal Transverse Mercator grid ticks. Zone 12, shown in blue.

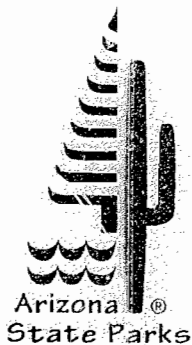
Where omitted, land areas have not been established.

UTM GRID AND TRUE MAGNETIC NORTH
DIFFERENCE AT CENTER OF SHEET

THIS MAP COME
FOR SALE BY U. S. GEOLOGICAL S
A LEADER DESCRIBING T

U. S. MAP A

**4.4.3 2000 NATIONAL LANDMARK NOMINATION FORM FOR GRAND CANYON
RAILWAY**



Jane Dee Hull
Governor

State Parks
Board Members

Chair
Sheri J. Graham
Sedona

Vernon Roudabush
Safford

Walter D. Armer, Jr.
Benson

Suzanne Pfister
Phoenix

Joseph H. Holmwood
Mesa

Ruth U. Patterson
St. Johns

Michael E. Anable
Acting State
Land Commissioner

Kenneth E. Travous
Executive Director

Arizona State Parks
1300 W. Washington
Phoenix, AZ 85007

Tel & TTY: 602.542.4174
www.pr.state.az.us

800.285.3703
from (520) area code

General Fax:
602.542.4180

Director's Office Fax:
602.542.4188

"Managing and conserving natural, cultural, and recreational resources"

21 December 1999

Jan Balsom
Park Archaeologist
Grand Canyon National Park
Resource Management - NPS
P.O. Box 129
Grand Canyon, AZ 86023

Dear Ms. Balsom:

Enclosed is a National Register of Historic Places nomination for a linear property that crosses into the Grand Canyon National Park:

Grand Canyon Railway, Coconino County, Arizona

The district consists of 77 contributing and 20 noncontributing resources. This district is nominated under Criteria A at the national level of significance. The Arizona Historic Sites Review Committee approved this nomination on 20 November 1998.

I forwarded the nomination to the Federal Preservation Officer for the Forest Service. Following this review the nomination will be sent to Katherine Stevenson, the FPO for the National Park Service. I am providing this draft copy for review by Grand Canyon National Park staff. As you can tell, this nomination was a large and ambitious project. It was underway long before I joined the Arizona State Historic Preservation Office a year ago.

Please call me at (602) 542-7136 if you have any questions or need additional information.

Sincerely,

John H. Akers
Historian
Arizona State Historic Preservation Office

Enclosures

GRCA 74785

United States Department of the Interior
National Park Service

FINAL COPY

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

historic name GRAND CANYON RAILWAY

other names/site number _____

2. Location

street & number _____ ☐ not for publication

city or town From Williams, Arizona to Grand Canyon National Park ☐ vicinity

state Arizona code AZ county Coconino code 005 zip code 86046-86023

3. State/Federal Agency Certification

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

Signature of certifying official/Title _____

Date _____

State or Federal agency and bureau _____

In my opinion, the property ☒ meets ☐ does not meet the National Register criteria. (☐ See continuation sheet for additional comments.)

James W. Gorman AFSHPD

14 DECEMBER 1999

Signature of commenting official/Title _____

Date _____

ARIZONA STATE PARKS
State or Federal agency and bureau _____

4. National Park Service Certification

I hereby certify that the property is:

Signature of the Keeper _____

Date of Action _____

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

Property Name
Grand Canyon Railway

County, State
Coconino, Arizona

5. Classification

Ownership of Property
(Check as many boxes as apply)

☒ private
☒ public-local
☐ public-State
☐ public-Federal

Category of Property
(Check only one box)

☐ building(s)
☒ district
☐ site
☐ structure
☐ object

Number of Resources within Property
(Do not include previously listed resource in the count.)

Contributing	Noncontributing	
1	17	buildings
17	0	sites
61	3	structures
0	0	objects
77	20	total

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing.)

N/A

Number of contributing resources
previously listed in the National Register

5

6. Function or Use

Historic Functions

(Enter categories from instructions)

TRANSPORTATION: rail-related

Current Functions

(Enter categories from instructions)

TRANSPORTATION: rail-related

7. Description

Architectural Classification

Classical Revival

Other

Materials

(Enter categories from instructions)

foundation

CONCRETE

walls

CONCRETE, WOOD: log

roof

CONCRETE, WOOD: shingle

other

METAL

Narrative Description

(Describe the historic and current condition of the property on one or more continuation sheets.)

20 pages

Grand Canyon Railway
Name of Property

Coconino, Arizona
County and State

8. Statement of Significance

Applicable National Register Criteria

(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

- ☒ A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- ☐ B Property is associated with the lives of persons significant in our past.
- ☐ C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- ☐ D Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations

(Mark "x" in all the boxes that apply.)

Property is:

- ☐ A owned by a religious institution or used for religious purposes.
- ☐ B removed from its original location.
- ☐ C a birthplace or grave.
- ☐ D a cemetery.
- ☐ E a reconstructed building, object, or structure.
- ☐ F a commemorative property.
- ☐ G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance

(Enter categories from instructions)

Transportation

Engineering

Period of Significance

1898-1948

Significant Dates

24 Feb 1898 SF&GCRR began construction

17 Sep 1901 ST&SFRy reached Grand Canyon

Significant Person

(Complete if Criterion B is marked above)

N/A

Cultural Affiliation

N/A

Architect/Builder

Santa Fe & Grand Canyon Railroad

Atchison, Topeka & Santa Fe Railway

Narrative Statement of Significance

(Explain the significance of the property on one or more continuation sheets.)

5 pages

9. Major Bibliographical References

Bibliography

(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.) 3 pages

Previous documentation on file (NPS):

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

- ☐ recorded by Historic American Engineering
Record # _____

Primary location of additional data:

- ☒ State Historic Preservation Office
- ☐ Other State agency
- ☐ Federal agency
- ☐ Local government
- ☐ University
- ☐ Other

Name of repository:

=====

10. Geographical Data

=====

Acreage of Property 1,682

UTM References (Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing	Zone	Easting	Northing	
1	12	391700	3901360	3	12	393020	3901880
2	12	392720	3901770	4	12	393530	3901990

X See continuation sheet.

Verbal Boundary Description (Describe the boundaries of the property on a continuation sheet.)

Boundary Justification (Explain why the boundaries were selected on a continuation sheet.)

=====

11. Form Prepared By

=====

name/title Al Richmond

organization Western Images date 12 January 1998

street & number 6774 E. Vail Drive telephone 520-523-7209

city or town Flagstaff state AZ zip code 86004

=====

Additional Documentation

=====

Submit the following items with the completed form:

Continuation Sheets 3 pages plus USGS maps and photographs

Maps

A **USGS map** (7.5 or 15 minute series) indicating the property's location.
Nine (9) 7.5 minute series

A **sketch map** for historic districts and properties having large acreage or numerous resources.
Two (2)

Photographs

Representative **black and white photographs** of the property.

Additional items (Check with the SHPO or FPO for any additional items)

=====

Property Owner

=====

(Complete this item at the request of the SHPO or FPO.)

name Grand Canyon Railway

street & number 1601 W. Route 66 telephone 520-773-1976

city or town Flagstaff state AZ zip code 86001

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number 7 Page 1

SUMMARY:

The Grand Canyon Railway runs on the historic right of way as built by the Santa Fe and Grand Canyon Railroad, and the Atchison, Topeka, and Santa Fe Railway between 1898 and 1901.

It is located on the rolling terrain of the Coconino Plateau in northern Arizona within the boundaries of the Colorado Plateau. Its southern terminus is the Historic District of the City of Williams where it connects with the Burlington Northern Santa Fe Railway at an elevation of 6800 feet MSL. From Williams, the railroad proceeds in a generally northerly direction through Ponderosa pine and Piñon-Juniper forests, and then drops down into the high desert plains to the low point of 5765 feet MSL at Miller Wash (MP 36.0). The line then begins a gradual ascent to Anita, the site of the original destination of the SF&GCRR, where an abandoned spur track leads to the dormant Anita Mines. It then continues on a steep 3% grade up through Piñon-Juniper and Ponderosa pine forests to Apex (MP 52.0). Here, the Saginaw & Manistee Lumber Company operated a logging camp. The right of way then descends into the serpentine course of Coconino Canyon and once through this area climbs to the south rim of the Grand Canyon at an elevation of 6820 feet MSL. Here, the railroad enters the national park and the Grand Canyon Historic District. The main line is 63.789 miles in length, is entirely standard gauge, and passes through eleven extant or abandoned sidings and stations.

After rehabilitation of the main line to original or better condition in 1989, the line has continued in service as a alternate means of transportation into the National Park. It will continue to so serve for the foreseeable future.

Table: Buildings, Structures, and Sites located along the Grand Canyon Railway

Numbers correspond to items in Section 7 narrative

(C) Indicates a contributing item

(N) Indicates a non-contributing item

BUILDINGS

1 (C). Fray Marcos

2 (C). Bunkhouse

80 (C). Grand Canyon depot

86 (N). RR utility building

87 (N). Harvey dorm

88-102 (N). Harvey cabins

STRUCTURES

4 (N). Engine facilities

5 (C). MP 1.1 Bridge

6 (N). Santa Fe overpass

7 (C). MP 4 Bridge

8 (C). MP 4.4 Bridge

9 (C). MP 4.6 Bridge

10 (C). MP 5.5 Bridge

SITES

3 (C). Williams wye

12 (C). Pitt station

13 (C). Cinder pit wye

15 (C). Red Lake station

21 (C). Bly station

26 (C). MP 18 section

28 (C). Quivero station

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number 7 Page 2

- | | |
|------------------------|--------------------------|
| 11 (C). MP 6.1 Bridge | 40 (C). Valle station |
| 14 (C). MP 8.7 Bridge | 50 (C). Willaha station |
| 16 (C). MP 9.8 Bridge | 56 (C). Woodin station |
| 17 (C). MP 11.1 Bridge | 58 (C). Anita station |
| 18 (C). MP 13.2 Bridge | 59 (C). Anita mine spur |
| 19 (C). MP 14.1 Bridge | 60 (C). Water track |
| 20 (C). MP 14.5 Bridge | 61 (C). Hopi station |
| 22 (C). MP 15.4 Bridge | 62 (C). Apex station |
| 23 (C). MP 15.8 Bridge | 74 (C). Coconino station |
| 24 (C). MP 16.9 Bridge | 76 (C). Hilltop crossing |
| 25 (C). MP 17.2 Bridge | 81 (C). Grand Canyon wye |
| 27 (C). MP 18.9 Bridge | |
| 29 (C). MP 20.8 Bridge | |
| 30 (C). MP 21.1 Bridge | |
| 31 (C). MP 21.3 Bridge | |
| 32 (C). MP 21.8 Bridge | |
| 33 (C). MP 22.2 Bridge | |
| 34 (C). MP 22.4 Bridge | |
| 35 (C). MP 23.3 Bridge | |
| 36 (C). MP 23.6 Bridge | |
| 37 (C). MP 24.4 Bridge | |
| 38 (C). MP 25.4 Bridge | |
| 39 (C). MP 25.9 Bridge | |
| 41 (C). MP 33.1 Bridge | |
| 42 (C). MP 33.8 Bridge | |
| 43 (C). MP 34.9 Bridge | |
| 44 (C). MP 35.0 Bridge | |
| 45 (C). MP 35.2 Bridge | |
| 46 (C). MP 35.5 Bridge | |
| 47 (C). MP 35.6 Bridge | |
| 48 (C). MP 36.1 Bridge | |
| 49 (C). MP 35.2 Bridge | |
| 51 (C). MP 38.1 Bridge | |
| 52 (C). MP 38.8 Bridge | |
| 53 (C). MP 39.7 Bridge | |
| 54 (C). MP 39.9 Bridge | |
| 55 (C). MP 43.8 Bridge | |
| 57 (C). MP 44.1 Bridge | |
| 63 (C). MP 53.9 Bridge | |
| 64 (C). MP 54.1 Bridge | |
| 65 (C). MP 54.3 Bridge | |
| 66 (C). MP 54.1 Bridge | |
| 67 (C). MP 54.3 Bridge | |

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number 7 Page 3

- 68 (C). MP 55.1 Bridge
- 69 (C). MP 55.2 Bridge
- 70 (C). MP 56.6 Bridge
- 71 (C). MP 56.8 Bridge
- 72 (C). MP 56.9 Bridge
- 73 (C). MP 57.1 Bridge
- 75 (C). MP 57.5 Bridge
- 77 (C). MP 61.0 Bridge
- 78 (C). MP 61.7 Bridge
- 79 (C). MP 63.2 Bridge
- 82 (C). North leg bridge
- 83 (C). Stone retaining wall
- 84 (C). Jesus Morales stone wall
- 85 (N). Footbridge

DESCRIPTION:

Williams Depot and Fray Marcos Hotel (1). The Grand Canyon Railway begins at the historic Fred Harvey hotel and Santa Fe depot in the Williams Historic District. These tracks are the historic main line of the Atlantic & Pacific, Santa Fe Pacific, and Atchison, Topeka, and Santa Fe railroads. The AT&SF Railway Company built the hotel as part of the Fred Harvey chain of hotels and Harvey House restaurants throughout the southwest. It is named after Fray Marcos de Niza, a Franciscan friar who in 1539 started the quest for the Seven Cities of Cibola with his discoveries of what turned out to be the Zuni pueblos. When the doors of the Fray Marcos opened in March, 1908 it represented state of the art facilities and comfort for its customers. Originally the hotel opened with twenty-one rooms and later expanded with an additional twenty-two room north wing. Today it houses the Grand Canyon Railway Museum, offices of the dispatcher, trainmaster, facilities maintenance, and warehousing. The hotel is the largest and oldest poured concrete structure in Arizona. This is a previously listed contributing resource to the existing National Register property and is a contributing resource to this nomination.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number 7 Page 19

Milepost 63.3: Bright Angel Fault. The track begins a turn to the east and comes to a crossing. At this point the Grand Canyon itself is visible to the north. The Bright Angel Fault traverses the entire canyon and created this viewpoint. From Coconino Canyon the train has been following this fault up Bright Angel Wash.

Milepost 63.4: Grand Canyon Yards and Historic District. From this point the right of way enters the yards, and continues up past the Bright Angel Lodge and powerhouse to the depot.

Milepost 63.7: Grand Canyon Station. Passengers arrive today much as did those who rode the first train from Williams to the Grand Canyon on 17 September 1901. The primary difference is that today's passengers arrive at a newer station (1910) in the historic district of the Grand Canyon National Park. Virtually all of the buildings around the yards were built by the Santa Fe Railway over a period of fifty-five years.

During the years of operation this station served as the northern terminus of the railway with passenger and freight station facilities, telegraph, several tracks used as set outs for trains, a wye for reversing train direction (the west leg has a grade of 3.7, the steepest on the line), water tracks for off-loading water into cisterns and tanks, and a section gang. The extant depot (80) and wye (81) are previously listed contributing resources. An ballast deck bridge (82) on the north leg of the wye is an extant contributing resource within the boundaries of the Grand Canyon railway.

Tracks are numbered from 1 to 41 yet the Canyon yards never had forty-one tracks at any one time. To complicate matters the Santa Fe relocated, renumbered or combined several tracks over the years. To confuse the issue even more, tracks had assigned names related to their function such as, old flume, garbage, oil, gasoline, barn, engine, engine storage, house, and power house spur. In 1950, engineering drawings set the car capacity for the yards at 226 with the stem of the wye able to hold a sixteen-car passenger train with a four unit passenger/freight diesel and heater unit.

On 16 May 1969 the Santa Fe terminated all services and closed the station. The section house and bunkhouse had been located along the east side of the wye. Abolishment of the section came on 26 May 1969 and from this time on the Williams section handled all maintenance on the line. Between 13 and 20 June 1974 the last retirements of track occurred with removal of tracks 3, 4, 17, 21, 23, 27, 29, 33, 35 and 37.

Currently, extant tracks numbered 1-7, the wye, tail track, Maswik spur, and depot siding form the Grand Canyon yards (see Additional Documentation page 4).

United States Department of the Interior
National Park Service

**National Register of Historic Places
Continuation Sheet**

Section number 7 Page 20

Although in some cases renumbered or renamed, these are the same tracks as laid out by the AT&SFRy and left in place when they abandoned the line.

Albeit within the National Park, the Grand Canyon Railway maintains the yards, depot and crossings as did the Santa Fe before them. When ridership increases other historic tracks in the yards will be overhauled and placed back into service. In anticipation of light rail service, the railroad has upgraded the tracks along the tail of the wye at the Park Service Maswik depot and transportation center.

Contributing structures within the track boundaries and part of the existing National Register property include the stone retaining wall (83) north of the depot tracks and the Jesus Morales stone wall (84) at the east end of the depot tracks (northern terminus of the railroad).

Buildings and structures that are non-contributing to this nomination but part of the existing National Register property are within the track boundaries. These include: a footbridge over Bright Angel Wash (85), a railroad utility building [building 548] (86), Fred Harvey Officer's Dorm [building 578] (87), and several Fred Harvey cabins [buildings 581-588 (88-95) and 610-616 (96-102)].

On 30 July 1968 the AT&SFRy halted passenger service on the Grand Canyon line. Cattle and mining shipments ceased in 1972. During June of 1974, the Santa Fe ran two work extra trains to the Grand Canyon for purposes of reclaiming some of the rails and fittings for reuse in other locations. From this point on, the line lay dormant without any maintenance whatsoever.

A privately owned company chartered as the Grand Canyon Railway renewed the trackage and began regularly scheduled passenger service from Williams to the Grand Canyon on 17 September 1989. It continues to this date.

United States Department of the Interior
National Park Service

**National Register of Historic Places
Continuation Sheet**

Section number 8 Page 21

SUMMARY

The Grand Canyon Railway has never been simply sixty-five miles of track. This railroad opened an area of northern Arizona to mining, supported communities, cattle and sheep ranching, and logging. It is legendary for its service to the Grand Canyon. A service which continues to this day, all manner of people from the ordinary citizen to presidents and kings, from all parts of the world, have traveled over these rails to and from the Grand Canyon. The AT&SFRy based most of its passenger advertising over the years on their ability to take people to and from the Canyon in comfort. In fact, for many years the entire AT&SFRy became known as the "Grand Canyon Line." All of the railroads in this country are a part of our history and heritage but few if any can claim the history and impact of such a short section as does the Grand Canyon Railway.

The railroad is significant under Criterion A in the category of transportation.

The railroad is also significant under Criterion C in the categories of engineering and architecture.

SIGNIFICANCE

GENERAL

The Grand Canyon Railway runs on the historic right of way as built by the Santa Fe and Grand Canyon Railroad, and the Atchison, Topeka, and Santa Fe Railway between 1898 and 1901.

This is the only railroad to enter and service a national park in the United States. It did so from 1901 and continues to provide passenger service to this day. As such, it is an integral part of the Park Service's campaign to reduce automobile traffic and pollution at the south rim.

This railroad is directly responsible for the development of the Grand Canyon as a destination for Americans and visitors from around the world nineteen years prior to it becoming a National Park.

This railroad is directly responsible for the development of the Grand Canyon infrastructure on the south rim to include unique water reclamation and delivery systems, electrical power, and steam service.

Without this railroad the Historic District at the south rim would not exist as we know it.

STRUCTURES

Structures built by the Santa Fe along the right of way have been unique and varied. From the poured concrete Fray Marcos Hotel and depot in the Williams Historic District to the natural log depot and the El Tovar Hotel in the Grand Canyon Historic District, all have been part and parcel of the historic fabric which makes up the Grand Canyon Railway.

The Fray Marcos Hotel (currently in the Williams Historic District) was designed by Francis Wilson, built by the Santa Fe Railway, and managed by the Fred

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number 8 Page 22

Harvey Company. It owes its existence to the Grand Canyon Railway. Passengers over-nighting in Williams from the east-west trains on the main line prior to making the trip up along the line to the Grand Canyon required a quality hotel and restaurant. For this reason construction began in 1907 and the hotel opened its doors in March 1908.

At the other end of the line the Santa Fe required an adequate depot. Instead of building one of its usual styles, it constructed the one at the Canyon (currently in the Grand Canyon Village Historic District) designed by Francis Wilson to blend into the natural scene. Begun in 1909 the Santa Fe opened it for service in 1910 as the only log depot on their entire system. Today, it is the only log depot serving and active railroad in the United States.

One building in particular, the 1919 bunk house in Williams, along with its vintage 1939 wash house, is the most complete in existence. This, and the ruins of several other bunk houses along the Grand Canyon line and one in Seligman, Arizona with no roof, are the only examples left of what housed single and married Santa Fe track workers and their families from before 1900 until the 1950s. This standard 119-foot long, poured concrete structure, can probably best be described as Santa Fe Railway Bunk House vernacular. It is a design unique to that railroad and served the length and breadth of their system. The Grand Canyon Railway has stabilized and protected the structure from further deterioration. They have also discussed the possibility of at least cosmetic restoration.

Workers lived and raised families at these sites for extended periods of time. The railroad provided a wood/coal-burning stove and the workers provided the other furnishings. Single men lived in the smaller rooms while families had the "luxury" of the larger rooms. Families raised their children at these locations, sent them to local schools, and watched many of their young men take on secure railroad jobs and move to other section houses to work and raise their own families.

While many Santa Fe track worker families lived in mobile carbody "outfits," those who lived in these standard bunk houses enjoyed some semblance of home or permanence. Although they might be transferred according to the needs of the railroad, living in these structures enabled them to have a sense of security and quality of life not available in the outfits.

Bridges along the railroad are of wooden pile and frame open deck or ballasted deck design. They span active ephemeral water courses that all eventually make their way to Cataract Creek and the Colorado River. See "Engineering," next.

ENGINEERING

The engineering of this line is no small feat in itself. Originally surveyed for Lombard, Goode and Company by William H. Lockridge, the SF&GCRR hired James Bell Girard as assistant chief engineer under chief engineer P. F. Randall to complete the work to Anita. AT&SF field engineers completed the line to the Canyon from end of track during July through August 1901 and made all line changes, additions and deletions, from then until 1974 when they terminated service.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number 8 Page 23

Engineering of the railroad required the development of grades up to 3.7%, layout of 112 standard gauge curves up to eleven degrees, layout of the Grand Canyon yards and wyes at both ends of the railroad, determination of super elevation of tracks in curves, and the location and construction of fifty-six bridges (all of wooden pile and frame open deck or ballasted deck design on concrete piers), and sixty-one culverts of concrete or wood construction. All bridges, culverts, and wyes are still in place and daily use.

This railroad has its origins in Williams at an elevation of 6700' MSL and proceeds in a generally northerly direction. After traversing several grades of up to 3%, it begins a general descent to the low point on the line of 5765 feet MSL at Mile Post 36.0. From this point the right of way begins a gradual ascent to MP 45 where several 3% grades are encountered in a seven mile stretch to MP 52. The line then drops into Coconino Canyon where it makes several 180° changes of direction before climbing to the south rim at an elevation of 6820 feet MSL. This is the high point on the railroad and the distance covered is 64.789 miles.

Frequency and steepness of grades and curves on this line made it unique and difficult to run. So much so that the Santa Fe trained its engineers and firemen on this piece of track. Reasoning that if a crew could handle this line they could run anywhere on the system. This training continued when Link developed a simulator for Santa Fe diesel locomotives. For the most difficult simulations they used films taken along this track.

HISTORY

The history of this railroad dates back to 1893 when Buckey O'Neill, sheriff of Yavapai County (which included all of today's Yavapai and Coconino counties), Mayor of Prescott, and mining investor, made overtures to Lombard, Goode and Company of New York to finance and build a railroad from Williams to what is now Anita for the purpose of extracting what was then believed to be the richest copper ore in the country. Limited construction by the Santa Fe & Grand Canyon Railroad began in 1898 and in earnest in 1899. They laid track to Anita Junction (Anita) and to Anita Camp (the mines) and another eight miles toward the Grand Canyon.

Operations began in 1900. Although the principal reason was for hauling copper ore, the railroad also carried passengers to the end of track and then to the Grand Canyon via stagecoach.

In July 1901 the company failed due to a lack of ore. The very rich ore was located in geologic features known as breccia pipes and proved very limited in quantity. They declared bankruptcy and sold out to the Atchison, Topeka and Santa Fe Railway for \$150,000. Had the company not failed and completed the line to the Canyon, Grand Canyon Village would have been known as Lombard, Arizona.

The AT&SFRy lost no time in completing the additional eleven miles of track to the Grand Canyon in order to take advantage of the tourist trade. Thus began the real history of the Grand Canyon National Park as the Santa Fe literally built the park infrastructure from the ground up. The railroad built over six hundred

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number 8 Page 24

structures, including all of the hotels, restaurants, power houses, water service and reclamation facilities, laundry, housing, mule facilities, and tourist accommodations in what is now the Historic District before and after the Grand Canyon came under the jurisdiction of the National Park Service.

RANCHING

From the beginning the railroad serviced the cattle and sheep industry along its right of way. Beginning in 1909 they contracted with local ranchers to build stock pens and loading chutes at Red Lake, Bly, Prado (Quivero), Valle, Woodin and Anita. They continued to haul cattle and sheep to market from these sites until November 1972. During this time the railroad delivered water in tank cars to these ranchers from Del Rio (Santa Fe station Puro), Arizona at cost. Had the railroad not provided this service, there would not have been any extensive ranching in this area.

WATER SERVICE

The regional rainfall is unreliable at best and wells on the Kaibab Plateau are usually about 1500' deep, making them impractical to drill until recently. The Santa Fe provided water to the Grand Canyon until the railroad built the pump house and pipeline from Indian Garden and developed the revolutionary water reclamation system and infrastructure in 1932. Even after the completion of the pipeline it continued to be necessary to supplement water at the Canyon by rail until 1968. This railroad literally became a life line to the National Park and the ranchers along the line.

MINING

Although the mines at Anita rapidly played out, the mining industry did not die completely. Mines in the Canyon, the Francis Mining District, and on the south rim continued to operate on a small scale for several years. The Orphan Mine became the last to ship ore on the Grand Canyon Line in April 1969. Ores that traveled this line included copper, asbestos, gold, silver, molybdenum, and a host of other minor minerals. The most profitable turned out to be uranium.

LOGGING

From 1928 to 1936 the Saginaw and Manistee Lumber Company held a logging lease in the Kaibab National Forest east of Apex and south of the Grand Canyon. That company built twenty-six miles of temporary track and cut and hauled the logs to Apex. At the sidings built for this purpose, the AT&SF picked up the loaded log cars and delivered them to the lumber mill in Williams. During these depression years the logging activity on the Anita-Moqui district kept many people in work. A good sized community grew one mile east of Apex where the Saginaw families lived. It boasted its own school district with teachers paid for by the lumber company. The teachers, from the Arizona State Teachers College (NAU), taught the children of the loggers and Mexican track workers. In all probability, during this time

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number 8 Page 25

the school served as the only unsegregated school in all of Arizona. The Saginaw & Manistee hauled out the last logs in June of 1936 and then methodically removed all tracks and structures.

TOURISM

Passengers soon became the stock in trade of the Grand Canyon Railway. Although the Santa Fe made its corporate profits from freight, these passengers became their reputation and namesake. Advertising for the entire railroad from Chicago to Los Angeles became wrapped around the Grand Canyon and the Santa Fe became known as "The Grand Canyon Line." People from all walks of life and around the world came to see the Titan of Chasms on this railroad. World leaders such as presidents, kings, queens, and princes all came to the Canyon by rail. People of notoriety, nobility, movie stars, and the ordinary citizen rubbed shoulders as they traveled to and from the south rim. Until the late 1920s, the train was the only way people could travel to and see the Grand Canyon in comfort. Although adequate passenger traffic continued through the 1950s, with the advent of travel by private auto and plane becoming more and more common place, railroad revenues declined sharply. Finally the AT&SF had to shut down their passenger operations to the Canyon. Some trains arrived with only three paying passengers on board. The last Santa Fe passenger train left the Canyon on 30 July 1968.

The Santa Fe brought the Fred Harvey Company to the Grand Canyon for the purpose of managing the tourist facilities. Although now a part of the Amfac Corporation, they still do today under agreement with the National Park Service.

LOCAL CULTURE

This railroad became a part of the daily lives of the people that worked for it, lived near it, or depended on it. Train crews became family to the people along the right of way. They delivered newspapers, groceries, and stray dogs. When off duty they hunted together and swapped stories. People told time by the passing of the trains. When they stopped running on a regular schedule lives changed considerably.

The community of Anita, already considerably reduced, vanished. Water, cattle and sheep are now hauled by truck. Ranchers now drive to Williams, Flagstaff, or the Grand Canyon in order to purchase their groceries and supplies. Between 1968 and 1989, travel to and from the Canyon was by air, bus, or private automobile.

SUMMARY

In short, this railroad was responsible for opening up of a large area north of Williams, the building of the Grand Canyon National Park facilities at the south rim, establishment of a solid tourist trade in the American Southwest, support of cattle and sheep ranching, copper and uranium mining, lumber industries, and the building of a sub culture around the railroad that continues to this day.

United States Department of the Interior
National Park Service

**National Register of Historic Places
Continuation Sheet**

Section number 9 Page 26

Publications and Documents:

Arizona Department of Mineral Resources, Phoenix, Arizona.

Arizona State Archives, Phoenix, Arizona.

Atchison, Topeka and Santa Fe Railway Company, (1897-1921). Contracts, correspondence and documents. Topeka: Office of the Secretary- Treasurer.

_____, (1908-1989). *Santa Fe Employees Magazine*. Chicago: Public Relations Department.

_____, (1902). *Titan of Chasms; The Grand Canyon of Arizona*. Chicago: Passenger Department.

Bradley, Glenn D., (1920). *The Story of the Santa Fe to 1920s*. Boston: The Gorham Press.

Burpee, C. Miles, (1945). *Railway Engineering & Maintenance Cyclopedia*. Chicago: Simmons-Boardman Publishing Corp.

California State Railroad Museum Archives. Sacramento, California.

The Coconino Sun. Newspaper of Flagstaff, Arizona.

Chappell, Gordon S., (1976). "Railroad at the Rim; The Origin and Growth of the Grand Canyon Village." *Journal of Arizona History*, 17:89-107.

Cline, Platt, (1976). *They Came to the Mountain*. Flagstaff: Northern Arizona University.

Coconino County Assessor. Flagstaff, Arizona.

Coconino County Recorder. Flagstaff, Arizona.

Fuchs, James R., (1953). *A History of Williams, Arizona 1876-1951*. University of Arizona Bulletin, #23. Tucson.

Grattan, Virginia L., (1980). *Mary Colter; Builder Upon the Red Earth*. Flagstaff: Northland Press.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number 9 Page 27

Higgins, G. A., (1901). *Grand Canyon*. Chicago: Atchison, Topeka and Santa Fe Railway Company.

Hughes, J. Donald, (1967). *The Story of Man at the Grand Canyon*. Grand Canyon Natural History Association.

_____, (1978). *In the House of Stone and Light*. Grand Canyon Natural History Association.

James, George Wharton, (1900). *In and Around the Grand Canyon*. Boston: Little, Brown and Company.

Kansas State Historical Society Archives. Topeka, Kansas.

Muir, John, (1902). "The Grand Canyon of the Colorado." *Century Illustrated Monthly Magazine*, November: 107-16.

Museum of Northern Arizona Library. Flagstaff, Arizona.

Northern Arizona University Special Collections and Archives. Flagstaff, Arizona

Richmond, Al, (1994). *Rails to the Rim; the Milepost Guide to the Grand Canyon Railway*. 2nd ed., revised. Flagstaff: Grand Canyon Railway.

_____, (1989). *Cowboys, Miners, Presidents and Kings; the Story of The Grand Canyon Railway*. 2nd ed., revised. Flagstaff: Grand Canyon Railway.

Sharlot Hall Museum Archives. Prescott, Arizona.

Smith, Jack, (1984). *Tales of the Beale Road*. Flagstaff: Tales of the Beale Road Publishing Company.

Sullivant, R. Howard. Copies of the *Williams News*, 1886-1901.

United States Department of Agriculture, Forest Service. Williams, Arizona.

United States Department of the Interior, Bureau of Land Management. Phoenix, Arizona.

United States Department of the Interior
National Park Service

National Register of Historic Places Continuation Sheet

Section number 9 Page 28

United States Geological Survey. Flagstaff, Arizona.

Waesche, Hugh, (1933). "The Anita Copper Mine." *Grand Canyon Nature Notes*,
7:108-112.

Way, Thomas E., (1980). *Summary of Travel to the Grand Canyon*. Prescott:
Prescott Graphics.

Williams News. Newspaper of Williams, Arizona. Copies of papers from 1901 to
present.

Wisbey, Herbert A., (1946). *The History of the Santa Fe Railroad in Arizona to 1917*.
Tucson: MA Thesis, University of Arizona.

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET

Section Photos Page 31 Grand Canyon Railway
name of property
Coconino County, AZ
county and State

Representative black and white photographs (twenty-five 3x5 black and white photographs).
All photographs by Al Richmond, Western Images, taken 1997. Original negatives are with
Grand Canyon Railway:

1. Historic Fray Marcos Hotel and Santa Fe Railway depot complex (1908) at Williams
2. Historic Santa Fe Bunk House (1919) at Williams
3. GCR locomotive and car shops
4. GCR locomotive and car shops with storage track to left
5. GCR main line tunnel under main line of BNSF Railway and turnout to GCR shops
6. GCR main line tunnel under main line of BNSF Railway
7. Longest bridge on the line at MP 4 (182 foot pile and frame ballast deck)
8. Pile and frame ballast deck bridge at MP 4.4
9. Valle station (MP 29) with working Bar Heart Ranch
10. Wrecked bunk house at Valle with Bar Heart Ranch buildings in rear
11. Open deck bridge at MP 21.3
12. Quivero station (MP 20.5) with active cattle pens and 910' spur track
13. Pile and frame ballast deck bridge at MP 35.5
14. Willaha station (MP 37.7) with 1300' siding
15. Anita station (MP 44.9) ore loading ramp (l) and active cattle pens (r)
16. Water tank and cattle holding pens of CO Bar Ranch at Anita
17. Apex station (MP 52.0) with 200' spur track
18. Ruins of Santa Fe bunk house at Apex
19. Pier and frame ballast deck bridge at MP 55.5
20. Pile and frame open deck bridge at MP 54.3 with GCR hyrail vehicle
21. Pile and frame open deck bridge at MP 57.1 (top view)
22. Pile and frame open deck bridge at MP 57.1 (side view)
23. Ballast deck bridge with wooden piers on north leg of Grand Canyon wye
24. Grand Canyon yards with Santa Fe power house (1927)
25. Historic Santa Fe log depot (1910) at Grand Canyon with El Tovar Hotel (1905)

4.4.4 LETTER FROM CHAPPELL REGARDING SIGNAGE AT THE DEPOT



United States Department of the Interior



NATIONAL PARK SERVICE

Western Region

600 Harrison Street, Suite 600

San Francisco, California 94107-1372

IN REPLY REFER TO:

H2215 (WR-RH)

September 10, 1993

Mr. John James
Executive Vice-President
The Grand Canyon Railway Company
518 East Bill Williams Avenue
Williams, Arizona 86046

Dear John:

First of all, I want to thank you for your kindness during my visit to Williams on August 11, and for arranging a tour of your shops. When we can afford to do prints next fiscal year, I will send a set of my photos to the Grand Canyon National Park collections where they can be preserved, documenting some of the history of your railroad. Anyway, I appreciate your kindness.

With respect to the meeting we had at the Grand Canyon Depot along with Ellis Richard, it has taken me some time to gather the material together, but at last it is enclosed. I had started in on an appendix on depot signs at the time I was working on the draft Grand Canyon Railway Depot and Yards Historic Structure Report around 1985, but never had time to finish it; enclosed are my research notes, including a color xerox of a reconstruction by me from black and white photographs of the Western Union sign. As an indication of how unobservant I can be, I had not noticed that its original bracket still hung on that pole, until you or one of your colleagues mentioned it to me. What I did in that case was search many museums by phone and letter searching for an original sign of that type, but I found none: I did find, in the California State Railroad Museum, an oval Western Union sign of a different type from which I took measurements. I used that as the basis for the dimensions, then with a magnifying glass, drew the enclosed sketch of its apparent pattern. Some time later I got ahold of a color slide of the depot around 1968 which confirmed what had been only a guess that the sign was blue and white, undoubtedly blue and white enamel on a metal plate, though the sign was distant in that view.

As I said above, I based my measurements on a different sign in the California State Railroad Museum. Since the bracket still hangs on the pole, any reproduced sign should be based on the bracket as well as (or instead of) the sign I measured. I don't know for certain that they would have been the same size.

Also among my notes were sketches of a couple of other signs, these taken from a 1926 (c.) photo of the depot by H.E. High and there

seemed to have been only minor changes in signs around the depot until the railroad abandoned passenger service in 1968. The depot also eventually had one of the standard blue and white enamel "Western Union" rectangular signs mounted on the depot itself. The Colorado Railroad Museum has one of these, mounted, I think, on the pump house at "No Agua." The other signs probably were black letters and border on a white background with moulding around the edge, made of wood. (I doubt that you want to replicate the "Free Bus to Hotels" sign, as it might give visitors the wrong idea.)

Additionally, I have enclosed a set of the best (in my judgement) depot photographs from the draft historic structures report. Keep in mind that when the depot was newly completed, the copper letters spelled out "Grand Cañon" in the Spanish style, despite the fact that the railroad issued an order in 1902, eight years earlier, that the railroad would henceforth spell "cañon" in the English style: "canyon," and despite the fact that the contract specifications for construction of the depot called for it to be spelled in the English fashion. There must be some hidden story there of someone who really liked the "cañon" spelling. Whoever he was, he was overruled in short order; in less than a year, probably in less than six months, the copper letters had been changed to read "canyon," and have ever since.

If you can indicate which of these photos you want prints of, what size prints you want, and whether you wanted them printed in sepia tone, I have copy negatives of most of them or can have them made, and furthermore The Photo Lab here in San Francisco at 1038 Larkin Street still prints on the old fiber-based paper and does pretty good work, though not cheaply. Also need to know whether you want glossy or matte finish.

I have many more photos of the depot, but most are from angles that don't show much, or cut off part of the building. These are part of two large three-ring binders of photos on the history of the depot and yards to be published as part of the historic structures report if we can ever get it completed.

I inferred from something said at the meeting at the depot that your company is undertaking some sort of study of the depot grounds with an eye toward restoration? I have a lot of that data already compiled, and of course any proposals for rehabilitation or for restoration need to comply with the Secretary of the Interior's standards. I have most of the historical data needed, and our Regional Historical Architect, Hank Florence, can help define what proposals do and do not meet the standards. I gave you a copy of the recommendations out of the historic structure report draft that day we met at the depot.

I will be out of the office Sept. 17-27 in Washington, D.C., but will be back in on Sept. 28.

Regarding another matter, Bob Chandler indicated that he had talked

3.

with someone in your company, perhaps it was with you, regarding the papers that I had indicated we had an interest in acquiring for the park archival collections pertaining to the Grand Canyon Railway and many or most to Grand Canyon Village. I inferred from what he said that something would be worked out between the NPS and the railway.

I am wondering, meanwhile, if it would be possible to borrow them one batch at a time by certified, registered or insured mail to this office in order to read them thoroughly. I hope this fiscal year to complete the text of the depot historic structures report and most of those appear to be different from the documents George Curry loaned me during the mid-1980s (which leads me to wonder what happened to those! I returned all of those to Curry in person quite some time before he was incapacitated and died. They must have been in the depot when you took it over, and must have been among the material that was thrown out as too water-damaged.) I've enclosed a copy of my inventory of the documents and indicated which I would like to read. There might well be some new or additional information in them that should be inserted into the draft of my historic structure report. Please advise on this.

If I can be of any further help, please feel free to contact me; I can normally be reached at (415) 744-3963.

Sincerely,



Gordon Chappell
Regional Historian

cc: Superintendent, Grand Canyon
Assistant Superintendent, Grand Canyon
Chief, Interpretation, Grand Canyon
Doug Brown, Professional Services, Grand Canyon

INVENTORY OF GROUPS OF ATCHISON, TOPEKA AND SANTA FE RAILWAY PAPERS
FROM THE OLD FIELD ENGINEER'S OFFICE IN THE WILLIAMS DEPOT

Examined in the office of Grand Canyon Railway Executive Vice President John James on August 11, 1993 by National Park Service Regional Historian Gordon Chappell from the NPS Western Regional Office in San Francisco

1. "MISCELLANEOUS NOTES, GRAND CANYON - 1"

A.T.& S.F.Ry. Engineers' Field Notes on graph paper forms bound with three brass Chicago screw posts.

In a standard size letter box labeled "Authority Jobs"

The papers all pertain to buildings and structures in Grand Canyon Village and environs

2. "MISCELLANEOUS NOTES, GRAND CANYON - 2"

More of the same as in Item 1 above. similarly bound.

In a standard size letter box labeled "Pits and Roadway Machines." The labels on the boxes generally have nothing to do with what the box contains.

The papers all pertain to buildings and structures in Grand Canyon Village and environs

3. "MISCELLANEOUS NOTES, GRAND CANYON - 3"

More of the same as in Items 1 and 2 above, similarly bound.

At the time examined, on the table alone, not in a box.

The papers all pertain to buildings and structures in Grand Canyon Village and environs

4. "BRIDGE AND PROTECTION NOTES, GRAND CAYON DISTRICT, MP 30-64
UP TO JAN. 1, 1920"

Field Engineers' notes bound with three aluminum Chicago screw posts, mostly on graph paper forms.

In a standard size letter box labeled "PR Files"

Includes data on bridges and culverts in Grand Canyon village and the line leading to the village

Inventory 2

5. VARIOUS LOOSE PAPERS INCLUDING STAPLED PACKET LABELED "AUTH. C-146-49 FILE L69033, RELOCATION OF FIRE ESCAPES--EL TOVAR."

The papers contain other miscellaneous letters to George Curry with various standard plans attached, etc.

In a letter box with an illegible label.

The El Tovar document definitely pertains to a National Historic Landmark Structure about which all information is valuable. The other papers need to be examined item by item with regard to relevance to Grand Canyon Village and Grand Canyon Branch history.

6. ENGINEERS' FIELD NOTES ON SUBJECTS SUCH AS ROAD CROSSINGS, TIES, 1939 WRECK, NOTES ON NEW WYE TRACK AT GRAND CANYON VILLAGE, BUILDING LOCATIONS AT GRAND CANYON, ALL IN GRAND CANYON DISTRICT

The papers include notes on items "Not Built" at Grand Canyon which, however, may have been of historical importance in leading to other structures later actually built.

In a standard letter box labeled "Instructions, Letters and old bulletins, 1946-1950

These documents contain much data useful to historians and archeologists working on projects at Grand Canyon

7. "GRAND CANYON RAILWAY STATIONS, PITT TO COCONINO, INCL."

Field Engineers' Notes bound with 3 brass Chicago screw posts

In a letter box labeled "Instructions, letters, and bulletins, 1943 to 1946 incl."

These documents pertain to part of the Grand Canyon Railway outside park boundaries but the entire Grand Canyon District (Grand Canyon Railway) is of historical importance to Grand Canyon National Park.

8. "BRIDGE AND PROTECTION NOTES, GRAND CANYON DISTRICT, M.P. 0-30, UP TO JAN. 1, 1920."

Field Engineers' Notes bound with 3 brass Chicago Screw posts.

In a box labeled "Letters, This Office, Jan. 1, 1950 - "

Same comment as on item 7 above.

9. LOOSE PAPERS ON GRAND CANYON DISTRICT BRIDGES, ETC.

Various loose papers, not bound.

In a box labeled "Record of Company Property"

These documents all apparently pertain to the Grand Canyon District but need to be examined item by item.

Inventory 4

13. "CURVES, CLARKDALE DISTRICT"

Field engineers' notes and other loose papers apparently on the subject listed on the title of the box.

In a letter box labeled "Curves, Clarkdale District"

The above material should be examined item by item to insure that it does all pertain to the subject of the box title, but it seems to.

14. "REARRANGE MECH[anical] FACILITIES, PRESCOTT, ARIZ."

Field engineers' notes and other loose papers.

Box label given as above, pertaining to Prescott.

The above material should be examined item by item to insure that it does all pertain to the subject of the box title, but it seems to.

15. "VALLEY VERDE RY" [sic] (Probably should read "VERDE VALLEY RY")

Miscellaneous papers and field notes. "Mile 1 - Mile 10, incl."

Box label as in title given above.

The above material should be examined item by item to insure that it does all pertain to the subject reflected in the box title, but it seems to based on a very quick examination.

16. "CLARKDALE DISTRICT, MP 10-20"

Miscellaneous loose letters, engineers' field notes, etc.

Box label as given in title above.

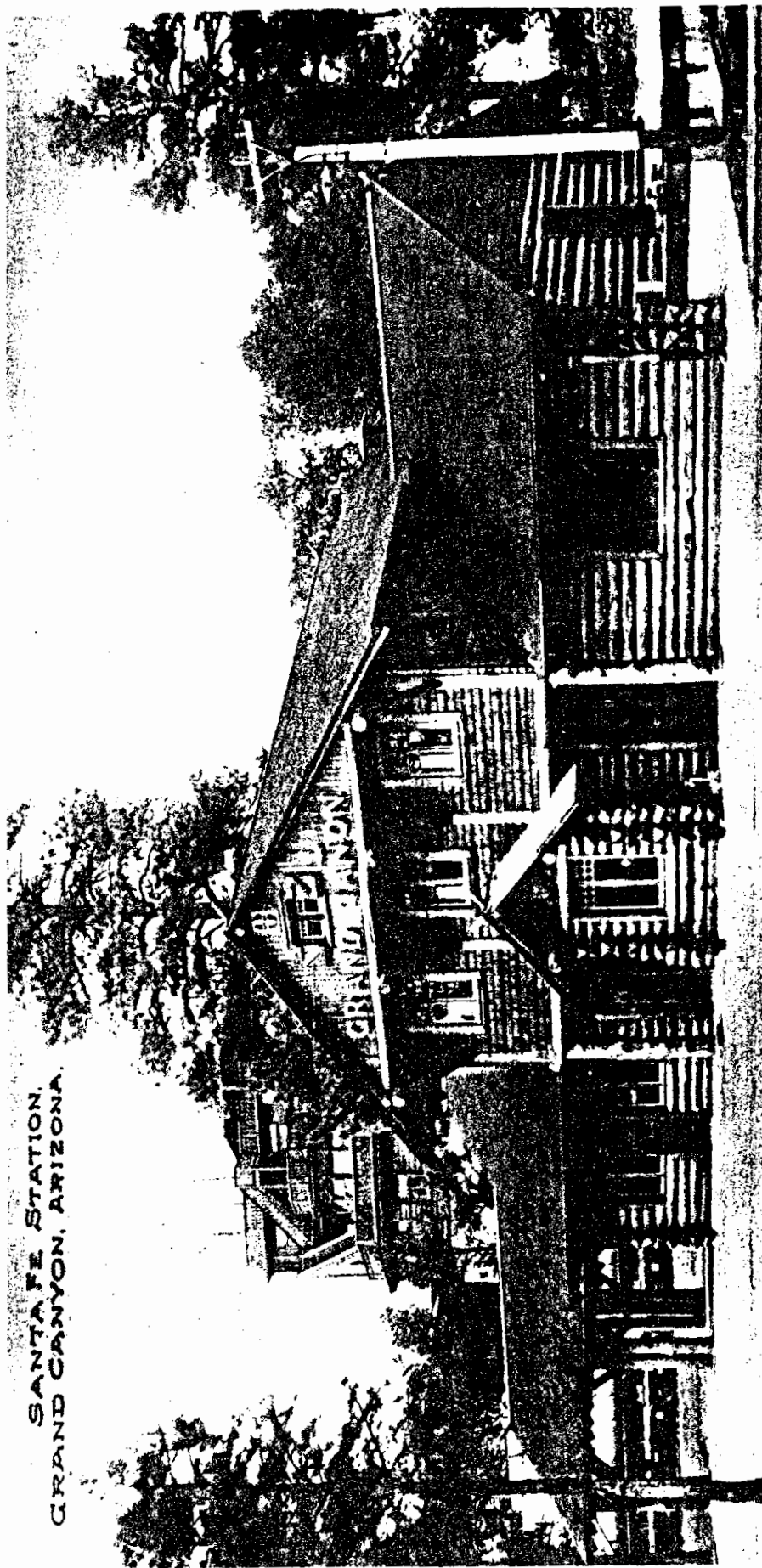
This loose material should be examined item by item to insure that it does all pertain to the subject of the box title.

17. "CROWN KING BRANCH MP 20 TO END"

This is an empty box. May have held items 3 and 10 listed above which were not found in a box, although their subject matter bears no relation to the title on the letter box.

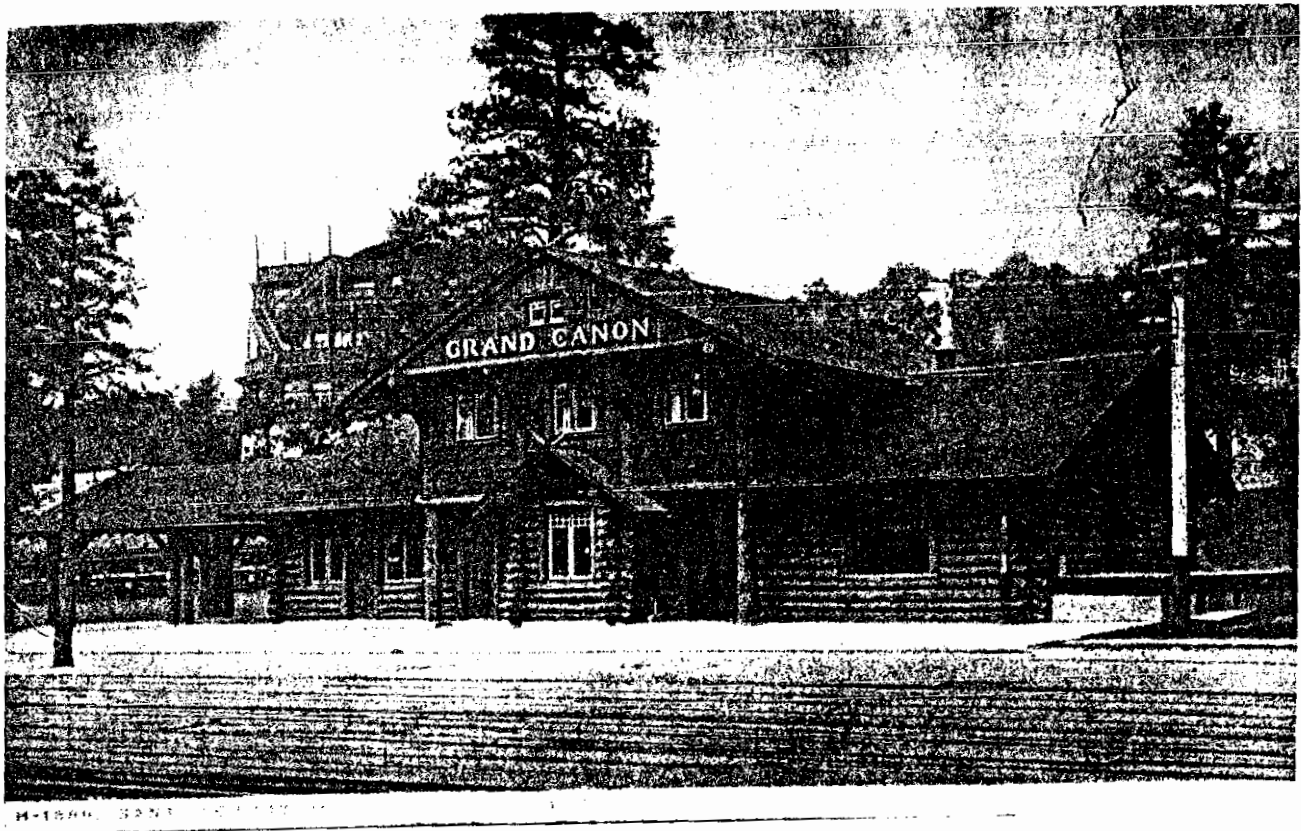
STATIONERY

SANTA FE STATION,
GRAND CANYON, ARIZONA.

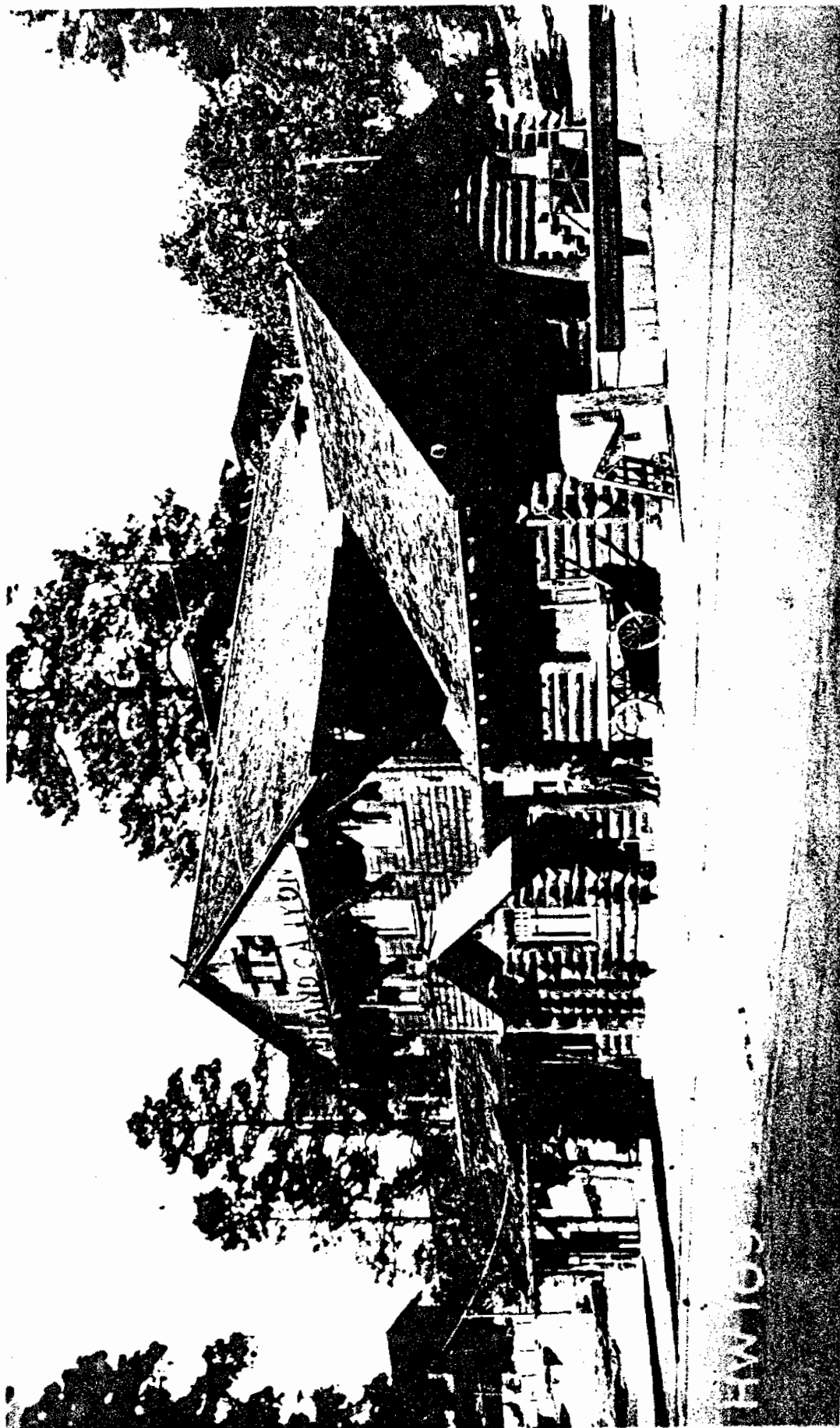


Hand-colored.

EARLIEST PHOTO - SUMMER 1910 - SPANISH "CANON"
FROM A JUNG-TUNTED POSTCARD



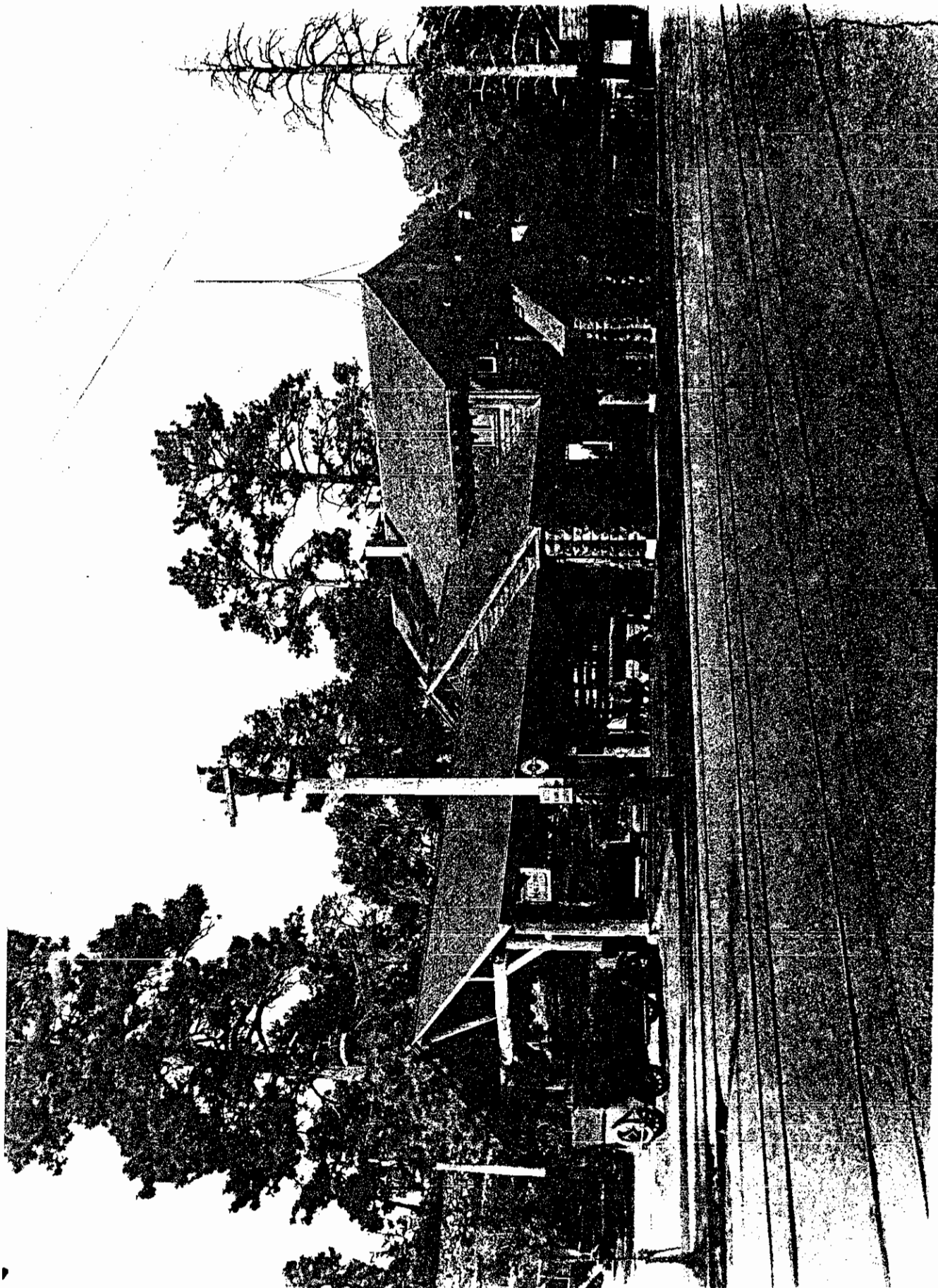
PROBABLY SAME AS PREVIOUS VIEW - SUMMER 1910
FROM A CHARMAITHU CRISHED POST CARD
WILL NOT ENLARGE WELL!



INTERIOR OFFICE COMMISSION PHOTO

APRIL 1915
MAY 1915
APRIL 17

24



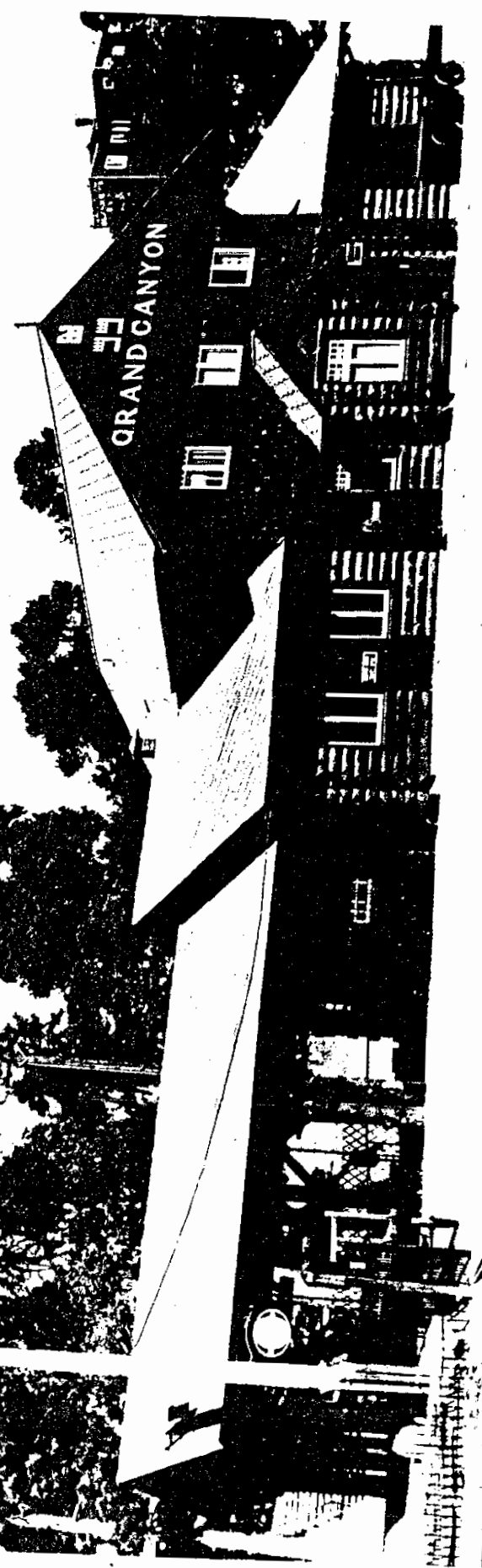
H.E. HIGH PHOTO
SEPT. 1926
BRANDS BUILT



NOTE: 9-10-42
MICH. 1942.
"SPRING CHURCH HILL"



*For photo-club
Grand Canyon
Arizona
The
Photographer*



*Grand Canyon
Arizona
The
Photographer*

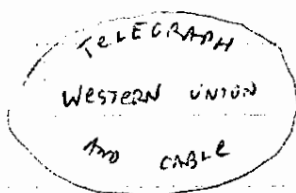
GRAND CANYON DEPOT

SIGNS

SEPT. 1926 H.E. HIGH PHOTO

"FREE BUS
TO
HOTELS"

AUTOS
NOT ALLOWED ON
STATION PLATFORM



WESTERN UNION
TELEGRAPH
AND CABLE OFFICE

PARCELS
CHECKED HERE

GET YOUR TICKETS HERE

(NO SIGNS ON EAST END)

"SANTA FE" HEART - JUST BELOW RIDGE ON
SOUTH CABLE

"GRAND CANYON" ON SOUTH CABLE END

NEAR SW CORNER

FACES WEST, ALSO POSSIBLY EAST

(WEST SIDE OF)
ON POWER POLE NEAR
SW CORNER - FACES WEST ONLY

ON POWER POLE NEAR

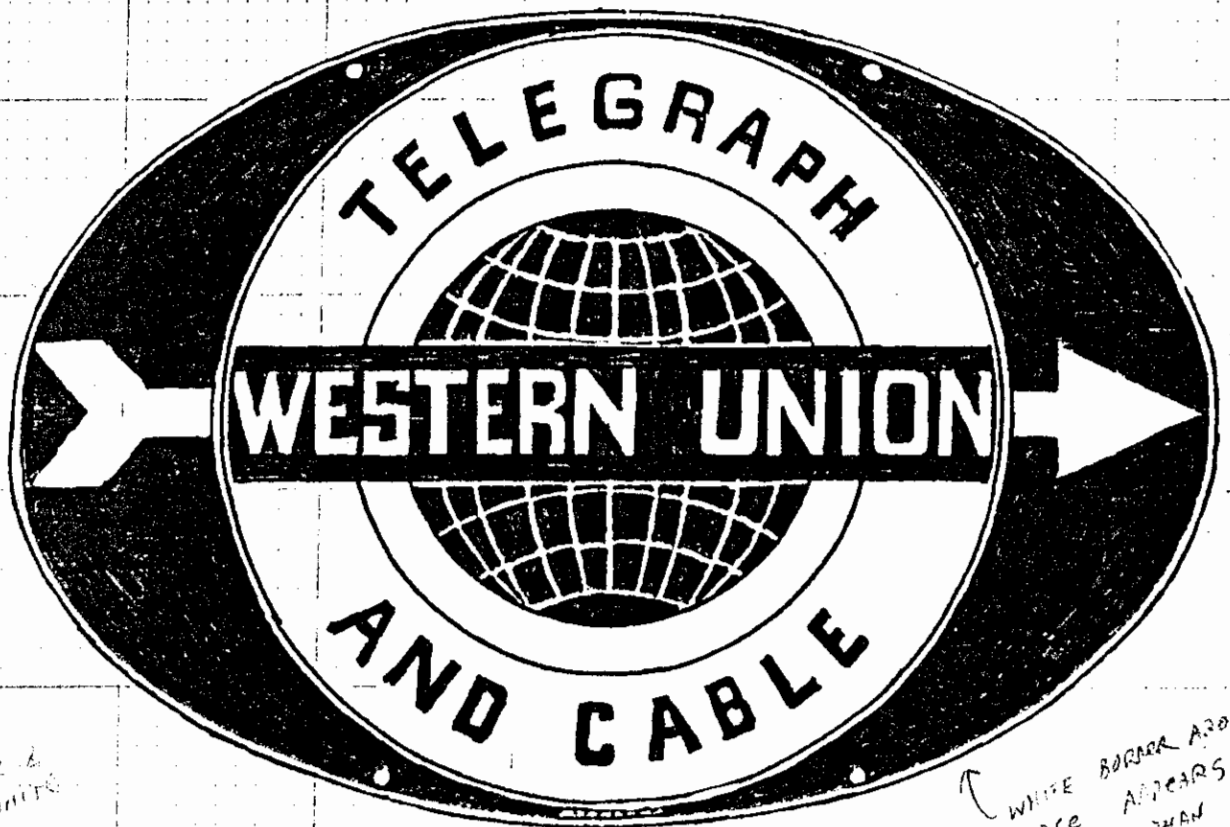
SW CORNER FACES NORTH/SOUTH
ON EAST SIDE OF POLE

EXTENDS AT RIGHT ANGLE TO
SOUTH WALL OF BLDG OVER EAST EDGE OF
WAITING ROOM DOOR ON S. SIDE
WEST OF BAY WINDOW
ENAMELED METAL, WHITE LETTERING
AND BORDER ON BLUE
FACES EAST AND WEST

EXTENDS AT RIGHT ANGLE TO
SOUTH WALL OF BUILDING AT
EAST EDGE OF DOOR EAST OF
BAY WINDOW - FACES EAST AND WEST

SLIGHTLY ABOVE WAIST LEVEL ON
WAITING ROOM DOOR

Type of Western Union sign mounted on a pole near the southwest corner of the Atchison, Topeka & Santa Fe Railway depot at Grand Canyon, Arizona, in September 1926 and for an indefinite time before and after that date. Researched by Gordon Chappell from photographs.

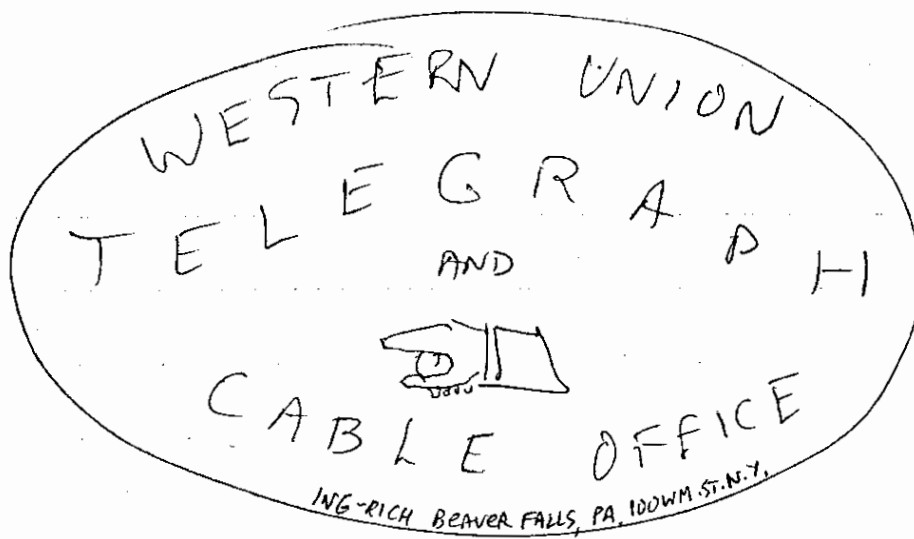


BLUE &
WHITE

OTHER
SIDE
SAME

WHITE BORDER AROUND
EDGE APPEARS
WIDER THAN I
THOUGHT IT WOULD BE
G.C.

A Western Union sign of the same shape but of a different pattern in the collections of the California State Railroad Museum, Sacramento, catalog no. 387-1-148, measures 31 inches wide and 21 7/8 inches high. That Western Union sign, and other rectangular Western Union signs examined, are all of heavy enamel on sheet iron, and feature white against a blue background.

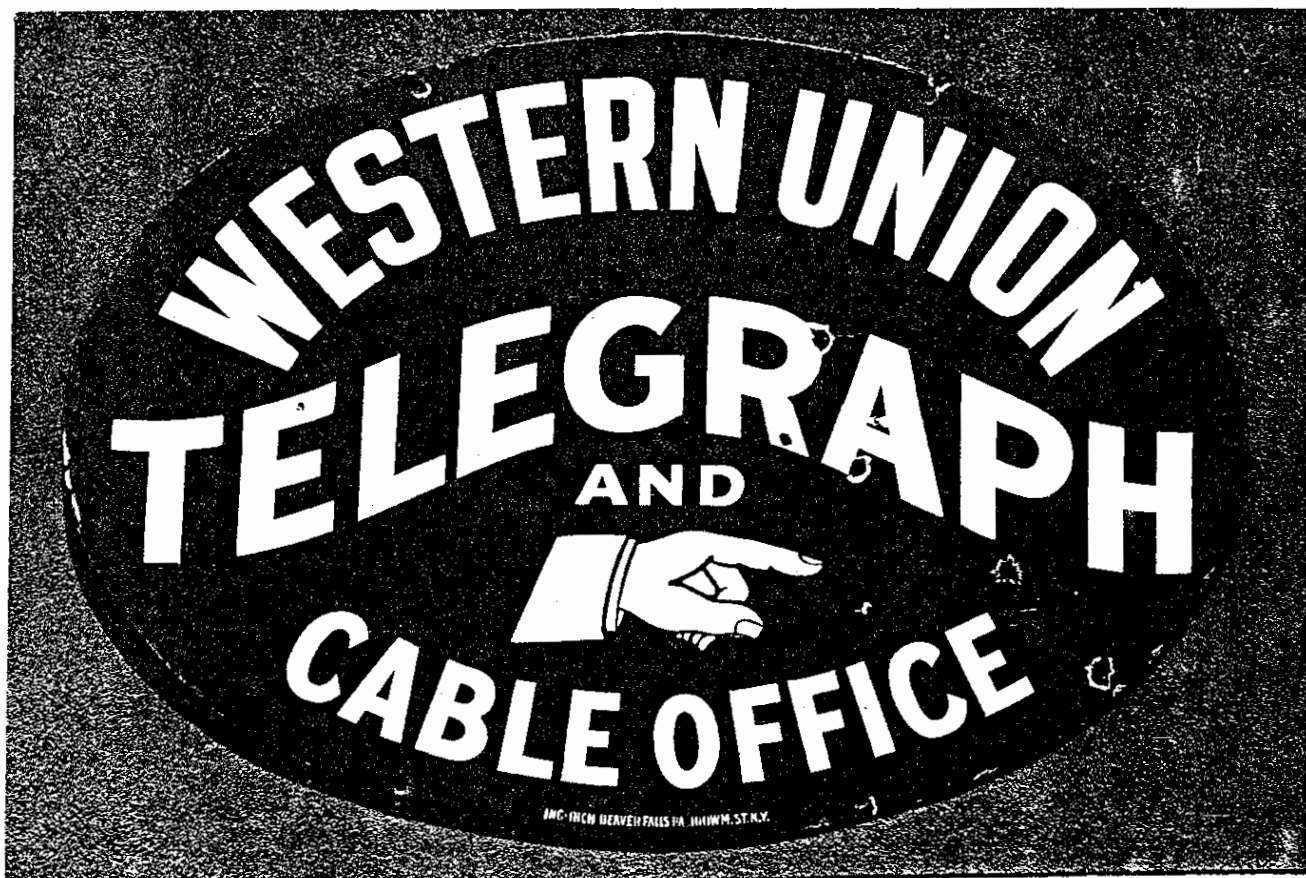


21 $\frac{7}{8}$ " HIGH

31" WIDE

CATALOG NO. 387-1-148 CALIF. STATE RAILROAD MUSEUM

STEEL, NO RIM - COMPLETE COAT OF WHITE ENAMEL APPLIED
INDIGO?
ROYAL? BLUE ENAMEL APPLIED ON TOP OF WHITE.



USED AS BASIS FOR SIZE ONLY
NOT TYPE USED AT GRAND CANYON

COULD GET A TRACING
OR OUTLINE OF SIGN
IF IT FITS BRACKET

4.4.5 LCS FORMS

Identification:

Preferred Structure Name: Grand Canyon Depot

Structure Number: SRB0549

Other Structure Name(s):

1. Railroad Depot
2. Village Loop Santa Fe Depot
3. Grand Canyon Railway Depot

Park: Grand Canyon National Park

Historic District:

1. Grand Canyon Village

Structure State: Arizona

Structure County: Coconino

Region: Intermountain

Cluster: Colorado Plateau

Administrative Unit: Grand Canyon National Park

LCS ID: 055483

UTM: Zone Easting Northing Source Datum

No records.

Historical Significance:

National Register Status: Entered - Documented

National Register Date: 02/18/1997

National Historic Landmark?: Yes

National Historic Landmark Date: 05/28/1987

Significance Level: National

Short Significance: 2nd and final depot constructed by AT&SF to service El Tovar Hotel. Only extant log cabin railroad depot in US & only depot in a NP. Arch significant example of Rustic style. District meets NHL Criterion 1 & 4.

Description: Period of sig 1897-1942. Bldg also individual NHL, Criterion 4.

Long Designed by Francis Wilson and constructed in 1909-10, this is the only remaining structural log railroad depot in the country. Built for the Atchison, Topeka and Santa Fe Railroad, it helped establish the rustic sense of place for the Grand Canyon by being the first building the railway passengers encountered upon arriving. Symbolic of the "destination resort" that the railroad developed Grand Canyon into, it is one of the handful of rustic depots constructed. This building was listed as an individual NHL under Criterion 4 for architecture on May 28, 1987.

Significance

Description:

The buildings of the Grand Canyon Village NHL district are the largest and most diverse assemblage of park architecture in the national park system. The buildings of the historic district represent an entire range of park architecture. Together there are 247 buildings in the historic district. Along the rim of the canyon, the older resort architecture is typically more elaborate and eclectic than the official structures commissioned by the Park Service. In the civic zone of the village, the public architecture uses massive Kaibab sandstone veneers over concrete foundations and piers, as well as dark log or wood siding on upper stories to create a powerful and controlled imagery, now known as Park Service Rustic. This consistent idiom connected all the official buildings in the parks, together projecting a strong sense of official responsibility and appropriate sensibility. In the residential subdivision of the village, an architectural distinction was made between the concessionaire residences and the Park Service residences. The simpler bungalows on the Park Service side were designed with front doors accessing semi-public pedestrian paths. The larger residences on the concessionaire side presented more decorative elevations with stone foundations, fronting the street side of each lot.

The Grand Canyon Village NHL District meets National Historic Landmark Criterion 1 for its association with the American park movement and Criterion 4 as an exceptionally valuable example of American landscape architecture, specifically as the most significant example with the greatest integrity of National Park Service town planning. Similarly, Grand Canyon Village NHL District is significant under National Register Criterion A for its association with the American park movement and Criterion C as an example of American landscape architecture, specifically as a unique and outstanding example of community planning and development.

Grand Canyon Village Historic District was first listed on the National Register on 11/20/1975 (expanded 10/24/1995), significant under Criterion A for its important association with the development of Grand Canyon National Park, and under Criterion C as an example of community planning within a national park, and as a comprehensive illustration of National Park Service rustic architecture.

Daniel Hull finalized the major features of the plan for the south rim of the Grand Canyon in 1924, and today, Grand Canyon Village represents the most historically significant park village plan, with the greatest degree of integrity, ever designed by the Park Service. The town plan for Grand Canyon divided the village into discrete residential, commercial, and civic areas; a consistent architectural idiom (Park Service Rustic) was employed throughout; a hierarchy of street sections, from pedestrian paths to through roads, was developed; a central "plaza" had the village's major public buildings sited around it. The plan for Grand Canyon Village expounded the civic ideals of a certain generation of American planners and helped put National Park Service planning on the course it would follow at least until World War II.

Construction Period:

Construction Historic
Period:

Chronology:	Physical	Begin	Begin Year	End	End Year	Designer	Occupation
	Event	Year	AD/BC	Year	AD/BC	Designer	Occupation
1.	Built	1909	AD	1910	AD	Wilson, Francis	Architect

(AT&SF Rwy Co)

Function and Use:

Primary Station (Depot)

Historic

Function:

Primary Station (Depot)

Current Use:

Structure No

Contains

Museum

Collections?:

Other Other Function(s) or Use(s) Historic or Current

Functions or 1. Administrative Office (HDQS) Current

Uses: 2. Single Family Apartment Historic

Physical Description:

Structure Building

Type:

Volume: 2,000 - 20,000 cubic feet

Square Feet: 3405

Material(s):	Structural Component(s)	Material(s)
1.	Roof	Shingle
2.	Walls	Log
3.	Foundation	Stone
4.	Walls	Weatherboard
5.	Framing	Log
6.	Walls	Shingle

Short Physical Description: 2.5 story depot approximately 40'x100'. Intersect gable roof with exposed log rafters, wood shingles. 1st floor log construction; 2nd floor wood frame overhang 1st floor with knee braces, wood shingle siding. Wood casement windows, wood plank door. Covered passenger platform with double log columns.

Long Physical Description: 2.5 story depot approximately 40'x100'. Intersect gable roof with exposed log rafters, wood shingles. 1st floor log construction; 2nd floor wood frame overhang 1st floor with knee braces, wood shingle siding. Wood casement windows, wood plank door. Covered passenger platform with double log columns.

Condition and Impacts:

Latest Good

Condition:

Latest Year 2006

Assessed:

Conditions:	Condition	Year Assessed
1.	Good	1996
2.	Good	2006

Impact Level: Low

Primary Impact: Park Operations

Other Impacts: Other Impact Type

1. Weather
2. Structural Deterioration
3. Tenants/Occupants

Management - Legal:

Legal Interest: Fee Simple

Management Agreement: Concession Contract/Permit

Management Agreement Expiration Date: 12/31/2006

Management - Category:

Management Category: Must Be Preserved and Maintained

Management Category Date: 08/08/2006

Management - Treatment:

Latest Est. 0

Interim Treatment Cost:

Latest Ultimate Treatment: Rehabilitation

Interim Treatment:	Interim Treatment Responsibility	Interim Treatment Cost Estimate	Interim Treatment Estimate Date	Was Interim Treatment Completed?
1.	National Park Service	0	03/01/1996	
2.	National Park Service	0	08/05/2006	

Ultimate Treatment:	Structure Ultimate Treatment (UT)	UT Document	UT Date	UT Responsibility	Was UT Approved?	Was UT Completed?	UT Completion Date
1.	Rehabilitation General Management Plan	08/21/1995	National Park Service	Yes	No		

UT Estimate Level	UT Estimator	UT Cost Estimate	UT Cost Estimate Date	UT Cost Actual
1.				

Routine National Park Service
 Maintenance
 Responsibility:
 Cyclic National Park Service
 Maintenance
 Responsibility:
 FMSS 34575
 Number:

Management - Description:

Short Jointly maint w/Grand Canyon Railway which has concession for use of tracks, platforms & depot. NPS
 Management offices upstairs. Revise RMP to spec preservation. Complete draft HSR. NW corner covered passenger
 Text: waiting area damaged by tour buses. (08/2006)

Documentation:



References:	Source	Reference Number	Other Information	Sequence
1.	National Register Information System	95001226		1
2.	Other Structure Number	NR# 549		2
3.	Other Structure Number	CB108		3
4.	National Register Information System	74000337	NHL Form NRIS	4
5.	National Register Information System	75000343	Village HD NRIS	5
6.	Historic Structure Report	1984 Draft HSR, Chappell		6

Documentation Level: Fair

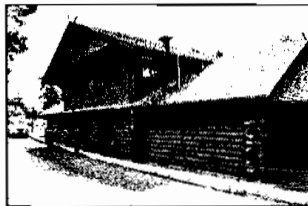
Last Updated By: Burwell, Theresa

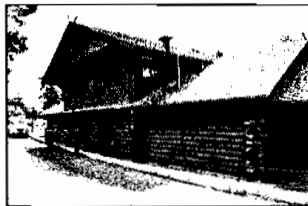
Last Updated: 08/28/2006 10:51am


Graphics:

Graphics:	Graphic	Caption	Graphic Date/Year	Sequence
1.		SRB0549, Grand Canyon Depot	08/2006	1
2.		SRB0549, Grand Canyon Depot	08/2006	2
3.		SRB0549, Grand Canyon Depot	08/2006	3




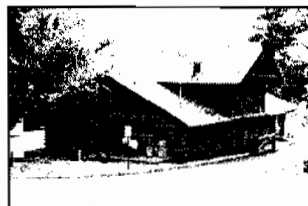
4.  SRB0549, Grand Canyon Depot 08/2006 4




5.  SRB0549, Grand Canyon Depot 08/2006 5



6.  SRB0549, Grand Canyon Depot 08/2006 6



7.  SRB0549, Grand Canyon Depot 08/2006 7



Certified By:

Latest Certified 2006

Year:

Latest Certified August

Month:

Certified By: Month Year

1. August 2006

Identification:

Preferred Structure Name: Grand Canyon Depot Metal Fence and Gate

Structure Number: SR0026

Other Structure Name(s): Other Structure Name(s)
1. Metal Fence and Gate
2. Santa Fe Railway Depot Fence and Gate

Park: Grand Canyon National Park

Historic District: Historic District
1. Grand Canyon Village

Structure State: Arizona

Structure County: Coconino

Region: Intermountain

Cluster: Colorado Plateau

Administrative Unit: Grand Canyon National Park

LCS ID: 055911

UTM: Zone Easting Northing Source Datum
No records.

Historical Significance:

National Register Status: Entered - Documented

National Register Date: 02/18/1997

National Historic Landmark?: Yes

National Historic Landmark Date: 02/18/1997

Significance Level: Contributing

Short Significance Description: Part of Grand Canyon Depot NHL. Orig fence and gate tie into depot & enclose N side of station. District meets NHL Criterion 1&4 for America park movement & landscape arch. Period of sig 1897-1942. GRCA Depot is also an individual NHL under Criterion 4 for development of tourism.

Long Significance Description: The landscape features of the district - curbs, walls, furniture, etc. - are all made use of "native" materials, especially Kaibab limestone. The strong sense of architectural unity in the district is largely due to the consistent use of construction details outside of the buildings themselves that extend the look and inspiration of the architecture. The CCC built many of the most significant landscape structures in the village during the 1930s.

Grand Canyon Depot was listed as an individual NHL on 5/28/1987.

The Grand Canyon Village NHL District meets National Historic Landmark Criterion 1 for its association with the American park movement and Criterion 4 as an exceptionally valuable example of American landscape architecture, specifically as the most significant example with the greatest integrity of National Park Service town planning. Similarly, Grand Canyon Village NHL District is significant under National Register Criterion A for its association with the American park movement and Criterion C as an example of American landscape architecture, specifically as a unique and outstanding example of community planning and development.

Grand Canyon Village Historic District was first listed on the National Register on 11/20/1975 (expanded 10/24/1995), significant under Criterion A for its important association with the development of Grand Canyon National Park, and under Criterion C as an example of community planning within a national park, and as a comprehensive illustration of National Park Service rustic architecture.

Daniel Hull finalized the major features of the plan for the south rim of the Grand Canyon in 1924, and today, Grand Canyon Village represents the most historically significant park village plan, with the greatest degree of integrity, ever designed by the Park Service. The town plan for Grand Canyon divided the village into discrete residential, commercial, and civic areas; a consistent architectural idiom (Park Service Rustic) was employed throughout; a hierarchy of street sections, from pedestrian paths to through roads, was developed; a central "plaza" had the village's major public buildings sited around it. The plan for Grand Canyon Village expounded the civic ideals of a certain generation of American planners and helped put National Park Service planning on the course it would follow at least until World War II.

The period of significance for the district begins in the 1890s, specifically with the construction of the Buckey O'Neill Lodge in 1897, the oldest standing structure built on the rim. The period of significance ends in 1942, when the CCC was discontinued, by which time the village was largely complete.

Construction Period:

Construction Period: Historic

Chronology:	Physical Event	Begin Year	Begin Year AD/BC	End Year	End Year AD/BC	Designer	Designer Occupation
1.	Built	1929	AD			A.T. & S.F. Railway Company	Other
2.	Altered	1942	AD	1946	AD	A.T. & S.F. Railway Company	Other
3.	Altered	1985	AD	1990	AD	NPS	Other

Function and Use:

Primary Historic: Enclosure/Exclosure

Function:

Primary Enclosure/Exclosure

Current Use:

Structure No

Contains

Museum

Collections?:

Other Other Function(s) or Use(s) Historic or Current

Functions or 1. Access/Egress Historic

Uses: 2. Access/Egress Current

Physical Description:

Structure Grounds/Landscape

Type:

Material(s): Structural Component(s) Material(s)

1. Superstructure Iron

Short Physical Description: 5' iron picket fence extends approx 150' in U-shape around parking lot W. 2nd fence alignment extends approx 150' off the east side. Vertical rails 6" o.c. Pickets cut off above upper rail (1940s). 16' wide gate hinged on 8" iron post 8' high w/sphere @ top. Top rail & pickets arch upward to post.

Long Physical Description: 5' iron picket fence extends approx 150' in U-shape around parking lot W. 2nd fence alignment extends approx 150' off the east side. Vertical rails 6" o.c. Pickets cut off above upper rail (1940s). 16' wide gate hinged on 8" iron post 8' high w/sphere @ top. Top rail & pickets arch upward to post.

Condition and Impacts:

Latest Fair

Condition:

Latest Year 2007

Assessed:

Conditions: Condition Year Assessed

1. Fair 1999

2. Fair 2007

Impact Level: Low

Primary Park Operations

Impact:

Other Impacts: Other Impact Type

1. Weather

2. Visitation

Management - Legal:

Legal Interest: Fee Simple

Management Concession Contract/Permit

Agreement:

Management 12/31/2008

Agreement

Expiration

Date:

Management - Category:

Management Must Be Preserved and Maintained

Category:

Management 07/16/2007

Category Date:

Management - Treatment:

Latest Est. 0

Interim

Treatment

Cost:

Latest Ultimate Preservation

Treatment:

Interim Treatment:	Interim Treatment Responsibility	Interim Treatment Cost Estimate	Interim Treatment Cost Estimate Date	Was Interim Treatment Completed?
1.	Other	0	03/01/1996	
2.	Other	0	05/31/2007	

Ultimate Treatment:	Structure Ultimate Treatment (UT)	UT Document	UT Document Date	UT Responsibility	Was UT Approved?	Was UT Completed?	UT Completion Date
1.	Preservation General Management Plan		08/21/1995	Other	Yes	No	

	UT Estimate Level	UT Estimator	UT Cost Estimate	UT Cost Estimate Date	UT Cost Actual
1.					

Routine Maintenance Responsibility: Other

Cyclic Maintenance Responsibility: Other

Management - Description:

Short Management Text: NPS acquired title to station right-of-way 1982 thru abandonment by Rwy. Recently rebuilt (1990s). Tops of rails cut off (1940s) to protect deer. Compressible gate removed fm covered platform. Revise RMP to spec pres.

Documentation:

References:

Other

	Source	Reference Number	Information	Sequence
1.	National Register Information System	74000337		1
2.	Other Structure Number	NR# L-26		2
3.	Other Structure Number	CS21		3
4.	National Register Information System	75000343	Village HD NRIS	4
5.	Other	1984 Depot Draft HSR, Chappell		5
6.	National Register Information System	95001226	Village HD NRIS	6

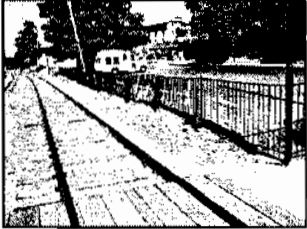
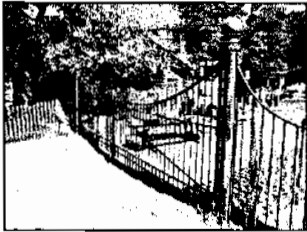
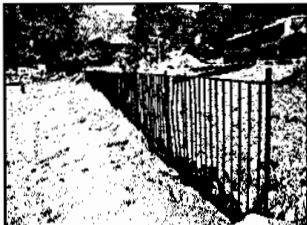
Documentation Level: Fair

Last Updated By: Burwell, Theresa

Last Updated: 09/20/2007 01:06pm

Graphics:

Graphics:

	Graphic	Caption	Graphic Date/Year	Sequence
1.		SR0026-Grand Canyon Depot Metal Fence and Gate	08/2007	1
2.		SR0026-Grand Canyon Depot Metal Fence and Gate	05/2007	2
3.		SR0026-Grand Canyon Depot Metal Fence and Gate	05/2007	3

Certified By:

Latest Certified 2007

Year:

Latest Certified September

Month:

Certified By: Month Year

1. September 2007

Identification:

Preferred Structure Name: Grand Canyon Depot Stone Retaining Wall & Stair

Structure Number: SR0031

Other Structure Name(s):
1. Stone Retaining Wall

Park: Grand Canyon National Park

Historic District:
1. Historic District
Grand Canyon Village

Structure State: Arizona

Structure County: Coconino

Region: Intermountain

Cluster: Colorado Plateau

Administrative Unit: Grand Canyon National Park

LCS ID: 055912

UTM: Zone Easting Northing Source Datum
No records.

Historical Significance:

National Register Status: Entered - Documented

National Register Date: 02/18/1997

National Historic Landmark?: Yes

National Historic Landmark Date: 02/18/1997

Significance Level: Contributing

Short Significance Description: Part of 1930s West Rim Dr (Village Loop Dr) realignment. Defines E edge of railroad station land grant. Const at end of tracks, replacing earlier wall. Blt following 1924 Plan. District meets NHL Criterion 1 & 4 for America park movement & landscape arch. Listed 2/18/1997. Period of sig: 1897-1942.

Long
Significance
Description:

The landscape features of the district - curbs, walls, furniture, etc. - are all made use of "native" materials, especially Kaibab limestone. The strong sense of architectural unity in the district is largely due to the consistent use of construction details outside of the buildings themselves that extend the look and inspiration of the architecture. The CCC built many of the most significant landscape structures in the village during the 1930s.

The Grand Canyon Village NHL District (listed 2/18/1997) meets National Historic Landmark Criterion 1 for its association with the American park movement and Criterion 4 as an exceptionally valuable example of American landscape architecture, specifically as the most significant example with the greatest integrity of National Park Service town planning. Similarly, Grand Canyon Village NHL District is significant under National Register Criterion A for its association with the American park movement and Criterion C as an example of American landscape architecture, specifically as a unique and outstanding example of community planning and development.

Grand Canyon Village Historic District was first listed on the National Register on 11/20/1975 (expanded 10/24/1995), significant under Criterion A for its important association with the development of Grand Canyon National Park, and under Criterion C as an example of community planning within a national park, and as a comprehensive illustration of National Park Service rustic architecture.

Daniel Hull finalized the major features of the plan for the south rim of the Grand Canyon in 1924, and today, Grand Canyon Village represents the most historically significant park village plan, with the greatest degree of integrity, ever designed by the Park Service. The town plan for Grand Canyon divided the village into discrete residential, commercial, and civic areas; a consistent architectural idiom (Park Service Rustic) was employed throughout; a hierarchy of street sections, from pedestrian paths to through roads, was developed; a central "plaza" had the village's major public buildings sited around it. The plan for Grand Canyon Village expounded the civic ideals of a certain generation of American planners and helped put National Park Service planning on the course it would follow at least until World War II.

The period of significance for the district begins in the 1890s, specifically with the construction of the Buckey O'Neill Cabin in 1897, the oldest standing structure built on the rim. The period of significance ends in 1942, when the CCC was discontinued, by which time the village was largely complete.

Construction Period:

Construction
Period:

Chronology:	Physical Event	Begin Year	Begin Year AD/BC	End Year	End Year AD/BC	Designer	Designer Occupation
1.	Built	1930	AD	1931	AD	A.T. & S.F. Railway Company	Other
2.	Reconstructed	1934	AD	1935	AD	NPS/BPR	Other

Function and Use:

Primary
Historic
Function:

Road Retaining Wall

Primary
Current Use:

Road Retaining Wall

Structure No
 Contains
 Museum
 Collections?:
 Other Functions or Uses: Other Function(s) or Use(s) Historic or Current

1.	Road Culvert	Historic
2.	Pedestrian Circulation	Current
3.	Road Culvert	Current
4.	Pedestrian Circulation	Historic

Physical Description:

Structure Grounds/Landscape

Type:

Material(s):	Structural Component(s)	Material(s)
1.	Substructure	Metal
2.	Superstructure	Limestone
3.	Superstructure	Concrete

Short Physical Description: Curved limestone retaining wall approximately 6' to 8' high and 300' long with 2' parapet walls. Random ashlar masonry; dual culvert and offset at south end; vault at north end; 8' wide stair with wing walls at center.

Long Physical Description: Curved limestone retaining wall approximately 6' to 8' high and 300' long with 2' parapet walls. Random ashlar masonry; dual culvert and offset at south end; vault at north end; 8' wide stair with wing walls at center.

Condition and Impacts:

Latest Condition: Fair

Latest Year Assessed: 2007

Conditions:	Condition	Year Assessed
1.	Fair	1999
2.	Fair	2007

Impact Level: Low

Primary Impact: Vegetation

Other Impacts: Other Impact Type

1.	Weather
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Management - Legal:

Legal Interest: Fee Simple

Management - Category:

Management Must Be Preserved and Maintained

Category:

Management 07/16/2007

Category Date:

Management - Treatment:

Latest Est. 0

Interim

Treatment

Cost:

Latest Ultimate Preservation

Treatment:

Interim Treatment:	Interim Treatment Responsibility	Interim Treatment Cost Estimate	Interim Treatment Estimate Date	Was Interim Treatment Completed?
1.	National Park Service	2000	03/01/1996	
2.	National Park Service	0	05/30/2007	

Ultimate Treatment:

Structure Ultimate Treatment (UT)	UT Document	UT Document Date	UT Responsibility	Was UT Approved?	Was UT Completed?	UT Completion Date
1. Preservation General Management Plan		08/21/1995	National Park Service	Yes	No	

UT Estimate Level	UT Estimator	UT Cost Estimate	UT Cost Estimate Date	UT Cost Actual
1.				

Routine Maintenance Responsibility: National Park Service

Cyclic Maintenance Responsibility: National Park Service

Management - Description:

Short Management Text: NPS acquired title to station land grant 1982 thru abandonment by Rwy. Revise RMP to specify preservation treatment. Prepare CLR. Reset loose stone, repair cracked mortar joints.

Documentation:

References:

Source	Reference Number	Other Information	Sequence
1. National Register Information System	95001226		1
2. HAER	AZ-41		2
3. Other Structure Number	NR# L-31		3
4. Other Structure Number	CS26		4

5.	National Register Information System	75000343	Village HD NRIS	5
6.	Other	1984 Depot Draft HSR, Chappell		6
7.	Other	1995 Mult Prop List, McClelland		7

Documentation Level: Fair

Last Updated By: Burwell, Theresa

By:

Last Updated: 09/20/2007 01:06pm

Graphics:

Graphics:

	Graphic	Caption	Graphic Date/Year	Sequence
1.		SR0031-Grand Canyon Depot Stone Retain Wall/ Stair	05/2007	1
2.		SR0031-Grand Canyon Depot Stone Retain Wall/ Stair	05/2007	2
3.		SR0031-Grand Canyon Depot Stone Retain Wall/ Stair	05/2007	3
4.		SR0031-Grand Canyon Depot Stone Retain Wall/ Stair	05/2007	4

Certified By:

Latest Certified 2007

Year:

Latest Certified September

Month:

Certified By: Month Year

1. September 2007

Identification:

Preferred Structure Name: Grand Canyon Depot Stone Curb

Structure Number: SR0027

Other Structure Name(s):

1. Stone Curb

Park: Grand Canyon National Park

Historic District:

1. Grand Canyon Village

Structure State: Arizona

Structure County: Coconino

Region: Intermountain

Cluster: Colorado Plateau

Administrative Unit: Grand Canyon National Park

LCS ID: 057178

UTM: Zone Easting Northing Source Datum

No records.

Historical Significance:

National Register Status: Entered - Documented

National Register Date: 02/18/1997

National Historic Landmark?: Yes

National Historic Landmark Date: 02/18/1997

Significance Level: Contributing

Short Significance Description: This stone curb defines the boundary of the original parking lot to the West of the Grand Canyon Depot, and is flanked by the original iron picket fence. District meets NHL Criterion 1 & 4 for America park movement & landscape arch. Period of sig 1897-1942.

Long The landscape features of the district - curbs, walls, furniture, etc. - are all made use of "native" materials, especially Kaibab limestone. The strong sense of architectural unity in the district is largely due to the consistent use of construction details outside of the buildings themselves that extend the look and inspiration of the architecture. The CCC built many of the most significant landscape structures in the village during the 1930s.

This stone curb is located adjacent to, but not included in Grand Canyon Depot NHL. Grand Canyon Depot was listed on the National Register on 5/28/1987.

The Grand Canyon Village NHL District meets National Historic Landmark Criterion 1 for its association with the American park movement and Criterion 4 as an exceptionally valuable example of American landscape architecture, specifically as the most significant example with the greatest integrity of National Park Service town planning. Similarly, Grand Canyon Village NHL District is significant under National Register Criterion A for its association with the American park movement and Criterion C as an example of American landscape architecture, specifically as a unique and outstanding example of community planning and development.

Grand Canyon Village Historic District was first listed on the National Register on 11/20/1975 (expanded 10/24/1995), significant under Criterion A for its important association with the development of Grand Canyon National Park, and under Criterion C as an example of community planning within a national park, and as a comprehensive illustration of National Park Service rustic architecture.

Daniel Hull finalized the major features of the plan for the south rim of the Grand Canyon in 1924, and today, Grand Canyon Village represents the most historically significant park village plan, with the greatest degree of integrity, ever designed by the Park Service. The town plan for Grand Canyon divided the village into discrete residential, commercial, and civic areas; a consistent architectural idiom (Park Service Rustic) was employed throughout; a hierarchy of street sections, from pedestrian paths to through roads, was developed; a central "plaza" had the villages major public buildings sited around it. The plan for Grand Canyon Village expounded the civic ideals of a certain generation of American planners and helped put National Park Service planning on the course it would follow at least until World War II.

The period of significance for the district begins in the 1890s, specifically with the construction of the Buckey O'Neill Lodge in 1897, the oldest standing structure built on the rim. The period of significance ends in 1942, when the CCC was discontinued, by which time the village was largely complete.

Construction Period:

Construction Historic
Period:

Chronology:	Physical	Begin	Begin Year	End	End Year	Designer	
	Event	Year	AD/BC	Year	AD/BC	Designer	Occupation
1.	Built	1930	AD	1937	AD	A.T. & S.F. Railway Company	Other

Function and Use:

Primary Parking Area

Historic

Function:

Primary Parking Area

Current Use:

Structure No
Contains
Museum
Collections?:

Other Functions or Uses:	Other Function(s) or Use(s)	Historic or Current
	1. Road Retaining Wall	Historic
	2. Road Retaining Wall	Current

Physical Description:

Structure Road
Type:

Material(s):	Structural Component(s)	Material(s)
	1. Superstructure	Limestone
	2. Other	Concrete

Short Physical Description: Limestone curb 6"-18" high extending approximately 100' in U-shape around east, south and west edges of depot parking lot. Rough concrete trough constructed at later date on parking lot side of curb to improve drainage.

Long Physical Description: Limestone curb 6"-18" high extending approximately 100' in U-shape around east, south and west edges of depot parking lot. Rough concrete trough constructed at later date on parking lot side of curb to improve drainage.

Condition and Impacts:

Latest Condition: Fair

Latest Year Assessed: 2007

Conditions:	Condition	Year Assessed
	1. Fair	1999
	2. Fair	2007

Impact Level: Low

Primary Impact: Visitation

Other Impacts: Other Impact Type

1. Weather

Management - Legal:

Legal Interest: Fee Simple

Management - Category:

Management Category: Must Be Preserved and Maintained

Management 07/16/2007

Category Date:

Management - Treatment:

Latest Est. 0

Interim

Treatment

Cost:

Latest Ultimate Preservation
Treatment:

Interim Treatment:	Interim Treatment Responsibility	Interim Treatment Cost Estimate	Interim Treatment Cost Estimate Date	Was Interim Treatment Completed?
1.	National Park Service	0	03/01/1996	
2.	National Park Service	0	05/31/2007	

Ultimate Treatment:	Structure Ultimate Treatment (UT)	UT Document	UT Document Date	UT Responsibility	Was UT Approved?	Was UT Completed?	UT Completion Date
1.	Preservation General Management Plan	08/21/1995	National Park Service	Yes	No		

UT Estimate Level	UT Estimator	UT Cost Estimate	UT Cost Estimate Date	UT Cost Actual
1.				

Routine Maintenance Responsibility: National Park Service

Cyclic Maintenance Responsibility: National Park Service

Management - Description:

Short Management Text: NPS acquired title to station land grant 1982 thru abandonment by Rwy. Revise RMP to specify preservation treatment.

Documentation:

References:

Source	Reference Number	Other Information	Sequence
1. National Register Information System	95001226		1
2. HAER	AZ-41		2
3. Other Structure Number	NR# L-27		3
4. Other Structure Number	CS22		4
5. National Register Information System	75000343	Village HD NRIS	5

6.	Other	GRCA Depot NRIS 74000337	6
7.	Other	1984 Depot Draft HSR, Chappell	7
8.	Other	Historic Photos, WRO	8

Documentation Level: Fair

Last Updated By: Burwell, Theresa

Last Updated: 09/20/2007 01:06pm

Graphics:

Graphics:

	Graphic	Caption	Graphic Date/Year	Sequence
1.		SR0027-Grand Canyon Depot Stone Curb	05/2007	1
2.		SR0027-Grand Canyon Depot Stone Curb	05/2007	2

Certified By:

Latest Certified Year: 2007

Latest Certified Month: September

Certified By: Month Year
1. September 2007

Identification:

Preferred Structure Name: Grand Canyon Railway Depot NHL Plaque

Structure Number: PLAQUE06

Other Structure Name(s):
Other Structure Name(s)
No records.

Park: Grand Canyon National Park

Historic District:
Historic District
No records.

Structure State: Arizona

Structure County: Coconino

Region: Intermountain

Cluster: Colorado Plateau

Administrative Unit: Grand Canyon National Park

LCS ID: 057221

UTM:
Zone Easting Northing Source Datum
No records.

Historical Significance:

National Register Status:
Ineligible - Managed as Resource

National Historic Landmark?: No

Significance Level: Not Significant

Short Significance Description: Commemorates the designation of GRCA Depot as a NHL in 1987. The marker is eligible for inclusion on the LCS due to it being a monument managed by the park as a resource. No formal determination is required, thus no NR date listed.

Long Significance Description: Commemorates the designation of GRCA Depot as a NHL in 1987. The marker is eligible for inclusion on the LCS due to it being a monument managed by the park as a resource. No formal determination is required, thus no NR date listed.

Construction Period:

Construction Period: Historic

Chronology:	Physical	Begin	Begin Year	End	End Year	Designer	Designer
	Event	Year	AD/BC	Year	AD/BC	Designer	Occupation
	1. Built	1987	AD			NPS	Other

Function and Use:

Primary Monument (Marker, Plaque)

Historic

Function:

Primary Monument (Marker, Plaque)

Current Use:

Structure No

Contains

Museum

Collections?:

Other Other Function(s) or Use(s) Historic or Current

Functions or No records.

Uses:

Physical Description:

Structure Outdoor Sculpture

Type:

Material(s):	Structural Component(s)	Material(s)
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1. Superstructure	Bronze
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2. Superstructure	Wood
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3. Foundation	Concrete
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Short Physical Description: 14" x 20" bronze plaque with inscription framed with 3" diameter peeled logs with chamfered ends and set on pair of 6" diameter peeled log posts set into concrete base, 12" x 18" and rising 3" out of ground.

Long Physical Description: 14" x 20" bronze plaque with inscription framed with 3" diameter peeled logs with chamfered ends and set on pair of 6" diameter peeled log posts set into concrete base, 12" x 18" and rising 3" out of ground.

Inscription reads, "Grand Canyon Railway Depot has been designated a National Historic Landmark, This site possesses national significance in commemorating the history of the United States of America, 1987, National Park Service, United States Department of the Interior."

Condition and Impacts:

Latest Condition: Good

Condition:

Latest Year Assessed: 2007

Assessed:

Conditions:	Condition	Year Assessed
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1. Good	1996
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2. Good	2007
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Impact Level: Low

Primary Structural Deterioration

Impact:

Other Impacts: Other Impact Type

1. Weather

Management - Legal:

Legal Interest: Fee Simple

Management - Category:

Management May Be Preserved or Maintained

Category:

Management 07/16/2007

Category Date:

Management - Treatment:

Latest Est. 0

Interim

Treatment

Cost:

Latest Ultimate No Treatment Documented

Treatment:

Interim Treatment:	Interim Treatment Responsibility	Interim Treatment Cost Estimate	Interim Treatment Cost Estimate Date	Was Interim Treatment Completed?
--------------------	----------------------------------	---------------------------------	--------------------------------------	----------------------------------

- | | | | | |
|----|-----------------------|---|------------|--|
| 1. | National Park Service | 0 | 03/01/1996 | |
| 2. | National Park Service | 0 | 05/31/2007 | |

Ultimate Treatment:	Structure Ultimate Treatment (UT)	UT Document	UT Document Date	UT Responsibility	Was UT Approved?	Was UT Completed?	UT Completion Date
1.	No Treatment Documented	No Documentation Available		National Park Service	No	No	

- | UT Estimate Level | UT Estimator | UT Cost Estimate | UT Cost Estimate Date | UT Cost Actual |
|-------------------|--------------|------------------|-----------------------|----------------|
| 1. | | | | |

Routine Maintenance Responsibility: National Park Service

Cyclic Maintenance Responsibility:

National Park Service

Maintenance

Responsibility:

Management - Description:

Short Located adjacent to depot, on S side of open porch. Revise RMP to specify preservation treatment.

Management

Text:

Documentation:

References: Source Reference Number Other Information Sequence

No records.

Documentation Poor

Level:


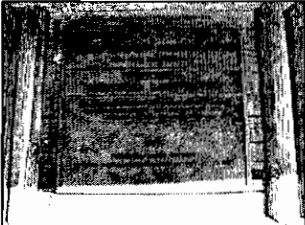
Last Updated Hutchison, Sayre

By:

Last Updated: 09/19/2007 11:30am

Graphics:

Graphics:

	Graphic	Caption	Graphic Date/Year	Sequence
1.		PLAQUE06-Grand Canyon Railway Depot NHL Plaque	05/2007	1
2.		PLAQUE06-Grand Canyon Railway Depot NHL Plaque	05/2007	2

Certified By:

Latest Certified 2007

Year:

Latest Certified September

Month:

Certified By: Month Year

1. September 2007

Grand Canyon Depot Power Pole & Sign Brackets

Grand Canyon Depot Power Pole & Sign Brackets
1900-1910

Identification:

Preferred Structure Name: Grand Canyon Depot Power Pole & Sign Brackets

Structure Number: SR0028

Other Structure Name(s):
1. Power Pole and Sign Brackets
2. Santa Fe Railway Sign Bracket

Park: Grand Canyon National Park

Historic District:
1. Grand Canyon Village

Structure State: Arizona

Structure County: Coconino

Region: Intermountain

Cluster: Colorado Plateau

Administrative Unit: Grand Canyon National Park

Shadow LCS ID: 055931

UTM: Zone Easting Northing Source Datum
No records.

Shadow Category: Removed by Planned Management Action

Move to Production: No

Historical Significance:

National
Register
Status:

Entered - Documented

National
Register Date:

02/18/1997

National
Historic
Landmark?:

Yes

National
Historic
Landmark
Date:

02/18/1997

Significance
Level:

Contributing

Short
Significance
Description:

Power pole originally supported power & telephone lines to Grand Canyon Depot as well as a sign for the Western Union Telegraph System. Part of the sign bracket remains. District meets NHL Criterion 1 & 4 for American park movement & landscape arch. Period of sig 1897-1942.

Long
Significance
Description:

The landscape features of the district - curbs, walls, furniture, etc. - are all made use of "native" materials, especially Kaibab limestone. The strong sense of architectural unity in the district is largely due to the consistent use of construction details outside of the buildings themselves that extend the look and inspiration of the architecture. The CCC built many of the most significant landscape structures in the village during the 1930s.

The Power Pole is located adjacent to, but not included in, the Grand Canyon Depot NHL. Grand Canyon Depot was listed as an NHL on 5/28/1987.

The Grand Canyon Village NHL District meets National Historic Landmark Criterion 1 for its association with the American park movement and Criterion 4 as an exceptionally valuable example of American landscape architecture, specifically as the most significant example with the greatest integrity of National Park Service town planning. Similarly, Grand Canyon Village NHL District is significant under National Register Criterion A for its association with the American park movement and Criterion C as an example of American landscape architecture, specifically as a unique and outstanding example of community planning and development.

Grand Canyon Village Historic District was first listed on the National Register on 11/20/1975 (expanded 10/24/1995), significant under Criterion A for its important association with the development of Grand Canyon National Park, and under Criterion C as an example of community planning within a national park, and as a comprehensive illustration of National Park Service rustic architecture.

Daniel Hull finalized the major features of the plan for the south rim of the Grand Canyon in 1924, and today, Grand Canyon Village represents the most historically significant park village plan, with the greatest degree of integrity, ever designed by the Park Service. The town plan for Grand Canyon divided the village into discrete residential, commercial, and civic areas; a consistent architectural idiom (Park Service Rustic) was employed throughout; a hierarchy of street sections, from pedestrian paths to through roads, was developed; a central "plaza" had the villages major public buildings sited around it. The plan for Grand Canyon Village expounded the civic ideals of a certain generation of American planners and helped put National Park Service planning on the course it would follow at least until World War II.

The period of significance for the district begins in the 1890s, specifically with the construction of the Buckey O'Neil Lodge in 1897, the oldest standing structure built on the rim. The period of significance ends in 1942, when the CCC was discontinued, by which time the village was largely complete.

Construction Period:

Construction Historic

Period:

Chronology:	Physical Event	Begin Year	Begin Year AD/BC	End Year	End Year AD/BC	Designer	Designer Occupation
1.	Built	1900	AD	1940	AD	AT&SF Rwy Co/Western Union Co	Other
2.	Removed	1999	AD	2007	AD	NPS	Other

Function and Use:

Primary Utility Service Structure

Historic

Function:

Primary Removed Structure

Current Use:

Structure No

Contains

Museum

Collections?:

Other Other Function(s) or Use(s) Historic or Current

Functions or No records.

Uses:

Physical Description:

Structure Major Utility

Type:

Material(s): Structural Component(s) Material(s)

1. Superstructure Wood
2. Superstructure Metal

Short Physical Description: 25' H utility pole with metal numerals "2/12" located at southeast corner of depot parking lot. Pole supports phone line at top and metal bracket 8' above ground. Bracket: 2 slender, bent, iron rods 25" long with spiral at end.

Long Physical Description: 25' H utility pole with metal numerals "2/12" located at southeast corner of depot parking lot. Pole supports phone line at top and metal bracket 8' above ground. Bracket: 2 slender, bent, iron rods 25" long with spiral at end.

Condition and Impacts:

Latest Fair

Condition:

Latest Year 1999

Assessed:

Conditions: Condition Year Assessed

1. Fair 1999

Impact Level: Severe

Primary Theft or Looting

Impact:

Other Impacts: Other Impact Type

1. Weather

2. Vandalism

Management - Legal:

Legal Interest: Fee Simple

Management - Category:

Management May Be or Has Been Disposed of, Altered, or Destroyed

Category:

Management 05/31/2007

Category Date:

Management - Treatment:

Latest Est. 100

Interim

Treatment

Cost:

Latest Ultimate No Treatment Documented

Treatment:

Interim Treatment:	Interim Treatment Responsibility	Interim Treatment Cost Estimate	Interim Treatment Cost Estimate Date	Was Interim Treatment Completed?
1.	National Park Service	100	03/01/1996	

Ultimate Treatment:	Structure Ultimate Treatment (UT)	UT Document	UT Date	UT Responsibility	Was UT Approved?	Was UT Completed?	UT Completion Date
1.	No Treatment Documented	No Documentation Available		National Park Service	No	No	

UT Estimate Level	UT Estimator	UT Cost Estimate	UT Cost Estimate Date	UT Cost Actual
1.				

Routine National Park Service

Maintenance

Responsibility:

Cyclic National Park Service

Maintenance

Responsibility:

Management - Description:

Short NPS acquired title to station land grant 1982 thru abandonment by Rwy. Revise RMP to specify
Management preservation treatment. Prepare ICAP and CLR. Treat metal.
Text:

Documentation:

References:

	Source	Reference Number	Other Information	Sequence
1.	National Register Information System	95001226		1
2.	Other Structure Number	NR# L-28		2
3.	Other Structure Number	CS23		3
4.	National Register Information System	75000343	Village HD NRIS	4
5.	Other	GRCA Depot NRIS 74000337		5
6.	Other	1984 Depot Draft HSR, Chappell		6
7.	Other	Historic Photos, WRO		7

Documentation Level: Fair

Last Updated By: Hutchison, Sayre

Last Updated: 08/21/2007 12:05pm

Graphics:

Graphics: Graphic Caption Graphic Date/Year Sequence
No records.

Certified By:

Certified By: Month Year
No records.

4.4.6 1987-1989 MAINTENANCE LOGS

TRAIN DEPOT

July 1987 Maintenance Log

Exterior walls treated with linseed oil solution , linseed oil and thinner ratio of 3 parts oil - to - 2 parts thinner .

Second floor windows removed , stripped , glued , sanded , stained , and varnished . Exteriors sanded and painted . Hardware removed , cleaned , oiled , and replaced with original screws . Broken panes replaced .

First floor windows lightly sanded on exterior , puttied , and painted .

North attic window frame repaired and glued , windows stripped , glued , sanded , and stained , replacing several small panes . Window hinges and hooks replaced upon installation . Replaced loose nails in shutter hinges with screws . stained shutters interior and exterior.

South attic window frame reconstructed (new sill) . Windows stripped , glued , sanded and stained . Reconstructed missing shutters and stained interior and exterior faces with three coats to match wall color . Original hinges , hooks , and eyelets not available and replaced with like size as north side . Placed decking under south attic eave to storm fortify south attic wall with # 4 visqueen . Sub-supports built into south attic wall . Siding secured to supports . Copper "GRAND CANYON" lettering straightened , cleaned , secured , and coated with clear laquer .

FOOTBRIDGE (Opposite of rails)

Replaced south embankment log , and both angle supports . Epoxy spliced extensions onto bottoms of southernmost handrail laterals . Stained entire footbridge . Railings secured with wedges and 8" spikes . Cleaned trail south of the bridge building up southeast pathway prior to bridge as a runoff diversion . Cut drainage paths into west side of trail .

TRAIN DEPOT

Maintenance Log : October 1987

Removed and replaced the East loading dock decking with redwood tongue & groove material of like dimension to duplicate the original deck . 71 sections of deteriorated deck slat were removed completely from the top surface of the loading dock . A trim section of $3\frac{1}{8}$ " was removed from the southern edge of the upper surface but the fascia strip that trimmed the front edge along the top of the concrete base was no longer attached . This trim strip was determined to have been in place from the nail holes at the ends of the deck lumber and from the indentation present in the concrete base . The brittle hardness of the 80 year concrete base prevented this trim strip from being secured to the foundation as was the original (evidenced by the presence of 8 rusted concrete nail halves) , but placement and security was achieved by driving nails down from the replacement deck lumber . Three coats of Thompson's waterseal were applied upon installation to be repeated annually as cyclic maintenance . The side trim sections were not replaced , but secured to the replacement decking .

Low Eggers

HISTORIC PRESERVATION : SANTA FE TRAIN DEPOT

July - August 1987

report by Dennis Dorman

1. All of exterior oiled (1 part linseed oil / 2 parts thinner) . Sections of the building that were extremely weathered received 2 - 3 coats of oil and were also stained . New log ends were stained and oiled . New trim (previously installed with log ends during roof restoration ; 1986) was painted with brown oil-base paint (H-C 72) .
2. "GRAND CANYON" copper lettering on South exterior wall stripped of paint , letters straightened , secured , cleaned , polished , and coated with a clear laquer .

*note - extensive scaffolding was used for jobs 1. and 2.
3. Windows , 2nd. floor : (19 each)
 - a. All windows stripped of white oil-base paint layers , sanded , glass re-glazed where needed , broken glass replaced , and frames repaired . *1
 - b. Inside of windows varnished (clear spar varnish) , outside painted (H-C 72)
 - c. Original copper alloy hardware stripped , sanded (#240 grit#) , and polished .

*note 1 - heat gun was most effective stripping flat surfaces of windows . Parks Pro Stripper was used on recessed parts of the windows . Sanded with #100 and 240 grit sand paper .

*note 2 - All hardware was complete and intact , except some screws on sliders , having been replaced in past by random assortment of screws . Additional assorted hardware added to windows was removed and stored in Depot (not to be replaced) .

4. Windows , 1st. floor : (28 each) , 2nd. floor bathroom and pantry (2 each)
Exterior of all windows was sanded , cleaned , re-glazed where needed , and painted (H-C 72)

*note - future project may be to lightly sand inside of 1st. floor windows and apply varnish , thus retaining the original dark stain finish .

5. Attic windows and shutters reconstructed and installed . Storm fortification of eaves completed . Detailed improvements in Maintenance Log report of July , 1987 .
6. Interior of Train Depot cleaned out . 800 board feet of redwood decking and water sealant for loading dock stored inside Depot .
7. Footbridge over wash on trail SouthWest of Train Depot stained . Repair and restoration of the log footbridge is detailed in the Maintenance Log report of August , 1987 .
8. Front door (ticket office entrance on West side) vandalized on July 28 : Window in door with lettering "ticket office & waiting room" broken , the glass replaced without the hand lettering . Door knob and lock destroyed , taken to Tom Bredlow in Tucson for repair or replacement if possible . Holes busted in middle door panel , not repaired .
9. Iron fence : 150 feet , 29 - 6 foot sections , 33 posts , 1 set of gates - 12½ feet each .
Fence posts and gates were removed and taken to Tom Bredlow in Tucson for repair . Each post was planted in approximately 1 yard of concrete . The gate posts were anchored in approximately 2 yards of concrete each . The Maintenance Roadcrew used a high loader with chain to pull posts and the concrete out of the ground . This method was successful in removing only 15 posts . The remaining posts were dug up and removed by hand , concrete busted up with a pounjar jackhammer , the debris disposed of , and the holes filled in . A total of 9 posts that were straight and/or needed no repair were left standing .

SANTE FE TRAIN DEPOT

bldg #549

Maintenance Log - June , 1988

6 :3 : 88	Repaired SouthEast bedroom window latch
6 :8 : 88	Opened shutters & windows, and placed screening over attic windows
6 :9 : 88	Applied 2 coats of Thompson's watersealant to East loading dock decking

SANTA FE TRAIN DEPOT

BLDG #549

Maintenance Log - July , 1988

Removed debris from mens, womens, and residence bathrooms. Debris removed from toilets and flushed with 5 - 10 gallons from an external water source. Zep (blue) concentrated cleanser was added to each cleaned stool, and a trashbag covering placed over the bowl. A damp cloth preceded glass cleaner to renew fixtures and allow the sunlight to penetrate long darkened corners. Downstair floors were swept, mopped, and wiped off.

Leaks from fixtures were noted when water pressure was temporarily returned to the building. Sink and toilet of residence bathroom both leak slowly (bathtub H2O disconnected). Left and the center stools of the womens bathroom leak (sinks disconnected). Mens toilets seem water tight where pressure is allowed. Drainage from all existing drains seems positive.

Repaired vandalism to the West ticket office waiting room door. The holes were filled by glueing wood strips into damaged area, allowing to set, and covering the strips with epoxy wood fill. The area was sanded to match surface characteristics and painted a dark brown enamel.

Oiled exterior and repaired hinges of South entrance door to Ticket Office Waiting Room. Repaired G:C doorknob by insertion of a 1/4" panel backing and screw hole dowels for the exterior mount screws to tighten into. Removed, cleaned, adjusted, oiled and replaced the knobs, mechanism, and cover plates adding new brass screws where the originals had fallen out.

Oiled the loading dock with 1 part linseed oil to 2 parts mineral spirits. Oiled lower Southern exterior wall of Train Depot with like solution. Repaired loose log ends on NorthEast corner by removing and resecuring with 4" galvanized spikes. Oiled all South facing window sills repeatedly with same solution.

Built and placed louvered screens for attic windows. The aluminum screen is sprayed brown , and the 4 individual units are held by a removeable board overhead. The units can easily be placed by opening windows and shutters, inserting the louvered screens, and positioning the overhead anchor.

SANTA FE TRAIN DEPOT

bldg #549

Maintenance Log - July , 1988

Removed, stripped, sanded, varnished and replaced both North eve windows(bath & pantry). These hinges and handles were cleaned and polished with supplies remaining from last summer's restoration. Removed, stripped, sanded, stained, and varnished the laundry windows. The metal hardware was cleaned of paint and replaced to the window frames. The North window was squared and found to be correct. A bow seems to exist in the window casing trim that prevents complete closure of this right side. Molding trim was not available to replace the missing strips that held the exterior screens in place so the shaper was employed to custom cut oak trim strips. Steel screen could not be readily located , so aluminum screen has been painted to simulate rusty screen. Future restoration could take time to locate steel screen to replace the imitation materials existing here and in the attic.

Waiting room windows, consisting of 3 pairs of swinging panes, were removed, stripped, sanded, stained, and varnished. These pairs of windows were displaced by removing the hinge screws from the side of the window casings. This vacancy allowed for a saturation linseed oil / mineral spirit solution to be applied and re-applied to the window casing, concentrating on the 4 , 4" hinge locations. These areas did not receive an application of oil during the oiling of the exterior last summer as the windows were closed and the volunteers didn't get paid enough to be concerned enough to open them. Braced barricades were constructed and erected that did not require additional nail hole damage to the split log trim about the window casements. The windows were stripped to reveal a top layer of high gloss Grand Canyon dark brown cover coat of unique composition. This shiny layer, that exists on the wainscoting of the entry porch and most of the split log trim about the interior of the Depot. This coating may be responsible for the naming of a hue of brown Grand Canyon for it appears to be a varnish stain mixture that lends depth to the surface it covers. The underlying , and most likely original coating was discovered to be much darker and penetrated the wood grain as is characteristic of a stain.

SANTA FE TRAIN DEPOT

bldg #549

Maintenance Log - July , 1988

The bare window frames of the ticket office waiting room were treated with linseed oil / mineral spirit solution and allowed to dry prior to the application of ebony stain #2718 in three coatings. The first coat of stain was heavily applied, allowed to dry 5 to 10 minutes, & wiped with a cotton cloth to accent the wood grain lines. A second coating, applied more sparingly, was allowed to dry 10 to 15 minutes before being wiped from the frames to highlight the natural grain of the redwood. These primary applications darkened the window frames to the extreme that the exposed wood grain lightened in contrast. The redwood window frames appeared unevenly coated as the darker red portions grew black and the lighter areas brown. The third and the final coat of stain was sparingly applied to darken the wood grain and blend the darker areas with the light more uniformly. The frame was allowed to dry over the weekend before being wiped down for the varnish application of three layers.

Upstairs residence windows, walls, and floors were cleaned. The hardwood flooring was wiped down with 1 to 1 linseed oil to mineral spirit solution and allowed to dry. The bedroom flooring appears to be 2½" redwood tongue & groove, showing more wear and absorbing more solution than the hard oak flooring of the living room and hallway. The living room floor has a 12" diameter darkened spot in the North-West corner that may evidence the presence of a woodstove at one of the timelines this old building has crossed. The original kitchen floor and bathroom floor upstairs may have been of the same redwood material as the bedrooms, but are worn severely under the linoleum to make the determination difficult. No mention of flooring materials is made on the blue prints for the building. The laundry and the stairway flooring is painted brown enamel but were probably only varnished originally.

SANTA FE TRAIN DEPOT

bldg #549

Maintenance Log - August , 1988

Ticket Office windows on South wall were removed, stripped, sanded, stained, and varnished. The small windows above the South doors and above the telegrapher's South windows were not removed. The apparently fragile framework and varied methods of attachment provided reason sufficient to postpone the rehabilitation of these unique, multi-paned overhead windows. Care in the removal, refinish, and replacement of these character lending portals would be better assured in a restoration project that does not include Y.C.C. members. The small overhead windows above the telegraph desk have morticed casings for hinges that would evidence the original swinging feature of these windows, allowing heat to escape in summer months without a draft. Hinges for this restoration have been ordered, received, and stored in the freight room for future installation. The small windows above the South entrance doors appear to have been originally hinged at the base, supported by short chains that held them in at a 45 degree angle. The Ticket Office South entrance door behind the counter is equipt in this manner, but the Lobby windows above the doors are nailed shut (obviously not originally).

The Lading window (has slot cut for after hours bills of lading) on the South wall of the Ticket Office was carefully removed from the casing by working the frame out, then in to expose the 8 penny finish nails that held it in place. The quarter round trim at the base of the interior frame was missing when this restoration began. The probability of it being removed when the slot was cut prompted the decision not to replace it. This, almost square, window was then stripped, sanded, oiled, and allowed to dry before staining. A soft cloth, saturated in mineral spirits served as a tack cloth to remove the surface dirt and excess oil. Ebony stain # 2718 applied. ignored, and wiped down penetrated to enhance wood grain and shade variation of this redwood frame. Subsequent coats darkened the entire frame allowing some grain to remain visible as is the finish found on the ticket window that is probably original.

SANTA FE TRAIN DEPOT

bldg #549

Maintenance Log - August , 1988

The lading window was sealed with three coats of low sheen satin varnish before being placed back to the casing using the same nail locations to avoid additional material loss. The drip edge at the base of the exterior was removed, cleaned, replaced, and painted with the rest of the outside frame with H.C.-72 brown enamel.

The West facing telegraph window had no drip edge at the base when the removal of this frame from casing broke the large pane. If glass is replaced into these windows, no attempt at professionalism is made. The glass is cut, the frame oiled and allowed to dry before the new pane is set in place upon a thin bead of glazing compound. Metal window points (4 per side) press the pane securely against the thin layer of glazing to prevent rattling and seal the frame against weather. The exterior glazing was then applied heavy to match the original and pressed to shape with putty knife or fingers to match the original panes remaining in the frame.

This window was stripped & sanded by Y.C.C. workers who did scratch the glass with sandpaper before the preservationist could stop them. This problem is found throught the Depot and might be considered as a factor for glass replacement as restoration efforts continue. This Westerly window and the mate to the East were given only a light treatment of oil as they are protected from the sun by the eves of the roofline. Both were repaired, filling nail holes, but the West window has an opening in a top corner. This cable entry was not filled as it may have been egress for the singing wire. The two side windows, being fixed and stationary, were found in excellent contition. The stain Ebony # 2718) was applied and wiped to highlight wood grain features prior to a final darkening coat, drying, and the layering of satin varnish to seal the frames. If you see a brush mark or a drip, it can only be the successful effort to leave the look of nonprofessionalism.

SANTA FE TRAIN DEPOT

bldg #549

Maintenance Log - August , 1988

The South facing telegraph windows are different from the other hinged windows. A weather strip of felt under a half inch moulding borders the circumference and laps the center where the two windows meet. While the addition of this attempt to winterize the bay window is obviously not original, it does not detract from the rustic site of the telegraph station like the plastic on the desktop does. These Southernmost windows also have no exterior moulding trim over the center seam as do the other hinged windows. Layers of paint have filled the nail holes, or there never was a trim strip here. These windows were not completely repaired for the patching required would have been visible from the interior that is stained and varnished. The Daily posing photogenic visitors might appreciate the age of this antique when such flaws remain. Heavily oiled after the Y.C.C. workers stripped and sanded them, these dry frames drank linseed by the gallon. The windows above these, and those above the doors were soaked repeatedly with linseed oil and mineral spirit solution that they might resist further effects of the sun until work may be continued on them. Allowed to dry over a long weekend, the Southfacing telegraph windows were wiped down with mineral spirits to pick up dust prior to the initial application of ebony stain. The stain was allowed to stand much longer before it was wiped off as the linseed saturation resisted the penetration of the dark stain. Several coats later there still was more grain to see than the other windows, but the antique effect is justified by the preservation properties of the linseed oil. Three coats of the satin varnish covering the interior face and all sides of these frames is enough to produce white scratch marks where contact is made with the weather strip. H.C.-72 Brown enamel paint may seem a little light but the Historic Architect determined it , last spring, to be the closest to original.

SANTA FE TRAIN DEPOT

bldg #549

Maintenance Log - August , 1988

Brass hardware on the upstairs windows and screens was falling out after just one year of disuse. Removed and cleaned these parts to reinstall after wood filler pieces were glued to the inside of the frame cavity for the component. These post locks that use vertical bars to slide into the sill or overhead casement, rely largely upon the base screw for strength. When the window or screen frame is repeatedly opened and closed with no regard for the position of this lock, the thin layer of wood that the base screw seats itself into gives up. Wood split, screw gone, the fixture hangs on by the face-plate screws untill the dangling lock bar is pounded into the window sill a few more times to strip out the screw holes on the face of the frame. Window and screen hardware require the rescue of a tightening screwdriver, lubricating oil, and often longer screws with filler strips of wood glued in. The absence of window users does wonders to minimize the maintenance required for windows and screens.

Removed trash, debris, & tacky garbage hanging from around bath tub of residence bathroom. Cleaned out toilet & flushed using external water before adding zep (blue) dissinfectant. Wiped off walls and floor after cleaning out cabinets. Tightened toilet tank to bowl fitting and placed pail under persistantly dripping sink -P-trap

Plaster crew began in living room by removing all loose plaster from ceiling and walls. Floors were protected from falling plaster and scaffold foot marks by heavy tarp covering. Sagging mesh was removed from the Western third of the living room ceiling to be replaced by plaster metal lath. Original plaster at the Train Depot contains strands of grass and larger grains of aggregate than the sand used in the replastering. This recipe was not duplicated as the smaller openings of new metal lath and improved adhesive properties of modern concrete does not require that a fiber be used in the mix.

SANTA FE TRAIN DEPOT

bldg #549

Maintenance Log - August , 1988

Once the metal lath had been secured to the living room ceiling, a scratch coat of 2 parts portland cement to 1 part sand was applied with a sponge float to leave a rough surface. The finish coat (3 parts sand, 2 parts lime, and 1 part guaging plaster) was applied with the sponge float also as the sand finish for the ceiling but walls required a trowel to match the original finish.

The kitchen ceiling had been sheet rocked long before, so the loose plaster on walls got chiseled away and replaced. Deep areas received a scratch coat of the forementioned mixture but this finish coat is a smooth troweled putty coat consisting of 2 parts lime to 1 part guaging plaster. About half the simulated brick surface on the lower kitchen walls was gone and was matched with carefull skill by an in house plaster majician.

The NorthEast bedroom had extensive water damage to the North wall and East part of the ceiling. About 9 linear feet of plaster metal lath was replaced to these areas and covered with the 2 to 1 cement & sand scratch coat. Sponge floats were used to apply the sand finish coat of 3 sand, 2 lime, & 1 guaging plaster mix for the matching of the rough surface features.

The upstairs hallway required a smooth finish so that a putty coat of 2 limes to 1 guaging plaster was laid over the scratch coat where the holes were deep. The corner between the SouthEast bedroom and the living room was worst and required metal edging under the plaster. Exterior forming and extensive finish leveling rebuilt the corner well.

The bathroom took 2 scratch coats on the East wall after we got the built-in antique bathtub out, and was finished with a putty (2 lime / 1 guaging plaster) coat to allow for the simulated brick to be masterfully etched in. The North wall, housing the sink and the toilet, required a cement scratch coat in places and was finished with exterior stucco for water resistance and similairity to old finish.

SANTA FE TRAIN DEPOT

bldg #549

Maintenance Log - August , 1988

Scratch coat filler was required for several small spots in the Pantry. The ceiling corners and the East wall around the doorway received most of it. Almost the entire plastered surface is new with a sand finish.

A plumbing disaster caused the West stairwell wall to be opened up in quest of the pipeline. Portland cement, mixed with half as much sand filled the deepest holes as a scratch coat. The same mix was applied and sponged to achieve the sand finish as it appears on the stairwell walls.

Redwood drip strips were patterned after a good one on the North side of the Depot to replace the badly deteriorated and missing drip edges at the base of the Southern windows. The surfaces were left sanded smooth to age into the rugged looking exterior appendage that the originals now are. Extra drip strips were milled to replace those that are intact but going fast. Maintenance and Resource heads were agreed that the originals should remain for the extra mileage, so these extra drip edges found a home in the freight room for future installation.

The Waiting room serving window counter top (sanded, leveled, and buffed), received 4 coats of buffed in stain (ebony 2718) to get a dark color back to closely match the surrounding trim. The East side of the trim was removed to repair the South ballast cord of the re-enforced glass serving window. The travel is good but the hardware needs work to prevent future wear. The counter contains four $\frac{1}{4}$ " bar ends that would indicate an original teller cage existed in place of the glass travel window. Original floor plans show a 32" doorway on the North side of the serving window. While no record of such change is available, the plasterwork appears different above the window than that used to fill the doorway in 1955 when the office was built.

The ticket office floor had trampled in remnants of stipper and paint from last year's Y.C.C. window restoration. The same boys were available to scrape, sand, scour, wipe, clean, and mop it up.

SANTA FE TRAIN DEPOT

bldg #549

Maintenance Log - September , 1988

The North facing windows would not seem to need as much care as did the South windows, for the Arizona sun does not beat this side of the building. These windows had also been painted, since day one, for further protection. These windows were damaged most seriously when the building first became disused and the North & West windows were nailed shut. The angle of the nail often split entire edges or corners from the frames. These areas were repaired and restored prior to repainting, but extensive glueing, filling, clamping, sanding, and praying lies below the painted surface. The originally bare edges of the window frames were stripped of the green paint, sanded, oiled and in several areas, stained to disguise the stubborn remnants of lime green. Hardware on the Women's West bathroom window appears to be of a later era than the other window hardware of the building. The brass slide bars of the North side were found dirty, damaged, missing, and with the removeable thumb screws gone. A mostly complete pair of original slide bars was returned to the North windows of the Women's bathroom. An original and a suspected replacement were robbed from the Men's bathroom to complete sets for the Ladies room and the office respectively. The East half of the original Women's bathroom was renovated in 1955 to create an office off the Ticket Office. A door was filled on the East wall of the lobby, new doors cut to lead to either lobby or ticket office, and a partition wall containing a window erected to replace the torn out North wall of the Ticket Office. The two North facing windows of this newly created room are suspected to have been renovated at this time, removing the small pane framing from the tops of the windows and replacing the reinforced ribbed and bubbled opaque glass with clear panes. The window casing trim about the North and West windows was also stripped and repaired during the restoration of these windows. A top coat of yellow gold over original whit enamel covering a grey primer existed.

SANTA FE TRAIN DEPOT

bldg #549

Maintenance Log - September , 1988

The ticket office plasterwork consisted of patching some ceiling damage, replacing most of the SouthWest corner, and replastering most of the East wall. Nails driven in to hang things on the walls are responsible for most of this damage. The scratch coat mix was again 2;1 - cement:sand, and a sand finish of ; 3 sand to 2 lime with 1 part guaging plaster was applied with a sponge trowel to closely match the original plaster on these walls. Some of the extensive patching on the first floor ceilings was left alone and may be considered for future restoration work or as lighting methods alter to require repairs.

With the plasterwork happening on the first floor, the residence floor of the second floor was again available for cleaning. The wood was swept clean and wiped before a solution of 3 parts mineral spirits to 1 part linseed oil was used to wipe up the plaster dust and soak into the drying flooring. This diluted linseed oil solution dried up and soaked in within a week.

The louvered screens were removed from the ATTIC windows and placed to each side of these windows. the window panes were swung shut and secured to repell the elements, but the exterior shutters were left to remain open for several months.

The second floor exterior window casings got oiled (2:1 - linseed oil : mineral spirits) and window hardware again secured. The slide locks of the SouthEast bedroom had not been reinstalled after last year's restoration. These slide bars were cleaned and installed to the locations upon the window that they were removed from (not original). The original corner placement of the slider bracket on the window pane frame must have allowed the wind to batter an open window with force enough to rend it loose. Evidence of several locations for this end bracket appears on several windows at the Train Depot. A final resting place that does not allow for the windows to be swung full open seems to have been found. The sixty degree (appx.) angle of the opened window deflects the wind, but damage may yet occur if the thumb screw of the slide lock is not tightened to resist the wind.

SANTA FE TRAIN DEPOT

bldg #549

Maintenance Log - September , 1988

Plaster work on the ground floor took place this month. The West $\frac{1}{4}$ of the Lobby (waiting room) ceiling sagged and was rebuilt from the joists down. 5' X 6' of plaster metal lath took the place of stretched and bowed quarter inch screen that could no longer hold the original ceiling plaster above the West door of the Lobby. A scratch coat mix of 2 portland cements to 1 part sand was applied to the replacement metal lath and wherever the old screen was exposed (appx. $\frac{1}{2}$ of ceiling). The East half required only patches of scratch coat that filled some areas where previous patching material was removed to promote uniform texture appearance on the ceiling. An exterior stucco was mixed to match the original surface texture of the waiting room lid.

The West wall of the ticket office waiting room was the worst, as 75% of the original plaster was cracked and loose. The walls were cleaned of loose plaster, filled with a scratch coat where needed, and textured with a portland cement 2:1 part sand finish to blend with the original plasterwork that remained intact.

The women's bathroom North and West walls were almost entirely replaced with new surface. This corner of the building is believed to have settled, allowing moisture to enter the gaps created. Simulated brick of the lower half had almost entirely loosened from behind the toilets and beside the sinks. A scratch coat (2:1, cement:sand) was needed for all of this lower work and in the NorthEast corner. Two parts lime mixed with 1 part guaging plaster created the putty coat that overlies the scratch coating and upper wall repaired ares. This putty coat was etched below the wood trim to recreate the simulated brick surface that had gone away. The timely removal of the toilets for restoration by the South Rim plumber allowed for easy access to the worst areas of damage. A new waterline serves the women's bath from the laundry above. Fixtures ordered, walls repaired, and a new pipeline in place, this room awaits painting for the plumber to put it back into service.

SANTA FE TRAIN DEPOT

bldg #549

Maintenance Log - September , 1988

The Layers of paint were removed from the North and West side windows with chemical stripper to reveal finely finished redwood trim. Damaged areas were soaked with saturated sponges placed over dented and deformed areas for weeks or untill the area swelled to resume the original shape. This technique allowed for the retention of all original material, and minimized the use of plastic wood fill. The North and West window casing trim surfaces were cleaned with a laquer thinner to neutralize any residual striipper prior to sanding. The minor scratches and modern nail holes were filled with wood fill and sanded before a solution of 1:1 linseed oil : mineral spirits was allowed to dry over a weekend. The exterior window casings did receive numerous applications of like solution while the window frames were removed for repair. The oil that did not penetrate the window casing trim was wiped off to clean the surface. A mineral spirited cloth served as a tack cloth to further dry and clean the redwood. Three coats of flat white primer were applied to each window and its casing trim to allow for light sanding prior to the final high gloss painting. The Hot Water Room under the stairwell did not show evidence of ever having had the woodwork painted, so the 1:1 solution of linseed oil : mineral spirits was employed to treat the dry woodwork. The window had not been barricaded and needed only the hinge screws to be tightened. The horizontal bars inside the window casing do not look to be original, but were probably resultant of a break in after the slide bar was cannabalized from this window. A replacement locking slider was procured from storage to dissuade would be tresspassers and keep this window from receiving future damage from external abuse or internal barricade nails. The North and East facing windows of the Mens bathroom remain barricaded for future restoration. This room had only one original slide bar remaining on a window beside the door that was removed to replace a broken one and complete the matched set for the womens bathroom. The replacement sliders had also been mostly absconded, but the survivors found homes in the North office windows.

SANTA FE TRAIN DEPOT

bldg #549

Maintenance Log - October , 1988

The interior window casing trim of the ticket office waiting room was repaired of nail holes, deep scratches, and missing chips. The log trim about the South windows has bailing marks from the stacking, loading, or transporting that have been overstained and sealed with the high gloss finish. These original marks were left alone, but obviously modern damage was repaired with darkened wood fill sanded to match the original surface. The lobby windows were began in this manor, with an area around the damaged site stripped and cleaned to the original stained surface. The interior window sill and the trim about the circumference was repaired to match the original wood. All repaired areas were then stained ebony in an attempt to match the surrounding trim. The ebony stain is darker than the gloss finish of the log trim and shall require lightening. Means of lightening the repaired areas could include buffing with steel wool or washing with laquer thinner. A high gloss mixture of tinted varnish may match the existing trim finish and negate the need to strip the entire woodtrim of the ground floor to start over.

The West facing window of the waiting room is not square due to settling of the NorthWest corner of the building. The windows were replaced to this casing after it was pounded square enough to allow for them to close. This is probably the reason that these windows were found stored in the luggage room last summer. The replacement to the twisted casement may be premature, but this location is the safest to guard against loss, damage, or theft of the brass hardware. Foundation jacking would not be advised now that the walls and the windows have been restored. Perhaps a method of anchoring the corner could be found to prevent additional settling.

SANTA FE TRAIN DEPOT

bldg #549

Maintenance Log - October , 1988

The exterior of the North and the West windows were painted H C - 72 and all ground floor windows were scraped and cleaned inside and out.

The hardwood flooring of the upstairs residence was again wiped down with a solution of linseed oil and mineral spirits (1:3 parts thinner) This application was more to clean than to treat the wood and the thin solution dried quickly.

A center trim strip was discovered under the counter of the ticket office, painted and re-installed to the West exterior kitchen window.

The stairwell window latch catch was moved deeper into the trim by removing it, cleaning under it, scraping off the paint, and tapping a thin trim support under it flush to the window casing trim. This did wonders for the travel clearance of the window pane frame to avoid any contact with the latch catch. This window is equipt with post 1935 hardware that would indicate it was not originally designed to be opened. Future restoration may find better evidence to dictate the restoration of this window to a non - swing status.

Much of October was dedicated to the Log Footbridge that lies between the Depot and the Ranger Office. It was found to be broken late in September and repair attempts carried over into this month. The repair work only served to uncover the severity to which bridges do become unsafe when neglected for years. Reconstruction is pending and this file shall contain a sketch of the bridge . A detailed drawing is filed among the engineering prints at maintenance bldg.

SANTA FE TRAIN DEPOT

Bldg. 549

Maintenance Log - November , 1988

General preparation of building exterior for the onset of winter included some oiling of horizontal surfaces for resistance to snow melt moisture penetration . The circumference of the Train Depot was checked for adequate run off drainage and minor landscape changes were made to assure minimal seepage back to the foundation . The East side of the building was worst and may have caused the loading dock concrete footer to have cracked and shifted from an excess of snow melt refreezing after seeping under the East footer. Positive drainage was assured during a major rain storm but may become altered in time as loose surface materials become disrupted. The drain grates around the ramada on the West end of the building were lifted to get to the accumulation of debris and soil that filled the concrete drain channels that prevent run off seeping onto the covered concrete patio .

The gutters were cleaned of leaves, sticks, nails, and other matter that might cause a blockage . The screens that cover downspout openings required removal to be rid of matted blockage . Pooling was noted at several locations along these roof gutters and minor shimming helped to get this drainage moving in most cases . Directly over the South entrance door (maybe slightly West) there comes a steady flow of runoff that drips from under the copper roof gutter that was replaced with the shingles in 1986 . The aggravating location of this apparent shingle failure may be cause to remember who put the new roof on . Shimming did not alter this condition but a tube of sealant applied to the tar paper where the gutter is met might be worth a try when a future preservation project is slated for exterior envelope maintenance . A heat cable was installed into the NorthWest gutter that is not long exposed to sunlight .

SANTA FE TRAIN DEPOT

Bldg. 549

Maintenance Log - November , 1988

The heat cable in the NorthWest gutter is plugged into an outlet in the laundry room over the Lobby . Threaded through an opening along a log viga rafter end, it travels along the gutter to the NorthWest corner of the ramada to double back just under the lowest row of shingles most of the length . The cable does not need to be on all winter, but should be in service when snow remains on the roof above it to prevent an overflow and the ice buildup on the walkway below .

Ground floor plaster repairs cured to become hard enough for cleaning and edging . The thin cracks that would not hold concrete were patched with a mortar compound consisting of 1 part lime to 2 parts guaging plaster . Dust from the plaster repairs seems to have penetrated even the masked areas and required many repeated wipings with varied dampness and dust mop solution . A complete cleaning of the woodwork will be required if it is not to be stripped and refinished .

The SouthEast bedroom window slide bars had been stored in the Freight room since the restoration of the upstairs windows last summer . The original screws were cleaned with the slide bars and re-installed to the window casings .

A drawing of the log footbridge was created along with a detail representation of component parts of the bridge . When the damage to the structure was realized, this drawing was created to provide dimensions and details to completely rebuild the poor old thing in a manner that would most accurately duplicate the bridge that served trailgoers of earlier times . The historic district glorified by the Depot is enhanced by rustic surroundings . The bridge is noted here for the enhancement of the Train Depot and the nostalgia that an accurate recreation would lend the park .

SANTA FE TRAIN DEPOT

Bldg. 549

Maintenance Log - December , 1988

Snow removal is a continuous project that assures visitor safety while protecting the neglected lower log surfaces from the deteriorating effects of snow & ice . The base logs of the South side have begun to erode at intervals along the concrete foundation and evidence of patching is present . Both North corner log ends at the ground level have decomposed to a condition requiring replacement of the 2' ornamental section . Prompt snow removal and adequate run-off will prevent further decay, but these replacements probably should be painted to seal out the elements upon installation .

The stairwell leading from the Ticket Office to the residence had the second step and the corner step under the second landing badly broken . The steps are notched into the riser and have been nailed at both ends as well as from behind . The second step was removed by pulling the nails from behind the riser, cutting a center section out, and working the ends free . Replaced with 1" x 12" bullnose Douglas Fir step-tred, the slight undersize was compensated with shims and a repositining that replicate the original while assuring a sound step . The angled step just below the second landing was removed to discover a tounge joint joining the forward and aft sections of the step . The rear section was removed with the broken front, stripped, and installed with the replacement front in the same manor using the same locations for the anchoring nails holding the step-tred to the staircase . While stripping the original section of step, layers of paint were noted as white, several tan, brown, and several burgandy as the final color . The bannister was stripped, using heat and chemical to determine wood type for the replacement of the lower sections that had been removed at some time to accomodate furniture . Damage to the remaining part of the bannister was repaired by glueing and filling . The Douglas Fir material of the bannister was originally varnished, but sections under the bannister that cover the step-tred ends may not have been . The white and cream color paint does not cover any visable coating but also is not inpregnated into the wood as an initial coating of paint would be .

SANTA FE TRAIN DEPOT

Bldg. 549

Maintenance Log - December , 1988

Insulation to hold in the heat from the cove heaters being installed this month was accomplished in all but the Freight Room of the building . The rafters varried in spacing from 22" to 26" on centers requiring some shimming to accomodate the 23" wide R:19 fiberglass insulation . The shim sticks were tacked inside the rafter with only three or four nails that penetrate about $\frac{1}{4}$ " - $\frac{1}{2}$ " that removal would not greatly mar the material should restoration of bonechilling original conditions become desirable . The North attic wall was covered with the same insulation to prevent heat loss through the single layer of antique vertical siding . Overhanging sections on the North and South facing ends of the attic were covered first with felt (tar paper) to help insulate as well as hide the colored fiberglass from veiw of onlookers below that might peer up through the split-log facia . The West end of the building over the lobby was insulated on the south side and north side over the womens bathroom . The laundryroom over the West-central section of the lobby has been panneled with 3" wainscoat and was not insulated .

Paint matching the original color had been received and was used to make the Lobby presentable for a news conferance comming up in January . The plaster repairs were again brushed, wiped, and edged prior to being coated with three coats of primer consisting of Navajo white latex . All plaster repairs received heavy coats and the rest of the walls and ceiling got 2 coats of primer . The plasterwork got an initial light coat of the cream-yellow color matched latex before rolling on two layers over all painted surfaces . Repairs are visable when scrutinized, but additional layers of paint could cause flaking and separation as the heat on the ceiling works on the paint and warms up the plaster under it . Time is too short to completely strip and rework the wood trim of the lobby so cleaning was begun to get this room presentable .

SANTA FE TRAIN DEPOT

Bldg 549

Maintenance Log -- December , 1988

Snow removal from the loading dock, walkways, and North side base was continually performed to negate the need for scrapping . The NorthWest downspout filled with frozen drainage to the top of the original brass cleanout box . Overflow runs down the outside of the downspout creating icicles on the outside and a great hazard of an ice pile at the NorthWest corner covering the walkway . Remedy of this shady side problem will best be accomplished when the drain pipe thaws free of the ice blockage . Ground may need to be moved to assure a second heat cable reaches below frost line . It would also be advisable to remove the top (brass) section of the downdrain to check for an obstruction in the lower section prior to curing the freeze problem with a heat element . The drainage was good earlier in the year, but a small blockage would be enough for ice to form upon when cold .

West facing windows of the second floor laundry room were checked for draft and failed the test . The North side of the pair has somehow shifted or bowed and refuses to close without persuasion of a forcible nature . This extra tightness could cause damage to the window frame when use is prevalent, but these windows shouldn't need to be opened regularly .

Wood trim repairs were begun on the Lobby in preparation for the news conference on the tenth day of 1989 . Ebony dye was mixed into an epoxy compound consisting of base, hardener, fumed silica, & a large quantity of sawdust as an aggregate to lend body and make the concoction workable . The SouthEast corner of the Lobby was badly deteriorated and required patching of both horizontal split logs & both vertical split log trim pieces at the floor . The epoxy was applied over wood filler pieces placed in the damaged areas. This base patch was then sanded and glazed over with linseed fill glazing to fill small divits and to create a matching surface to blend with the original . Dyed wood filler was used for other damage sites in the Lobby .

SANTA FE TRAIN DEPOT

Bldg. 549

Maintenance Log - January , 1989

Wood trim repairs of the Ticket Office Waiting Room were initially stained eboney in preparation of an overlay of a G.C. brown shellac . The event of the Railway announcement with less than two weeks notification did not provide time enough to complete repairs, paint, clean, and match the shellac too. The compromise solution consists of 2 parts varnish, 1 part dark brown, to 1 part brown color enamel paint . While this coating deviates from the original layers of covering: stain, varnish, and shellac, it does the job of historical preservation, was required to color epoxy and plastic woodfill repairs, and closely matches surface appearance of the unpainted wood trim . Only those repaired areas were painted, leaving the original finish on most lower trim and the West entrance door casing to be matched should the restoration of this room include visable wood grain at a future time . Plaster repairs to the East and West walls of the South half of the Lobby had an adverse effect upon the wood trim directly below the patched areas when the runoff stripped the top layers from the redwood to expose the stained surface below . These areas were thoroughly cleaned but left uncoated pending the acceptance or rejection of the coating applied to the repaired areas . No record of when the layers were applied to the wood trim of the Lobby and Ticket Office is available at this time, but a logical sequence would have been that the timber was stained for the original construction, varnished at a later date(possibly a presidential arrival), then coated with shellac in 1946 when the entry was added to the West end and required a high gloss finish to match the interior woodwork .

The hardware for the window slide mechanisms was removed when these windows were refinished in mid 1988 and left off untill a shellac color match was applied to the repaired window sills of the Waiting Room . These sliders have been cleaned and stored in the freight room pending judgement over the wood trim .

SANTA FE TRAIN DEPOT

Bldg. 549

Maintenance Log - January , 1989

Repair of the Womens restroom was begun this month in preparation of painting. The plasterwork completed earlier in the fall cracked in several places indicating a settling of this North-West corner that is still underway . The plaster repair was not extensive but did varify the suspicion of settling and the need for periodic monitoring . A difficulty lies in the checking as the floor may be coming up as the walls settle . Compromise was employed in the re-alignment of the toilet stalls for the determination of original configuration is not clear when referance surfaces move and nothing else in the building is square, level or plumb . The greatest effort was made to spare original material while repairing the stalls and walls to a servicable condition . The North wall seems to be bowing in as it settles, pushing the stall door case in and down . Repairs have been done to this wall often in the past to make it the ideal selection for rennovation . The Northmost doorjamb was removed to find the anchorbolt long since rusted and severed . The plaster and concrete (all previous patchwork) were chisled back to allow the inset of the doorjamb and room for more settling of the wall . Two anchor mollys were secured into the concrete at 3½" outside and 7½" inside to re-install the casement. Large damage sites were filled with wood filler, sanded, and primed before painting . Some areas were not repaired when the damage appeared original . When the grey primer that was initially applied to the woodwork was noticed to penetrate the rended area of the damage site, the dent scrape gouge was left to remain as evidence of original craftsmanship .

Snow was removed A.S.A.P. from the loading dock, the walkways, and all lower log contact points as it fell this month to prevent the detrimental effects the melt often has.

SANTA FE TRAIN DEPOT

Bldg. 549

Maintenance Log - February , 1989

Preparation of the Womens restroom for repainting turned into timely and extensive labor as the original coatings; grey primer, gloss white, an antiquish gloss white, and the top layer of buff , were left intact upon the woodwork that did not display unique characteristics changed by the layers. Chips, cracks, peeled areas, and fully stripped sections of the woodwork did require blending via extensive sanding or woodfill buildup to mate less conspicuously to the lightly sanded original surface. The color chosen to coat the woodwork was derived from paint samplings of, and surfaces of the divider that had not been painted over due to the location of a dispenser box . High gloss white enamel was thouroughly mixed with equal parts of Antique white to most closely approximate the original color when age/fade considered . Tops and bottoms were left unpainted and coated with a solution of half linseed oil and mineral spirits . Only a coat of primer was found behind the entry door hinges and was left to bear the evidence of a disgruntled switchman slinging a paintbrush in the womens room . The interior of the door casing and the edge of the entry doors themselves had been painted only one time over the primer (Antiquish), indicating that most of the repainting got done with the door closed . The buff color of the plaster wainscoating and the over-head plasterwork (to include the ceiling) was derived from paint samples taken from plaster surfaces of the restroom . Contention that the plaster was also white originally might be made if the color between the doorways of the previously 'other half' of the womens room is determined to be the remnants of an original flat white . As mentioned in a previous record, all window frames and casements of the womens restroom were stripped, sanded, & reprimed with an enamel white prior to repainting . The stall doors of this room were removed for stripping when paint drips could not be removed without chipping the fragile louvers. The South stall has a replacement door taken from the mens side where the swing is reversed making louvers of this door appear backward but the user can't see if anyone is watching .

SANTA FE TRAIN DEPOT

Bldg. 549

Maintenance Log - February , 1989

Snow removal continued to be an ongoing problem this month, but the diligence has been rewarded when sunshine at month's end exposed dryness and sound sill logs at critical locations. The dock lost some of its color but shows no evidence of moisture penetration at the puddle sites near the edge . Visitation from the Western Regional Historic Architect resolved a haunting question of load-stress / sill log decomposition repair when he did recomend a BETA epoxy loaded with an agregate of gravel or woodchipdust for a strong and weather resistant answer to the ugly mess of decomposed sillog locations about the Depot exterior . His suggestion of more photos and some drawings to record conditions may soon result in the inclusion of said into this file .

The NorthEast bedroom baseboards were removed to run the outlet wiring inside the wall . These 8" redwood planks sat atop the original YellowPine flooring that must have worn out within weeks . This trim was carefully removed to preserve the unique notches ~~-----~~₁₋₇ at the corners that lend the appearance of a 45⁰ corner . These corners were repaired with the nail hole locations when they became damaged later .

A visitation by the N.P.S. Western Regional Historian put me onto the location of some radiators in Kolb garage that may be those evidenced by holes in the baseboards , belonging in the Depot residence . Locations for such things as signs, chandeliers, and waiting benches as Old Generation Bldg. and El Tovar (respectively) were also gained from the wealth of information generously offered by this train buff .

SANTA FE TRAIN DEPOT

Bldg. 549

Maintenance Log - May , 1989

DeWinterizing the Depot began with opening the attic shutters of the North and South windows to allow some movement of fresh air for keeping the old timbers from cooking . The attic windows were left in the closed position untill the middle of next month when the louvered screens shall be placed to exhaust the peak heat of summer thru September . Oiling of the loading dock , the sill logs around the entire perimeter of the building , and the South exterior wall lower half was accomplished this month . Weather had been dry-warm to ensure no residual winter was entrained , and this early application should be completely absorbed should the entire building well be treated to a soaking of liquid preservation . A mixture of 1 : 1 linseed oil : mineral spirits was applied to the dire need sections like the sill logs and window sills as well as deteriorating lower portions of doors and trim split logs . The remaining South facing lower portion that absorbs most of Arizona's sun , and the loading dock received a generous portion of mixed 4 : 1 mineral spirits : oil that seemed to get sucked to the inner recesses of the ancient logs as rapidly as could be applied . The coating darkened the timbers a shade or two but the upper sides of them show some lightening by the time this report is prepared (a week) . Evidence of concrete fillpatch yet remains of the bottom third of the SouthWest sill log next to the lobby entrance door on the South side . The early repair was left intact as a solid base from wich to work in the epoxy fill repair work suggested by the regional Historical Architect at an earlier visitation to this national monument . A mixture of epoxy , wood shavings , mortar , and enamel brown paint was used to fill the cavity at the base of this highly exposed sill log . An overlay of epoxy with a fumed silica base shall be applied next month when the concoction has cured to a hard foundation from wich to sculpt a rendition of the planed redwood in younger times .

SANTA FE TRAIN DEPOT

Bldg. 549

Maintenance Log - May , 1989

Other Exterior preservation included cleaning the concrete of the footer and coating the base of the sill log resting upon it 2" up with an epoxy/paint solution . These logs , subject to the most sun , snow , dirtpack , and other detrimental elemental effects that only redwood could withstand eighty years of , show some sign of the surface delamination . Pavement has been mounded against the bases of those sill logs of the NorthEast side to resist the effects snow plays on this ever shaded section of the exterior . During efforts to remove the snowpack this last winter , some of this moundament was dislodged . While cleaning the footer , the remainder of it was moved to dislodge the debris trapped between it and the sill log . This noble attempt may prove to do more harm than good now that the pavement has shrunk back from the base to serve as a little gulley that traps soil and other matter to hold moisture against the log while it resists drying in the cool shade of the Depot's North side .

Interior work included the replacement of lobby window sliders , trim strip reattachment in the office , women's bathroom woodwork and hardware continuation , sweeping and window cleaning , and the ongoing plumbing project to get the bathrooms & kitchen some water . The housing paint crew has made progress on the upstairs woodwork , paint scraping , and minor repairs to the point that varnish , colors , and hardware should soon appear . The baseboards previously removed from the NorthEast bedroom were reinstalled , repaired , and coated lightly with natural stain to provide some protection while leaving the surface sandable . A two foot section of picture trim was also replaced to the N.E. corner of this room using the original nailing holes for the attachment , the linseed oil bath given it darkened it to a more redish hue . While removed , the brass doorstop was cleaned and noted to contain remnants of antique putty in the tip . Gone from all of them that remain is any soft remnant that would prevent the hard brass hole from beating a circle into the door at the point of contact . If the original material isn't available , a rubber nipple would check the impression and not detract radically from historic appearance .

SANTA FE TRAIN DEPOT

Bldg. 549

Maintenance Log - May , 1989

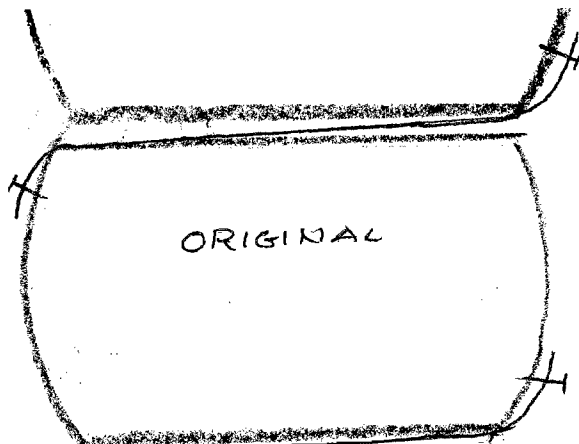
A unique design characteristic of this ancient structure is the chinking between the logs . Customary chinking of mud , clay , or mortar acts as elemental insulation against wind , weather , dirt , and insects only until the freezing and thawing cracks it to allow it to fall out as the building shifts and settles . This problem is solved on this redwood structure by wrapping heavy tar paper from the outside of the lower , under and secured to the log atop it . The drawing is not accurate in detail , but serves to illustrate .

Eighty years have radiated much sun to the surface of this old structure and did bake the exposed felt to a brittle thin crust . Most of the South and East side has deteriorated to leave only a semi-square roofing nail with a ring of brittle material under it as the rotting felt pulled away into the shady gap between the logs .

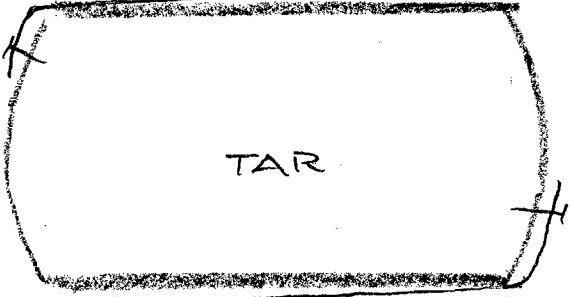
While no damage is apparent as a result of this decomposition , the nails are now rusting unprotected allowing moisture to channel down into the interior of the timber . Even redwood decomposes a little and there exists now the opportunity to salvage a majority of the original antique roofing nails before climate swings and rust drop them onto the railyard as souvenirs .

A proposal to cover the original felt with new entails pulling the exterior nails , trimming off wrinkled original paper , and forcing the covering into and back against what should be healthy and resilient tar paper secured to the backside of the log above thus pinching the new to fasten the inside . The exposed portion would be sized , oiled , and fastened with the original nails . Opportunity exists to coat the recesses with oil but added insulation or other attempts to improve upon a good thing should be avoided to allow this process to reoccur in 2079 .

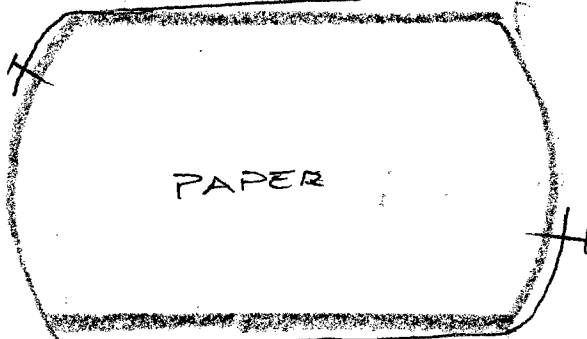
- 13 - 100 foot rolls of 60# roofing felt
- 10 gallons of linseed oil
- 40 gallons of mineral spirits
- 20 single edge razor blades
- 100 plastic strip bandages



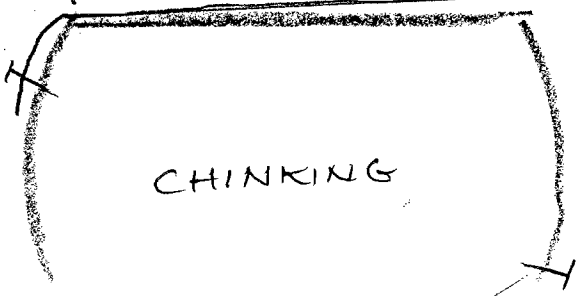
ORIGINAL



TAR



PAPER

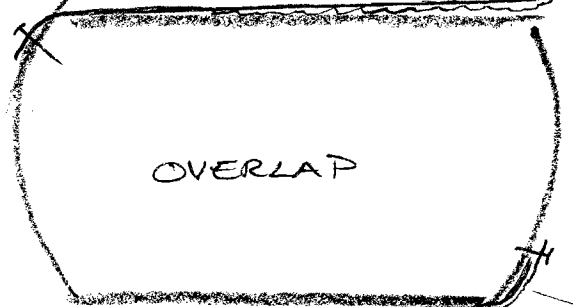


CHINKING

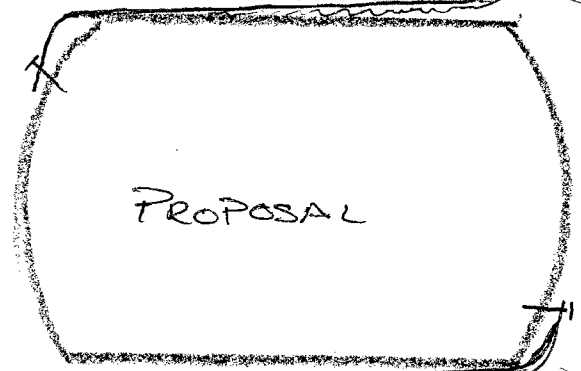
1"
SEMI
SQUARE
HEAD
ROOFING
NAIL



FELT



OVERLAP



PROPOSAL

FORCED
TIGHT
FIT

60# FELT



END VIEW

OLD
FELT
INTAC

SANTE FE TRAIN DEPOT

Bldg. 549

Maintenance Log , June - 1989

The exterior of the Depot was coated with a saturation of Mineral Spirits & Linseed Oil mixed in a ratio of 4 : 1 . All log surfaces of the South , East , and West walls were coated paying special attention to give severely decaying sections several drenchings . The North wall , subjected to no direct sunlight and much less worse for wear was bathed in a similiar solution approximately half way up from the base . Extra attention was also given the false log ends at all corners of the building as these character pieces , having rough hewn end grain exposed, required repeated soakings to achieve the like darknes hew as their lateral counterparts . All exterior doors were treated in a like manor with the split log trim around them also coated to assure saturation of all exposed tops and sides that are milled surfaces . Some log ends of the West end and all crossed viga rafter ends (false) atop the roof were stained to more closely resemble the unbleached woodwork of the building . All the pillars of the front (South side) were completely coated with same solution that is thinned enough to carry the oil into the interior of the ancient redwoods from Oregon . The back side (North) again was slighted only to treat damaged areas that sit in snowbanks several months of the year . Other exterior maintenance included oiling the loading dock to hide the spills from working the East wall , cutting a drainage canal along the short rock wall running from the SouthWest corner , and Epoxy fill repairs to the sill log and false end log of the SouthWest corner of the lobby . Window cleaning is a full time job at the Depot as nose prints , forehead smudges , hands , and cheeks press the glass to get a peek into the darkned interior of the Monument labled , closed for repairs .

This solution ratio is recommended foe application annually as the end grain exposure of the viga rafter ends and prominent laterals of the Buildings front could already use another coat at the time of this report .

SANTE FE TRAIN DEPOT

Bldg. 549

Maintenance Log , June - 1989

The NorthEast bedroom mop boards were replaced when the electrician assured his work of pulling wire through flexible conduit to two new outlets was complete . The original nail holes were used to re-attach them to the not so perfectly spaced studs behind the plaster and were filled over the nails , sanded , and stained before realizing that they were as likely as not filled with the same white putty as every other nail in the room . This error is left to your discretion for your prime consideration may well be restoration while ours back in 89 is preservation . Three of the four notched corners were repaired only to ruin one at the installation to leave only two survivors in this room . Some already loose plaster at these boards was removed (some intentionally) and repaired with concrete plaster laddened with fiber to closely approximate the original surface . Other wall repairs have been accomplished upon these walls not similar to these patches that look recent but were left at this time . Woodwork , including the Quarterround trim atop the new floor , was stripped chemically following the paint crew's endeavors with the heat strippers . Surfaces cleaned and allowed to dry were then coated with mineral spirit-linseed oil solution ratio of 2 : 1 .

The bannister attachment methods were detailed this month and should not be greatly effected by the growing probability that the first and third posts were one in the same . No photographs or drawings could be located for evidence , but during the search it was learned that the "Period of Significance" for the Depot runs from the mid 30s to the mid 40s as prescribed in the materials now available pertaining to this building . The quest for proof may not turn anything up so the existing bannister shall be sketched for future reference to condition . Some surfaces exposed here show evidence of varnish as a first coat to the risers , side boards , and bannister , but the knick knack shelving at the landing seems to have been originally painted upon its addition .

SANTA FE TRAIN DEPOT

Bldg. 549

Maintenance Log - October , 1989

Contractors in the employ of Grand Canyon Railway cut along the seams of the buckled concrete patio under the West ramada to remove 4' sections of the original 8" thick slab . The base beneath was leveled to accomodate a level even surface when the removed blocks were replaced to their original positions. A week mortar slurry filled the thin seams so that the repair is not noticable . This technique is very effective and may be used to lower the buckled floor of the men's bathroom .

The West storm grates of the ramada (middle 2) were removed to the hot water room beneath the stairwell and the channel covered with plywood to create a smooth surface for customers at the newly placed Information Kiosk there at the West end of the building. These grates shall remain under the stairwell with other artifacts of the building for re-installation at a future date .

Electrical wiring was run through existing conduit to a new juncture box providing power to the information Kiosk. This conduit serves exterior lighting to the ramada and the addition of the box with flexiduit to the Kiosk is not detrimental to the exposed rafter appearance of the Depot's West end .

SANTA FE TRAIN DEPOT

Bldg. 549

Maintenance Log - October , 1989

The lower and center bannister railings were reconstructed to most closely approximate the original that was cut out to allow a piano to be moved upstairs sometime in the early forties. Evidence of the original configuration was found ; in the attic above Freight room , inside the remnants of the original posts , and the existing original portion remaining at the second floor level entry . Much re-alignment , fortification , and resurrection of the existing riser covering was required to approximate the original position of these features . The North footing of the Depot has settled , causing the internal casements and load bearing features to tilt out of plumb & twist out from square . The gaps were forcibly decreased , and the inclinations brought closer to perpendicular , but exact positioning to original is not known and was not attempted as not to further stress the ailing aged timbers .

Vertical grain Douglas Fir was procured when the resident Carpenter suggested the existing original was constructed of it . A Micrometer was employed in determining the nominal dimensions to be cut from the larger stock ordered to meet the historical sizes . The bottom post , while in direct alignment with the top post , was cut to the same height as the top one rather than forming one with the top as may have been the case . This determination was made from the lack of markings to indicate that the overhead trim on the bottom of the top riser was ever notched into the post that would have passed through it .

Darkened original fabric was noted to have some areas (shadows of a former rung or rail location) underaged as evidence of the original bannister configuration. . . These markings were employed to position the new rails to approximate the original .

This reconstruction to approximate the original is perfectly safe for moderate use but does not meet existing contemporary building code specifications . Public access is not recommended when volume and abuse could result in an unsafe condition .

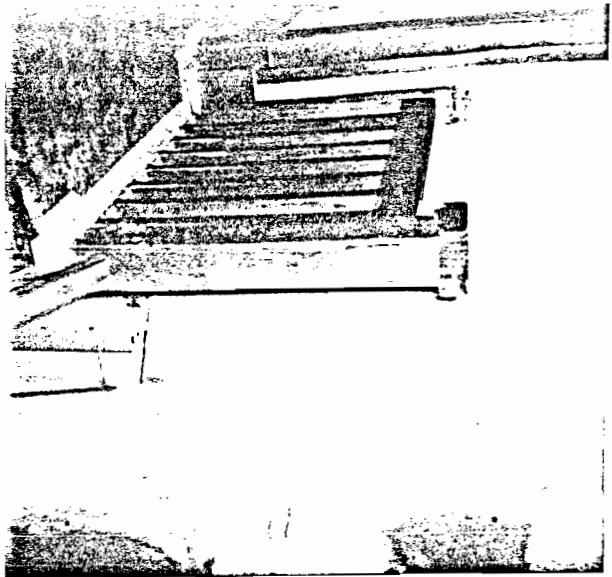
Maintenance Log - October , 1989

The Ballistrade has been designed and constructed to disassemble for the passage of pianos or even office furniture . Sketches of the reconstruction as it fits to the original are here included to clarify assembly and to denote replacement fabric . Some deviation was permitted in the interest of strength and safety to allow for the new sections to be removed . While the thickend trough spacers and slight gaps are not as obvious as the stove bolts and screws , they are not of a like design to the original , but seem an acceptable compromise to allow for furniture upstairs . The reconstructed members of the now complete bannister were stained darker than the original fabric , but will lighten when sanded prior to varnishing .

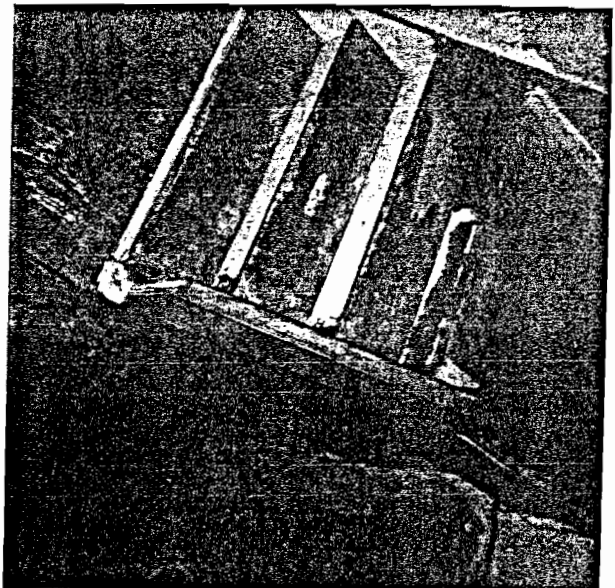
Reconstruction materials have been incorporated with original fabric to retain and protect as much of the original bannister as was remaining . All historic fabric shall remain stationary when the rails and posts are removed for clearance . Holes and threaded inserts into the remaining original have been minimized so that care in not rending these modifications must be excercized during re-assembly to prevent a need to extend the rennovation with repairs . These instructions with the sketches will assist in the successful removal and replacement .

Loosen all stove bolts from the North side of the bottom post before removing any . Begin with the top and bottom bolts of both sides and work from side to side to the centermost bolts untill no pressure remains . With the bolts removed , the post will tilt away exposing a core post that can be pulled up and out of the remnant post . The rail slides South on a dowel rod with the rungs and post side attatched .

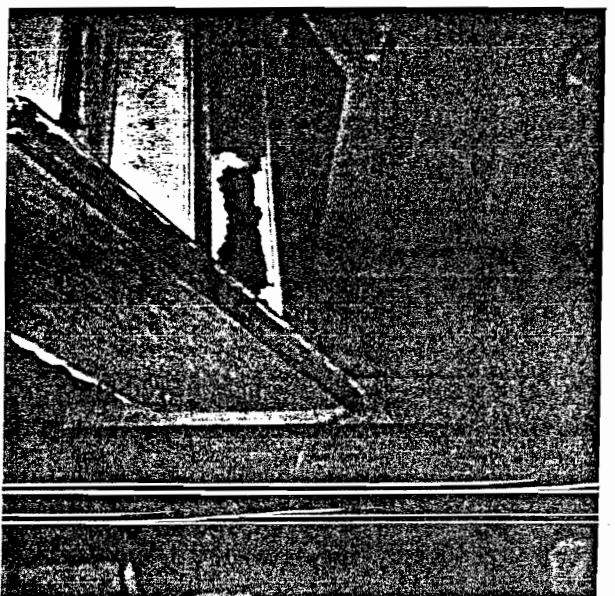
The middle rail is attatched to the top post with bolts that differ in length and type . The pan head must be replaced to the East side to re-assemble . These bolts are concealed by the thick filler section at the top end and may be exposed using a thin washer or dime to loosen the smaller stove bolt that holds it in place . Remove the cap from the middle post by unfastening the small stove bolt under the East side of it to lift the cap off . This post is under stress as it is pulled perpendicular by the bolts now exposed and loosening them in a simultaneous manner prevents one side springing ajar to break something. Lift the rail and rungs straight up , pull the post up and out and save the pieces to re-assemble in reverse order .



Original assembly intact
(note rail end shadow on post)

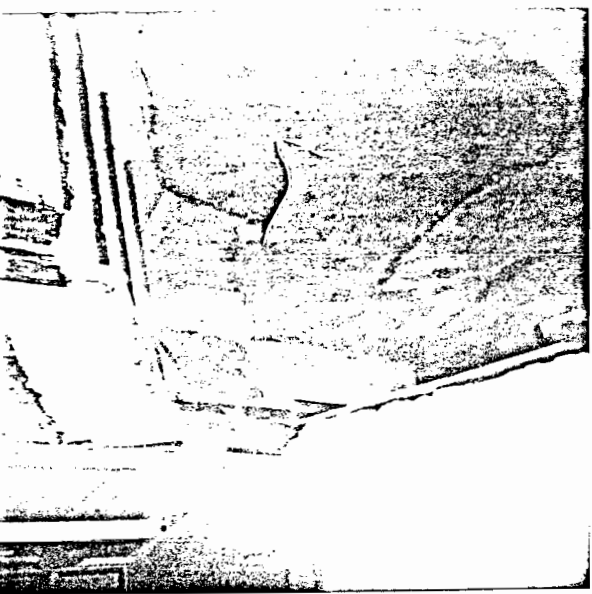


Original trough saved as attached
was marked & shadowed for rungs



pre-repair condition of fabric
Riser facing trim split from tilt

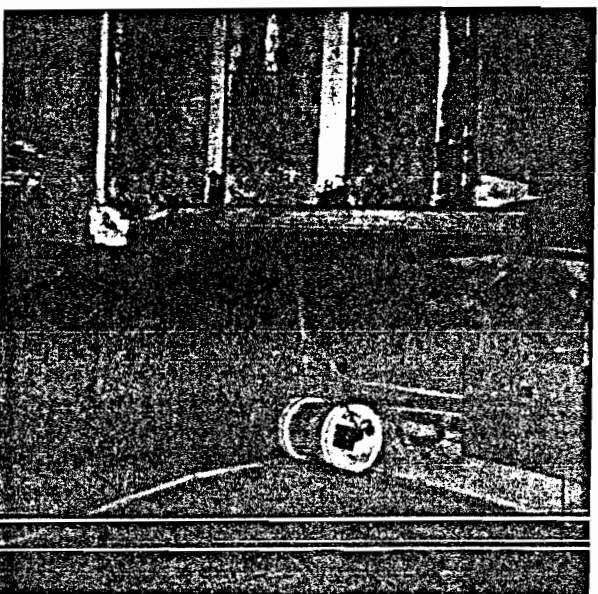
SEPTEMBER 1989



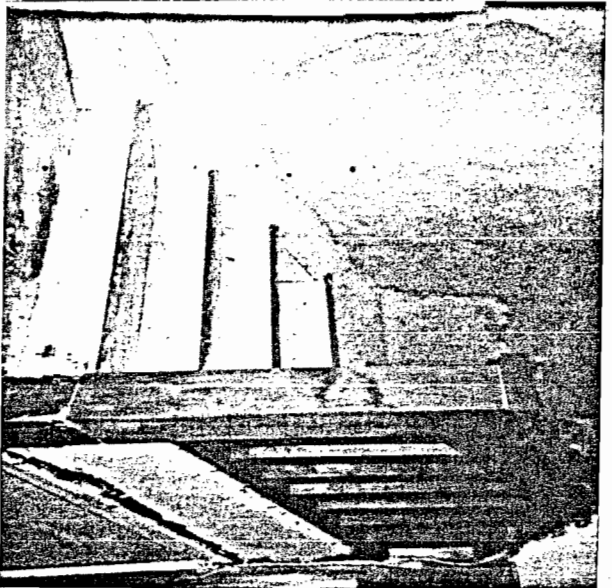
Up from first landing
overhead trim removed



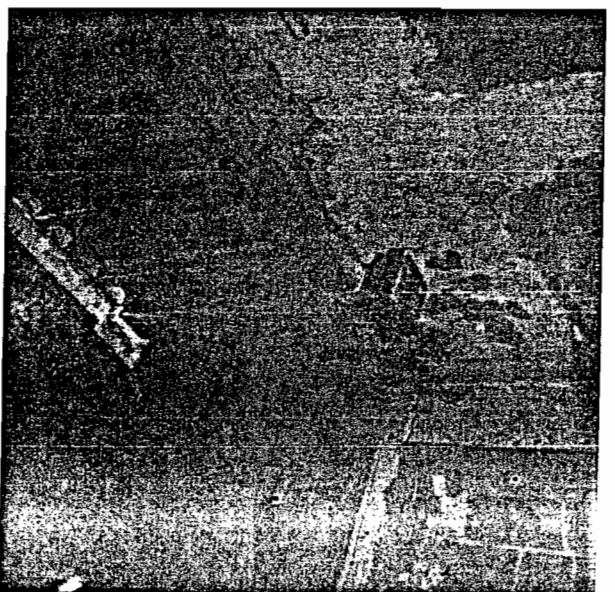
First riser facing trim
was pushed out 1/4 inch



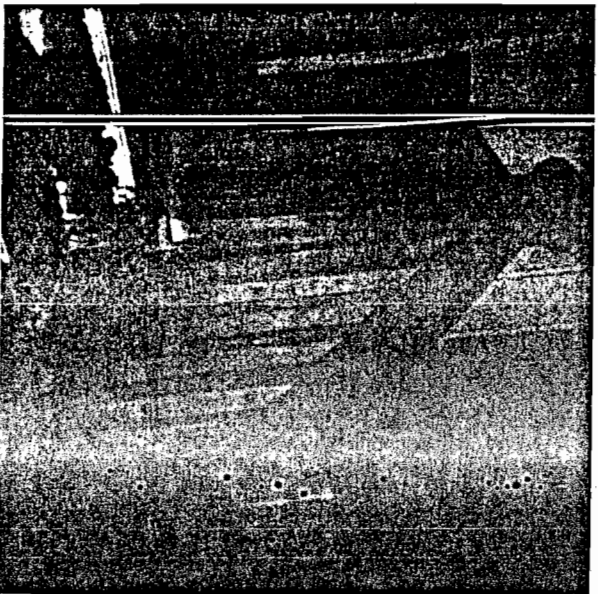
Down from window
shadows & nail holes in rough



Bottom bannister reconstructed
to save all remaining historic fabric



OCTOBER 1989



Middle bannister section
from landing



Middle bannister section
down from wi w



Bottom section showing bolts

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Division of Maintenance & Engineering
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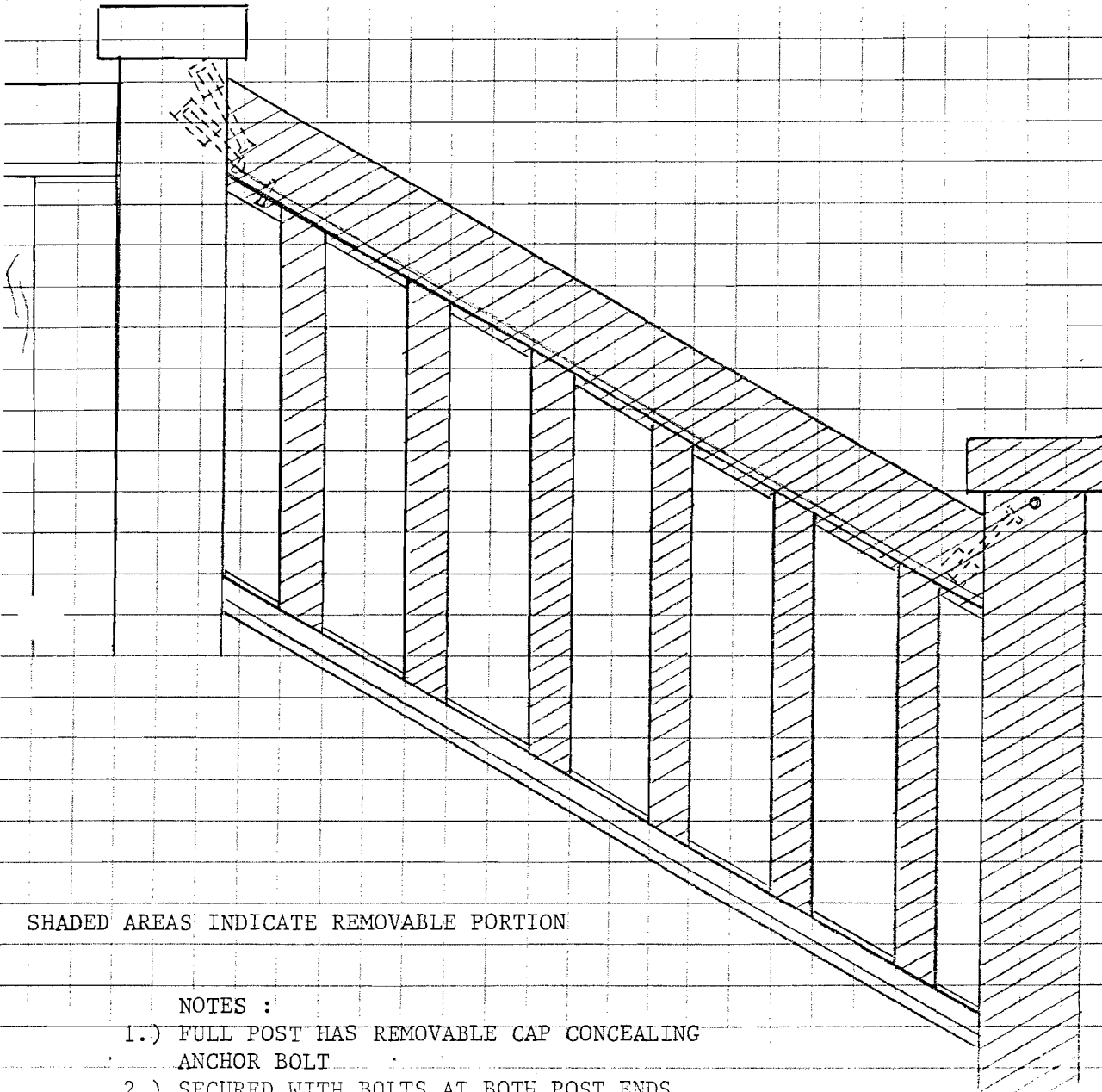
JOB NAME SANTA FE DEPOT MIDDLE BALL STRADE

JOB NO. _____ PAGE _____ OF _____

CALCULATED BY _____ DATE OCTOBER , 1989

VERIFIED BY _____ DATE _____

SCALE _____



SHADED AREAS INDICATE REMOVABLE PORTION

NOTES :

- 1.) FULL POST HAS REMOVABLE CAP CONCEALING ANCHOR BOLT
- 2.) SECURED WITH BOLTS AT BOTH POST ENDS
- 3.) UNFASTEN AND REMOVE RAIL WITH RUNGS ATTACHED PRIOR TO LIFTING POST OUT OF REMNANT FABRIC
- 4.) FILLER PIECES REMAIN ON ORIGINAL BASE TROUGH SECTION

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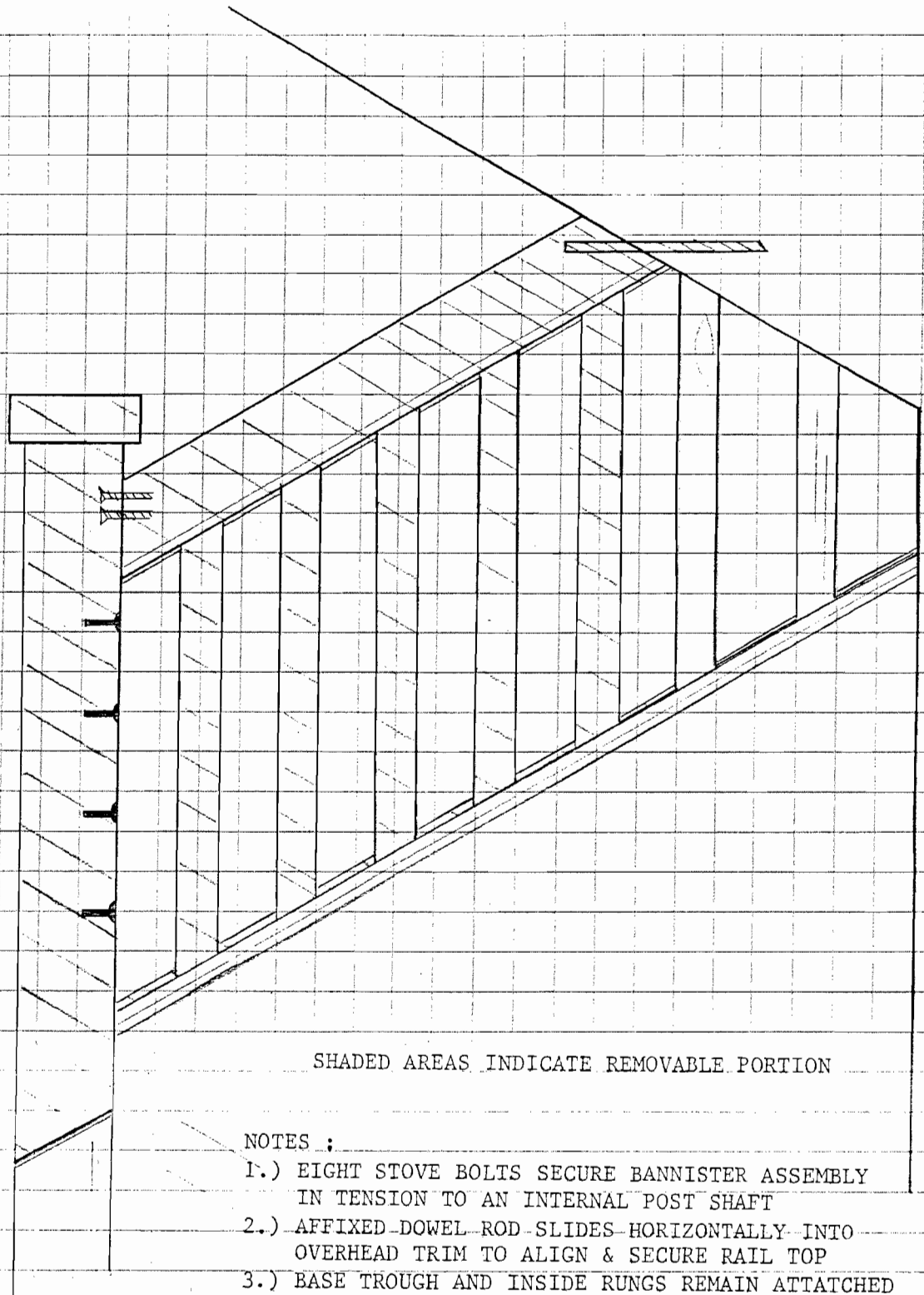
JOB NAME SANTE FE DEPOT LOWER BALLISTRAD

JOB NO. _____ PAGE _____ OF _____

CALCULATED BY _____ DATE OCTOBER , 1989

VERIFIED BY _____ DATE _____

SCALE _____



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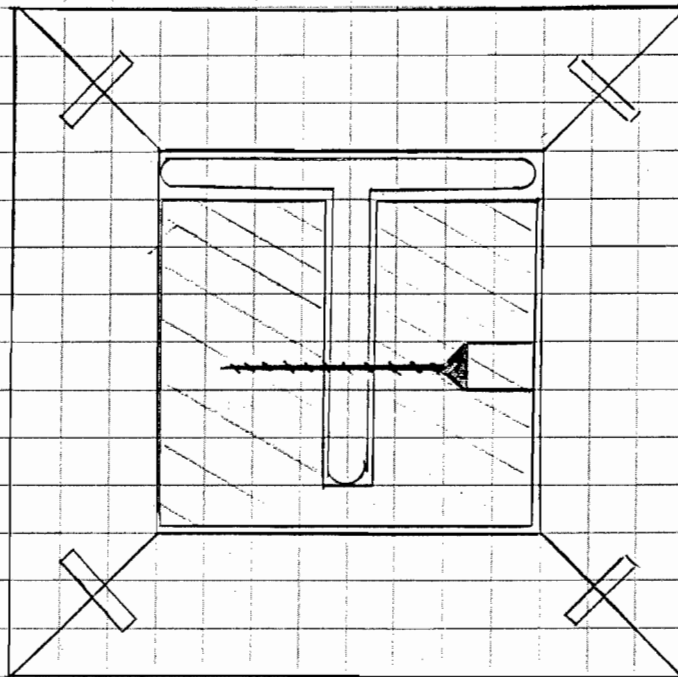
JOB NAME SANTE FE DEPOT INTERNAL POST DETAIL

JOB NO. _____ PAGE _____ OF _____

CALCULATED BY _____ DATE OCTOBER , 1989

VERIFIED BY _____ DATE _____

SCALE _____



NOTES :

- 1.) REPLACEMENT POSTS CONSTRUCTED IN LIKE TO ORIGINAL
- 2.) INNER POST STRUCTURE FORCE FITS INTO INTERIOR OF RECONSTRUCTED REPLACEMENTS
- 3.) WOODEN SHANKS MAY BE REMOVED TO ACCESS STEEL TEE BARS FOR LEVERAGE ON PERFORATIONS

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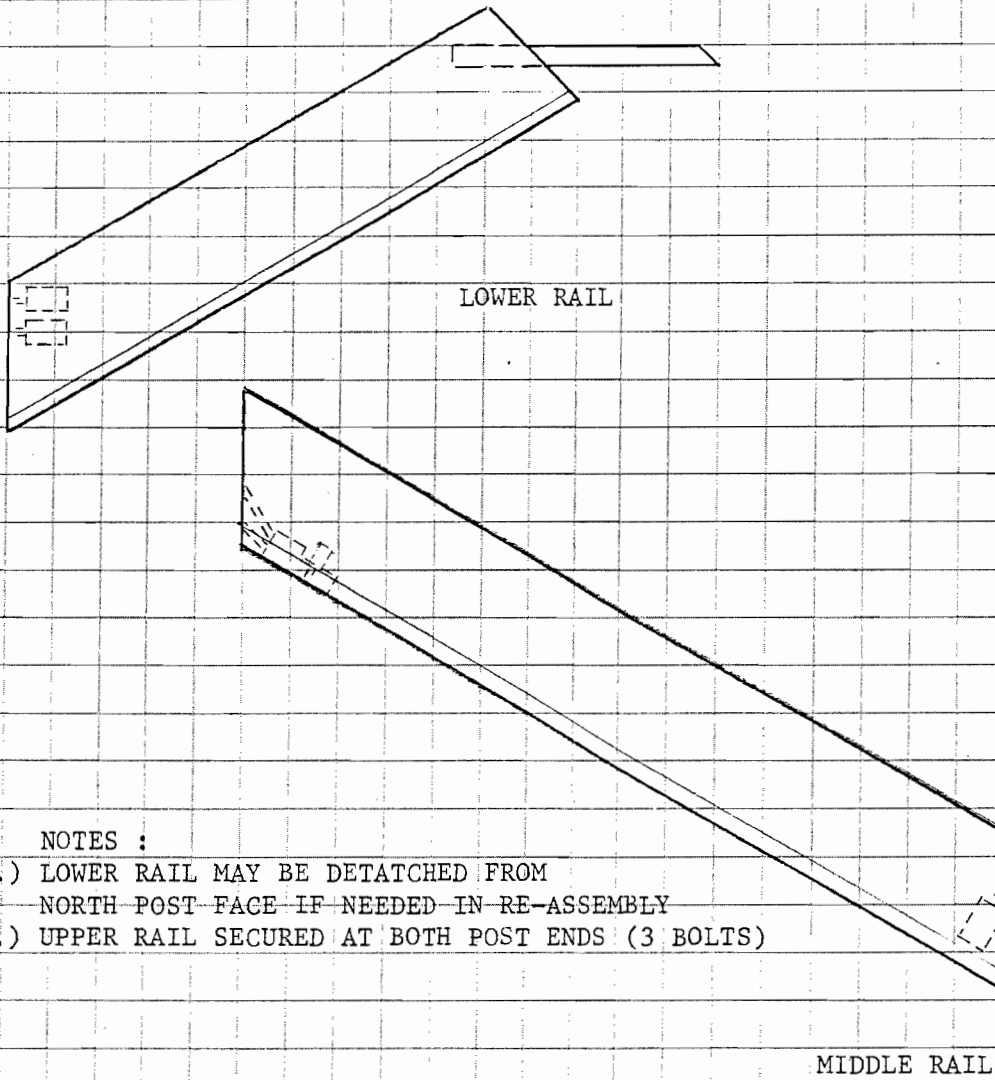
JOB NAME SANTA FE DEPOT RAILING DETAIL

JOB NO. _____ PAGE _____ OF _____

CALCULATED BY _____ OCTOBER , 1989

VERIFIED BY _____ DATE _____

SCALE _____



4.5 DRAINAGE REPORT

Drainage Report

Grand Canyon Depot

This document prepared for:
Chamberlin Architects, P.C.
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Golden, CO 80401

Prepared by:
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390 Union Blvd., Suite 630
Lakewood, CO 80228
Contact: Holly K. Piza, PE

February 2008
Revised September 2008

SEH No. ACHAMA080100



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Table of Contents

	Page
Introduction	1
Existing Conditions	1
Existing Drainage Patterns	1
1984 HSR Comparison	3
Basin A Recommendations	3
Drainage remediation	3
Costs	5
Summary & Recommendations	6

Appendix

Hydrologic Calculations
Drainage Basin Delineation
Conceptual Remediation Drawings
Opinion of Cost

Introduction

This drainage study has been prepared in support of the Grand Canyon Rail Road Depot Historic Structure Report (HSR). The site is located within the South Rim of the Grand Canyon National park. A review of the site was conducted by Short Elliott Hendrickson, Inc. (SEH) on October 3rd, 2007.

Existing Site Conditions

Adjacent to the north side of the structure is a short stone retaining wall coming up to an asphalt roadway (see photo, right). Traffic on this road is west bound only. There is a median in the road previously serving to separate east and west bound traffic. The south lane is now primarily used as bus parking. Additionally, there are designated spaces for bus parking to the west of the structure. At one point during our site review, all spaces were full and three busses were parked in the south lane. To the north is a steep embankment up to additional points of visitor interest. A serpentine pedestrian walkway and a concrete paved roadway to the east provide access.



East of the structure a wood deck has been placed against the building. A new water line providing fire protection, including a new hydrant has also been constructed here.

South of the depot lay the railroad tracks. These are active serving visitors to the Grand Canyon. (See photo, center).

Existing Drainage Patterns

Refer to the Drainage Plan for delineation of drainage basins. Basins were delineated based on site review and review of available topographic mapping. Concentrated runoff from the embankment to the north flows southwest toward the structure. The access road collects and



concentrates flows (see photo, bottom) bringing them to an inlet and trench grate located east and slightly north of the structure. There is also evidence that some of this flow is lost at the intersection of the access road and service road. A swale has developed at this location and sediment has been deposited at the bottom of the embankment. This sediment can be seen in the photo (top right) just right of the existing speed limit sign. For the purpose of developing design

recommendations we have delineated Basin A without consideration of the service road intersection. Our recommendations include providing a pan at this location to eliminate the loss of flow at this location. Basin A is 3.9 acres, sloping southwest toward the structure at an average of 8.71%. This produces a 5-year flow of 4.08 cfs and a 100-year flow of 15.01 cfs. This is based on rainfall information for Grand Canyon, Arizona, obtained from the NOAA website. A copy of this can be found in the appendix. In review of the existing drainage inlets located near design point 1, this inlet has a capacity of approximately 6.2 cfs.



Basin B produces the remainder of flow that may impact the structure. Basin B is 0.74 acres, sloping southwest toward the structure at an average of 10.5%. This produces a 5-year flow of 0.97 cfs and a 100-year flow of 3.6 cfs at design point 2. Part of this flow comes from the roof of the structure. A series of small inlets connecting to a 6-inch pipe collect flow between the structure and the wall.

Downspouts are taken underground into the same drainage system. There are low areas around the building that do not drain. It also appears that the roof gutters need maintenance (see photo, above). Basin B also includes drainage from the road. This drains to the wall shown in the above photo. There are low spots along the wall where water may pond before evaporating or infiltrating into the joint between the wall and the asphalt. Basin B drains west along the building wrapping around the concrete seating area through a long trench grate before outletting into a concrete swale, under the fence to the railroad tracks (see photo, right).



1984 HSR Comparison

We have reviewed statements made in the 1984 HSR and find them consistent with our observations of the water damage to the structure. We will add that it appears that the problem is two-fold. First, drainage immediately surrounding the structure is poor. Construction of the Village Loop Road at an elevation two feet above the base of the structure aggravates this condition. Second, large flows coming down from the embankment (Basin A) also contribute to damage of the structure. This report addresses possible drainage remediation alternatives for both issues in the following sections.

Basin A Recommendations

Control of drainage immediately surrounding the building (basin B flows) is a priority. These are the flows that most frequently stress the structure and, therefore, cause the most damage over time. The structure will also benefit from eliminating the high flows draining west along the north side of the site. Based on the calculations included in the appendix of this drainage study, we recommend that one to two additional inlets be constructed just west of the existing inlet



located northeast of the site (see photo, above). This will increase the capacity of the inlet to capture approximately 80-100% of the 5-year flow. Additionally, it was observed that the grate on the existing inlet has been installed backwards. This type of grate is directional. See the flow arrow provided on the grate in the photo. This should point west. Turning the grate will increase the capacity of the inlet.

Drainage Remediation

We have developed three alternatives to alleviate drainage problems around the building (basin B flows).

The alternatives focus on the north side of the building and intercept flows north of the wall as well as between the wall and the building. Alternative 1 puts flows underground in a new storm sewer, while Alternative 2 improves surface flow. Alternative 3 removes a drive lane and improves surface flow adjacent to the building while also putting flows underground into a proposed storm sewer. All alternatives include removing and replacing the concrete flatwork between the wall and the building.

As discussed previously, a major source of flooding in basin B is overflow from basin A. Drainage currently descends the access road, where a portion of the flows are intercepted by the trench drain and inlet across Village Loop Road. These inlets are insufficient to intercept large flows. As a result, all alternatives also include the construction of new inlets at the intersection of Village Loop Road and the upper access road to prevent overflow to the Depot. The construction of additional inlets at this location will provide additional interception capacity, and decrease the amount of runoff directed at the Depot. Alternative 1 includes the construction of one additional inlet at this location, and Alternatives 2 and 3 both include two new inlets. Since Alternative 1 has additional valley inlets near the Depot, less interception capacity is needed at the upstream intersection.

Alternative 1 includes construction of storm sewer and concrete pan along the north side of the building. Flows from the road will be intercepted by a proposed 3 foot wide concrete pan and three valley inlets placed in the new pan. This pan will be located at the existing curb outside the depot. Flows between the curb and the building will drain to proposed 12-inch area inlets. These area inlets are piped under the wall and into the valley inlets per the provided detail. The 12-inch storm sewer drains west through the parking area and daylights into a landscaped area. See the Alternative 1 drawing and detail provided.

Alternative 2 intercepts flows from the road with a proposed 3 foot wide concrete pan located north of the curb. This pan drains west and into the existing trench drain system on the west side of the building. A new trench drain will be provided between the curb and the building to collect sidewalk sheet flows and building flows. This also drains west and into the existing system.

As stated before, Alternative 3 includes both surface and underground improvements. The wall directly north of the Depot will be removed, and the area between the Depot and the median island will be regraded to slope away from the building at a minimum of 2%. A concrete pan will be installed to collect flows and direct them to a proposed area inlet near the southeast side of the existing median. This area inlet will drain to the east via a proposed 12-inch storm sewer, similar to Alternative 1.

Since the area between the Depot and the median will be lowered to facilitate drainage, a new wall will be proposed at the south median curb line. There are several options available for this alternative. For instance, the regraded area could be surfaced with asphalt, concrete, or for a more aesthetic option, it could be landscaped and include benches for pedestrian use. Additionally, the grading plan could be configured in such a

way that the proposed wall “wraps around” to the Depot, labeled as optional walls in the Alternative 3 drawing. If these walls were not included, a short 4:1 slope would tie the depressed area back to the existing parking area.

The following table lists the benefits of each alternative:

Benefits	Alt. 1	Alt. 2	Alt. 3
Higher flow Capacity	X		X
Removes flow from high traffic areas*	X		X
Benefits existing drainage structures (to remain)**	X		X
Allows for additional (optional) maintenance improvements***	X		X
Lower Cost		X	
Lower Maintenance Required	X		X
Smaller Area of disturbance		X	

* Roadway drainage is taken under ground. Flow from the roadway as well as the north side of the building is then removed from the west side of the building.

** Alternatives 1 and 3 reduce flow in the existing trench/concrete swale.

*** The existing trench drain could be eliminated and replaced with a concrete pan or curb and gutter.

Costs

The cost for Alternative 1 has been estimated at approximately \$77,500. The cost for Alternative 2 is approximately \$61,000, and the cost for Alternative 3 is \$94,500.

Opinions of costs for both alternatives are included in the appendix. The cost for Alternatives 1 and 3 is higher due to the extra inlets and pipe, which will ensure that runoff is routed underground to appropriate discharge points.

Summary & Recommendations

Improper slope away from the Depot is the major drainage issue with this site, compounded with insufficient piping capacity. These recommendations will address both conveyance capacities and grading issues. In order to correct deficient grading, all slopes away from the building shall be 2% or greater. The structural engineer has also recommended that where impervious surfaces are adjacent to the building, a slope of ten percent for five to ten feet away from the building shall be provided. In order to correct deficient conveyance capacities, additional pipes and inlets are necessary. As a result, this report recommends the construction of Alternative 1 or Alternative 3, because both provide high flow capacity and have long term maintenance advantages. Should the park select Alternative 3, bus parking should be considered. Although alternative 3 is more expensive, it also includes an option for landscaping, which would increase the aesthetic qualities surrounding the Depot. Alternative 3 also includes the removal of the wall adjacent to the north side of the building, which would improve accessibility.

Appendix

Hydrologic Calculations

Drainage Basin Delineation

Conceptual Remediation Drawings

Opinion of Cost

HYDROLOGIC CALCULATIONS

Site Summary

Drainage Basin	Area (ac)	Area (sq ft)	Longest Drainage Path (ft)	Tc (min)	Design Point
A	3.90	169884	471	12.62	1
B	0.74	32234	287	6.70	2

HYDROLOGIC
CALCULATIONS

Proposed Weighted % Impervious

% Impervious		
Drainage Basin	Area (ac)	Impervious Area sf
A	3.90	84016.00
B	0.74	15247.00
		% Impervious**
		0.49
		0.47

HYDROLOGIC
CALCULATIONS

Proposed Runoff Coefficients for Rational Method

type c & d

K5 = -.10i+.11

K100 = -.39i+.46

Drainage Basin	% imperv.	Type C & D soils			
		K5	K100	C5	C100
A	49%	0.0605	0.2671	0.3949	0.6014
B	47%	0.0627	0.2755	0.3837	0.5966

Hydrologic Calculations

Weighted Slope Calculation

Basin	Distance 1	Slope 1	Distance 2	Slope 2	Distance 3	Slope 3	Distance 4	Slope 4	Distance 5	Slope 5	Distance 6	Slope 6	Weighted Slope
A	72.81	2.75%	131.76	12.14%	107.52	20.46%	330.52	4.84%					8.71%
B	73.01	31.50%	133.95	4.48%	79.53	1.26%							10.47%

HYDROLOGIC
CALCULATIONS

Time of Concentration
Developed T_c

$$t_c = t_i + t_t$$
$$t_c (\text{regional}) = \frac{L}{180} + 10$$

where:

$$t_i = \frac{18(1.1 - C_s)\sqrt{L}}{\sqrt[3]{S}}$$
$$S - \text{in percent}$$

$$t_t = \frac{L}{60V}$$

Drainage Basin	Weighted C_s	Ti			Tt					Use tc (min)
		L (ft)	S (%)	ti (min)	L (ft)	S %	V* (fps)	tt (min)	tc (ti+tt)	
A	0.00	50	2.75	10.00	421	8.71%	2.25	3.12	13.12	12.62
B	0.00	50	31.50	4.44	237	10.47%	1.75	2.26	6.70	6.70

HYDROLOGIC CALCULATIONS

STORM DRAINAGE SYSTEM DESIGN
(RATIONAL METHOD PROCEDURE)

BASIN	DESIGN POINT	DIRECT RUNOFF				
		AREA (AC)	C ₂	T _c (MIN)	C*A (AC)	I ₂ (IN/HR)
A	1	3.90	0.33	12.62	1.30	1.91
B	2	0.74	0.32	6.70	0.24	2.40
						2.49
						0.57

BASIN	DESIGN POINT	AREA (AC)	C ₅	T _c (MIN)	C*A (AC)	I ₅ (IN/HR)	Q ₅ (CFS)
A	1	0.00	0.39	12.62	1.54	2.65	4.081
B	2	0.00	0.38	6.70	0.28	3.4	0.966

BASIN	DESIGN POINT	AREA (AC)	C ₁₀₀	T _c (MIN)	C*A (AC)	I ₁₀₀ (IN/HR)	Q ₁₀₀ (CFS)
A	1	0.00	0.60	12.62	2.35	6.40	15.01
B	2	0.00	0.60	6.70	0.44	8.20	3.62



ARI** (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
1	2.28	1.74	1.44	0.97	0.60	0.39	0.28	0.17	0.11	0.06	0.04	0.02	0.01	0.01	0.01	0.01	0.00	0.00



POINT PRECIPITATION FREQUENCY ESTIMATES FROM NOAA ATLAS 14

Arizona 36.03.24 N 112.08 W 7171 feet

from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 1, Version 4
G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Riley
NOAA, National Weather Service, Silver Spring, Maryland, 2006

Extracted: Wed Nov 14 2007

Confidence Limits Seasonality Location Maps Other Info GIS data Maps Help Docs U.S. Map

Precipitation Intensity Estimates (in/hr)

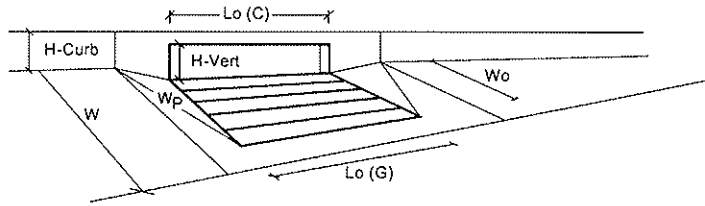
ARI* (years)	5	10	15	30	60	120	3	6	12	24	48	4	7	10	20	30	45	60
	min	min	min	min	min	min	hr	hr	hr	hr	hr	day	day	day	day	day	day	day
1	1.94	1.48	1.22	0.82	0.51	0.33	0.24	0.15	0.09	0.06	0.03	0.02	0.01	0.01	0.01	0.01	0.00	0.00
2	2.50	1.90	1.57	1.06	0.66	0.41	0.30	0.19	0.11	0.07	0.04	0.02	0.02	0.01	0.01	0.01	0.01	0.00
5	3.46	2.63	2.17	1.46	0.91	0.55	0.39	0.23	0.14	0.09	0.05	0.03	0.02	0.02	0.01	0.01	0.01	0.01
10	4.34	3.30	2.73	1.84	1.14	0.68	0.47	0.28	0.17	0.10	0.06	0.03	0.02	0.02	0.01	0.01	0.01	0.01
25	5.71	4.34	3.59	2.42	1.50	0.87	0.60	0.34	0.20	0.12	0.07	0.04	0.03	0.02	0.01	0.01	0.01	0.01
50	6.94	5.28	4.36	2.94	1.82	1.05	0.71	0.39	0.22	0.14	0.08	0.05	0.03	0.03	0.02	0.01	0.01	0.01
100	8.39	6.38	5.28	3.55	2.20	1.26	0.85	0.44	0.25	0.15	0.09	0.05	0.04	0.03	0.02	0.01	0.01	0.01
200	10.12	7.70	6.36	4.28	2.65	1.49	1.01	0.52	0.28	0.17	0.10	0.06	0.04	0.03	0.02	0.01	0.01	0.01
500	12.85	9.79	8.08	5.44	3.37	1.87	1.26	0.65	0.34	0.20	0.12	0.07	0.05	0.04	0.02	0.02	0.01	0.01
1000	15.36	11.69	9.66	6.50	4.03	2.22	1.49	0.76	0.39	0.21	0.13	0.08	0.05	0.04	0.02	0.02	0.02	0.01

Text version of table

* These precipitation frequency estimates are based on a partial duration series. **ARI** is the Average Recurrence Interval. Please refer to the [documentation](#) for more information. NOTE: Formatting forces estimates near zero to appear as zero.

INLET ON A CONTINUOUS GRADE

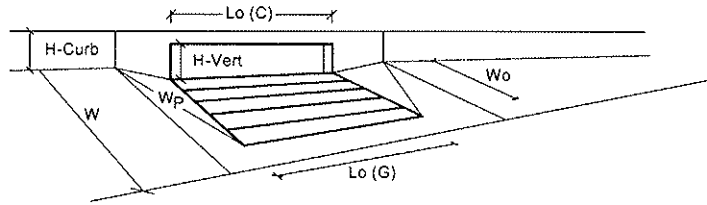
Project: Grand Canyon Depot
Inlet ID: Existing Inlet Capacity



Design Information (Input)		MINOR		MAJOR	
Type of Inlet		Type =	Denver No. 16 Combination		
Local Depression (additional to continuous gutter depression 'a' from 'Q-Allow')		a _{LOCAL} =	2.0	2.0	inches
Total Number of Units in the Inlet (Grate or Curb Opening)		No =	1	1	
Length of a Single Unit Inlet (Grate or Curb Opening)		L _u =	3.00	3.00	ft
Width of a Unit Grate (cannot be greater than W from Q-Allow)		W _u =	1.73	1.73	ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)		C _{r-G} =	0.50	0.50	
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)		C _{r-C} =	0.10	0.10	
Warning: Street Hydraulics: WARNING: Q > ALLOWABLE Q FOR MAJOR STORM					
Design Discharge for Half of Street (from Sheet Q-Peak)		MINOR		MAJOR	
Water Spread Width		Q _o =	5.00	15.00	cfs
Water Depth at Flowline (outside of local depression)		T =	9.6	13.0	ft
Water Depth at Street Crown (or at T _{MAX})		d =	4.3	5.8	inches
Ratio of Gutter Flow to Design Flow		Q _{CROWN} =	0.0	0.7	inches
Discharge outside the Gutter Section W, carried in Section T _x		E _o =	0.632	0.403	
Discharge within the Gutter Section W		Q _x =	1.84	8.97	cfs
Discharge Behind the Curb Face		Q _w =	3.17	6.04	cfs
Street Flow Area		Q _{BACK} =	0.00	0.00	cfs
Street Flow Velocity		A _s =	1.09	2.59	sq ft
Water Depth for Design Condition		V _s =	4.61	5.79	fps
		Q _{LOCAL} =	6.3	7.8	inches
Grate Analysis (Calculated)		MINOR		MAJOR	
Total Length of Inlet Grate Opening		L =	3.00	3.00	ft
Ratio of Grate Flow to Design Flow		E _{o-GRATE} =	0.588	0.367	
Under No-Clogging Condition		MINOR		MAJOR	
Minimum Velocity Where Grate Splash-Over Begins		V _o =	7.11	7.11	fps
Interception Rate of Frontal Flow		R _f =	1.00	1.00	
Interception Rate of Side Flow		R _s =	0.10	0.07	
Interception Capacity		Q _i =	3.14	6.14	cfs
Under Clogging Condition		MINOR		MAJOR	
Clogging Coefficient for Multiple-unit Grate Inlet		GrateCoef =	1.00	1.00	
Clogging Factor for Multiple-unit Grate Inlet		GrateClog =	0.50	0.50	
Effective (unclogged) Length of Multiple-unit Grate Inlet		L _e =	1.50	1.50	ft
Minimum Velocity Where Grate Splash-Over Begins		V _o =	5.13	5.13	fps
Interception Rate of Frontal Flow		R _f =	1.00	0.94	
Interception Rate of Side Flow		R _s =	0.02	0.01	
Actual Interception Capacity		Q _i =	2.98	5.32	cfs
Carry-Over Flow = Q _o - Q _i (to be applied to curb opening or next d/s inlet)		Q _o =	2.02	9.68	cfs
Curb or Slotted Inlet Opening Analysis (Calculated)		MINOR		MAJOR	
Equivalent Slope S _e (based on grate carry-over)		S _e =	0.1254	0.0871	ft/ft
Required Length L ₁ to have 100% Interception		L ₁ =	11.16	26.84	ft
Under No-Clogging Condition		MINOR		MAJOR	
Effective Length of Curb Opening or Slotted Inlet (minimum of L ₁ , L ₂)		L =	3.00	3.00	ft
Interception Capacity		Q _i =	0.43	0.93	cfs
Under Clogging Condition		MINOR		MAJOR	
Clogging Coefficient		CurbCoef =	1.00	1.00	
Clogging Factor for Multiple-unit Curb Opening or Slotted Inlet		CurbClog =	0.10	0.10	
Effective (Unclogged) Length		L _e =	2.70	2.70	ft
Actual Interception Capacity		Q _i =	0.40	0.84	cfs
Carry-Over Flow = Q _o (GRATE) - Q _i		Q _o =	1.62	8.84	cfs
Summary		MINOR		MAJOR	
Total Inlet Interception Capacity		Q =	3.38	6.16	cfs
Total Inlet Carry-Over Flow (flow bypassing inlet)		Q _o =	1.62	8.84	cfs
Capture Percentage = Q _i /Q _o =		C% =	67.6	41.1	%

INLET ON A CONTINUOUS GRADE

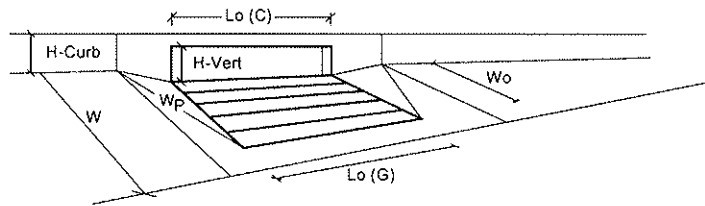
Project: Grand Canyon
 Inlet ID: Alternative 1 - Single Inlet Capacity



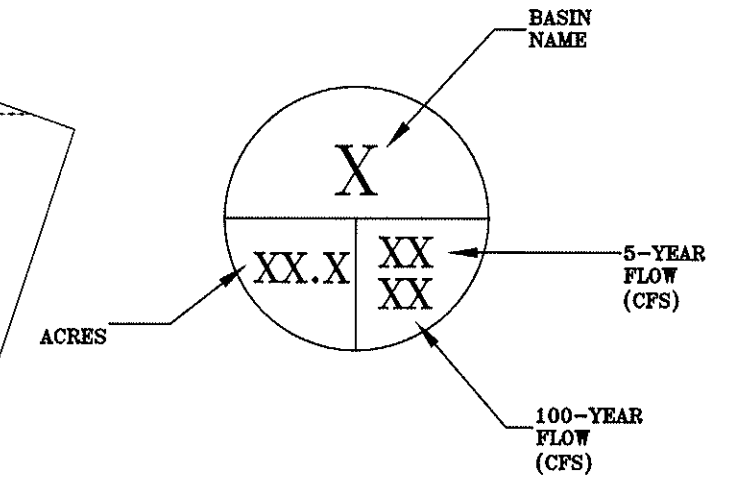
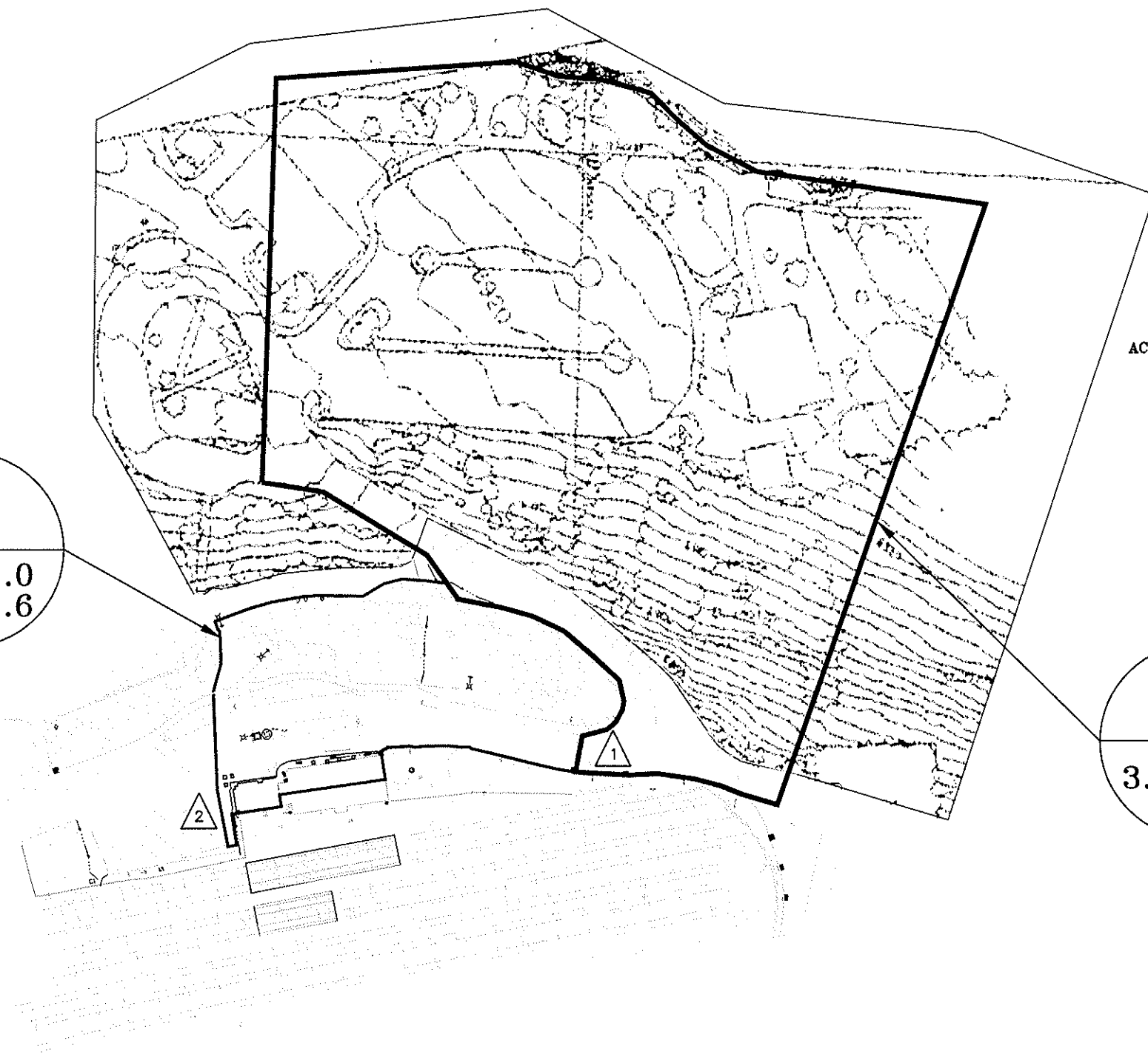
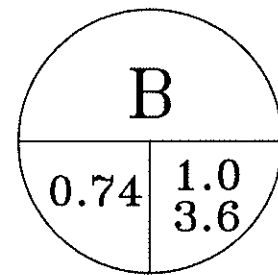
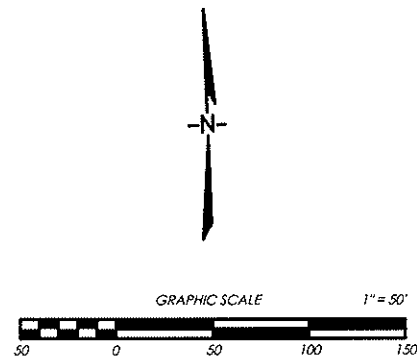
Design Information (Input)		MINOR	MAJOR
Type of Inlet	Type =	Denver No. 16 Combination	
Local Depression (additional to continuous gutter depression 'a' from 'Q-Allow')	a _{LOCAL} =	2.0	2.0 inches
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1
Length of a Single Unit Inlet (Grate or Curb Opening)	L _u =	3.00	3.00 ft
Width of a Unit Grate (cannot be greater than W from Q-Allow)	W _u =	1.73	1.73 ft
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C _{r-G} =	0.50	0.50
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C _{r-C} =	0.10	0.10
Street Hydraulics: OK - Q < maximum allowable from sheet 'Q-Allow'		MINOR	MAJOR
Design Discharge for Half of Street (from Sheet 'Q-Peak')	Q _u =	1.63	8.85 cfs
Water Spread Width	T =	5.5	12.9 ft
Water Depth at Flowline (outside of local depression)	d =	2.9	4.6 inches
Water Depth at Street Crown (or at T _{MAX})	d _{CROWN} =	0.0	0.0 inches
Ratio of Gutter Flow to Design Flow	E _o =	0.854	0.462
Discharge outside the Gutter Section W, carried in Section T _u	Q _x =	0.24	4.77 cfs
Discharge within the Gutter Section W	Q _w =	1.40	4.09 cfs
Discharge Behind the Curb Face	Q _{BACK} =	0.00	0.00 cfs
Street Flow Area	A _s =	0.43	1.78 sq ft
Street Flow Velocity	V _s =	3.78	4.98 fps
Water Depth for Design Condition	d _{LOCAL} =	4.8	6.6 inches
Grate Analysis (Calculated)		MINOR	MAJOR
Total Length of Inlet Grate Opening	L =	3.00	3.00 ft
Ratio of Grate Flow to Design Flow	E _{o-GRATE} =	0.809	0.423
Under No-Clogging Condition		MINOR	MAJOR
Minimum Velocity Where Grate Splash-Over Begins	V _o =	7.11	7.11 fps
Interception Rate of Frontal Flow	R _f =	1.00	1.00
Interception Rate of Side Flow	R _s =	0.13	0.08
Interception Capacity	Q _i =	1.36	4.17 cfs
Under Clogging Condition		MINOR	MAJOR
Clogging Coefficient for Multiple-unit Grate Inlet	GrateCoef =	1.00	1.00
Clogging Factor for Multiple-unit Grate Inlet	GrateClog =	0.50	0.50
Effective (unclogged) Length of Multiple-unit Grate Inlet	L _e =	1.50	1.50 ft
Minimum Velocity Where Grate Splash-Over Begins	V _o =	5.13	5.13 fps
Interception Rate of Frontal Flow	R _f =	1.00	1.00
Interception Rate of Side Flow	R _s =	0.03	0.02
Actual Interception Capacity	Q _a =	1.33	3.83 cfs
Carry-Over Flow = Q _u - Q _a (to be applied to curb opening or next d/s inlet)	Q _b =	0.30	5.02 cfs
Curb or Slotted Inlet Opening Analysis (Calculated)		MINOR	MAJOR
Equivalent Slope S _e (based on grate carry-over)	S _e =	0.1453	0.0877 ft/ft
Required Length L ₁ to Have 100% Interception	L ₁ =	4.61	20.28 ft
Under No-Clogging Condition		MINOR	MAJOR
Effective Length of Curb Opening or Slotted Inlet (minimum of L, L ₁)	L =	3.00	3.00 ft
Interception Capacity	Q _i =	0.13	0.63 cfs
Under Clogging Condition		MINOR	MAJOR
Clogging Coefficient	CurbCoef =	1.00	1.00
Clogging Factor for Multiple-unit Curb Opening or Slotted Inlet	CurbClog =	0.10	0.10
Effective (Unclogged) Length	L _e =	2.70	2.70 ft
Actual Interception Capacity	Q _a =	0.12	0.57 cfs
Carry-Over Flow = Q _{u(GRATE)} - Q _a	Q _b =	0.18	4.45 cfs
Summary		MINOR	MAJOR
Total Inlet Interception Capacity	Q =	1.45	4.40 cfs
Total Inlet Carry-Over Flow (flow bypassing Inlet)	Q _b =	0.18	4.45 cfs
Capture Percentage = Q _i /Q _u =	C% =	88.8	49.7 %

INLET ON A CONTINUOUS GRADE

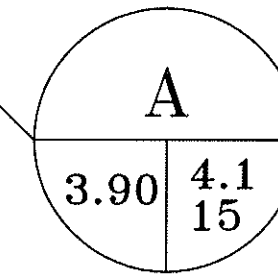
Project: **Grand Canyon**
 Inlet ID: **Alternative 2 - Second Additional Inlet Capacity**



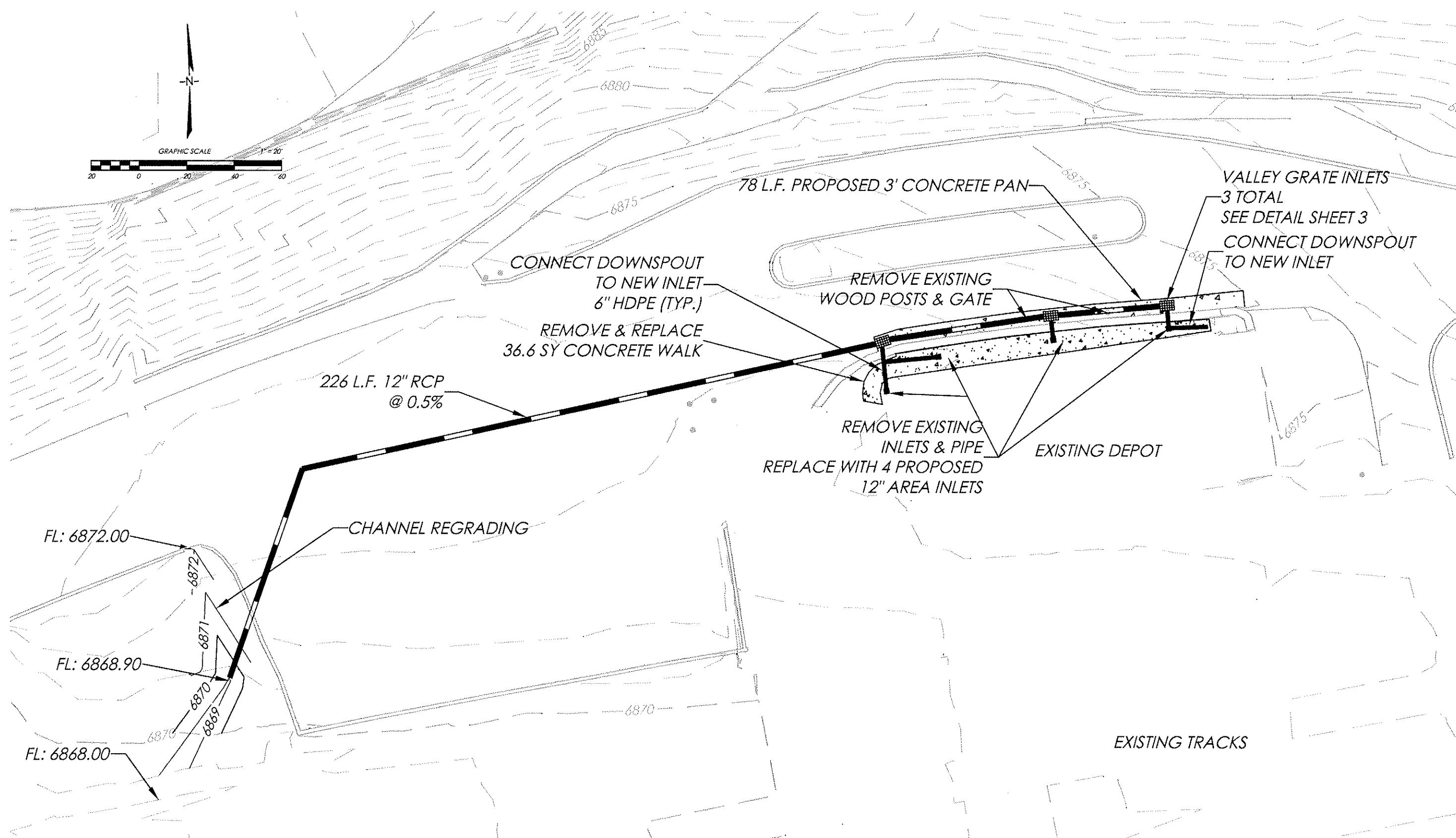
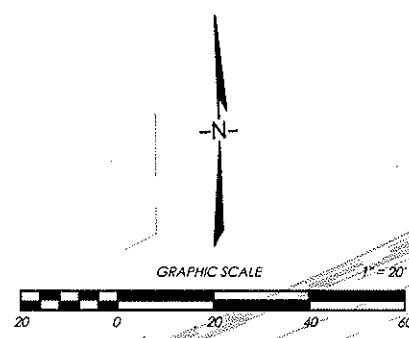
Design Information (Input)		MINOR	MAJOR
Type of Inlet	Type =	Denver No. 16 Combination	
Local Depression (additional to continuous gutter depression 'a' from 'Q-Allow')	a _{LOCAL} =	2.0	2.0
Total Number of Units in the Inlet (Grate or Curb Opening)	No =	1	1
Length of a Single Unit Inlet (Grate or Curb Opening)	L _o =	3.00	3.00
Width of a Unit Grate (cannot be greater than W from Q-Allow)	W _o =	1.73	1.73
Clogging Factor for a Single Unit Grate (typical min. value = 0.5)	C _{r-G} =	0.50	0.50
Clogging Factor for a Single Unit Curb Opening (typical min. value = 0.1)	C _{r-C} =	0.10	0.10
Street Hydraulics: OK - Q < maximum allowable from sheet 'Q-Allow'			
Design Discharge for Half of Street (from Sheet Q-Peak)		MINOR	MAJOR
Water Spread Width	Q _o =	0.19	4.46
Water Depth at Flowline (outside of local depression)	T =	1.4	9.5
Water Depth at Street Crown (or at T _{MAX})	d =	1.4	3.8
Ratio of Gutter Flow to Design Flow	d _{CROWN} =	0.0	0.0
Discharge outside the Gutter Section W, carried in Section T _x	E _o =	1.000	0.605
Discharge within the Gutter Section W	Q _x =	0.00	1.76
Discharge Behind the Curb Face	Q _w =	0.19	2.70
Street Flow Area	Q _{BACK} =	0.00	0.00
Street Flow Velocity	A _s =	0.08	1.02
Water Depth for Design Condition	V _s =	2.56	4.36
	d _{LOCAL} =	3.4	5.8
Grate Analysis (Calculated)		MINOR	MAJOR
Total Length of Inlet Grate Opening	L =	3.00	3.00
Ratio of Grate Flow to Design Flow	E _{G-GRATE} =	1.038	0.560
Under No-Clogging Condition		MINOR	MAJOR
Minimum Velocity Where Grate Splash-Over Begins	V _o =	7.11	7.11
Interception Rate of Frontal Flow	R _f =	1.00	1.00
Interception Rate of Side Flow	R _s =	0.24	0.11
Interception Capacity	Q _s =	0.20	2.71
Under Clogging Condition		MINOR	MAJOR
Clogging Coefficient for Multiple-unit Grate Inlet	GrateCoef =	1.00	1.00
Clogging Factor for Multiple-unit Grate Inlet	GrateClog =	0.50	0.50
Effective (unclogged) Length of Multiple-unit Grate Inlet	L _e =	1.50	1.50
Minimum Velocity Where Grate Splash-Over Begins	V _o =	5.13	5.13
Interception Rate of Frontal Flow	R _f =	1.00	1.00
Interception Rate of Side Flow	R _s =	0.06	0.02
Actual Interception Capacity	Q _s =	0.19	2.55
Carry-Over Flow = Q _o - Q _s (to be applied to curb opening or next d/s inlet)	Q _b =	0.00	1.91
Curb or Slotted Inlet Opening Analysis (Calculated)		MINOR	MAJOR
Equivalent Slope S _e (based on grate carry-over)	S _e =	0.1667	0.1087
Required Length L ₁ to Have 100% Interception	L ₁ =	0.00	11.90
Under No-Clogging Condition		MINOR	MAJOR
Effective Length of Curb Opening or Slotted Inlet (minimum of L, L ₁)	L =	0.00	3.00
Interception Capacity	Q _i =	0.00	0.39
Under Clogging Condition		MINOR	MAJOR
Clogging Coefficient	CurbCoef =	1.00	1.00
Clogging Factor for Multiple-unit Curb Opening or Slotted Inlet	CurbClog =	0.10	0.10
Effective (Unclogged) Length	L _e =	0.00	2.70
Actual Interception Capacity	Q _s =	0.00	0.36
Carry-Over Flow = Q _o (GRATE) - Q _s	Q _b =	0.00	1.56
Summary		MINOR	MAJOR
Total Inlet Interception Capacity	Q =	0.20	2.90
Total Inlet Carry-Over Flow (flow bypassing inlet)	Q _b =	0.00	1.56
Capture Percentage = Q _i /Q _o =	C% =	100.0	65.1



△ 1 DESIGN POINT



DESIGNED: HKP TGM TECH. REVIEW: DATE:	SUB SHEET NO.	TITLE OF SHEET GRAND CANYON DEPOT DRAINAGE BASIN DELINEATION HISTORIC STRUCTURE REPORT GRAND CANYON NATIONAL PARK	DRAWING NO. PMIS/PKG NO. SHEET 1 OF 1
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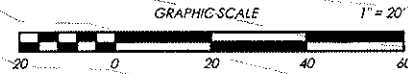
LEGEND

- | | | | |
|---------------|----------------|---------------|-----------------|
| CATCH BASIN | ELECTRIC RISER | WATER RISER | TELEPHONE RISER |
| ROOF DRAIN | GUY | WATER METER | BOLLARD / POST |
| STORM MANHOLE | UTILITY POLE | LIGHT POLE | TREE |
| FIRE HYDRANT | WATER VALVE | SEWER MANHOLE | |

**PRELIMINARY
NOT FOR CONSTRUCTION**

DESIGNED: HKP	SUB SHEET NO. 	TITLE OF SHEET GRAND CANYON DEPOT DRAINAGE REMEDIATION ALTERNATIVE 1 HISTORIC STRUCTURE REPORT GRAND CANYON NATIONAL PARK	DRAWING NO. 1 3
DATE:			PMIS/PKG NO.
			SHEET 1 OF 6

MATCHLINE



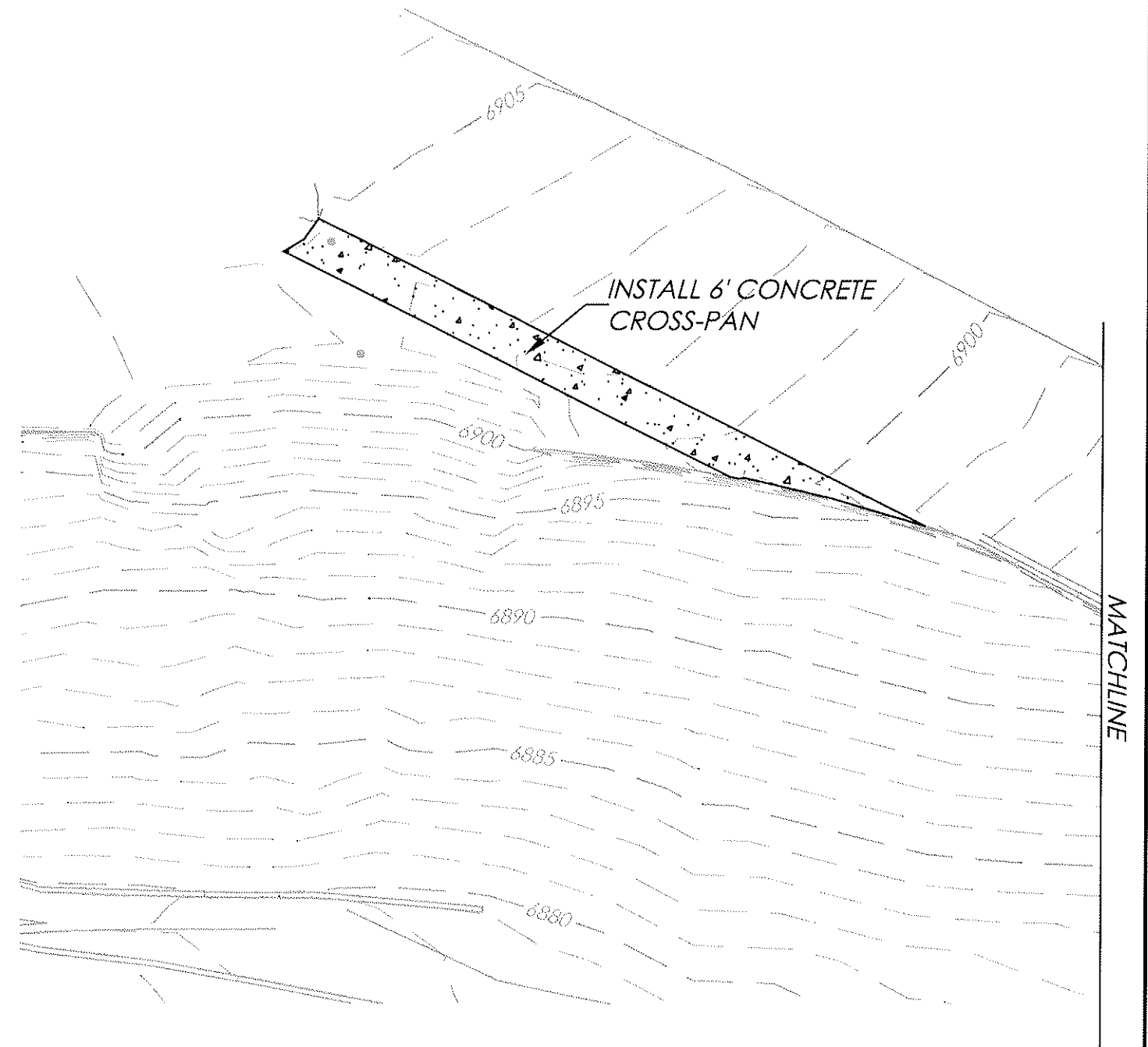
1 COMBINATION
INLET & 10 LF
12" RCP

CONNECT TO EXISTING INLET

EXISTING TRACKS

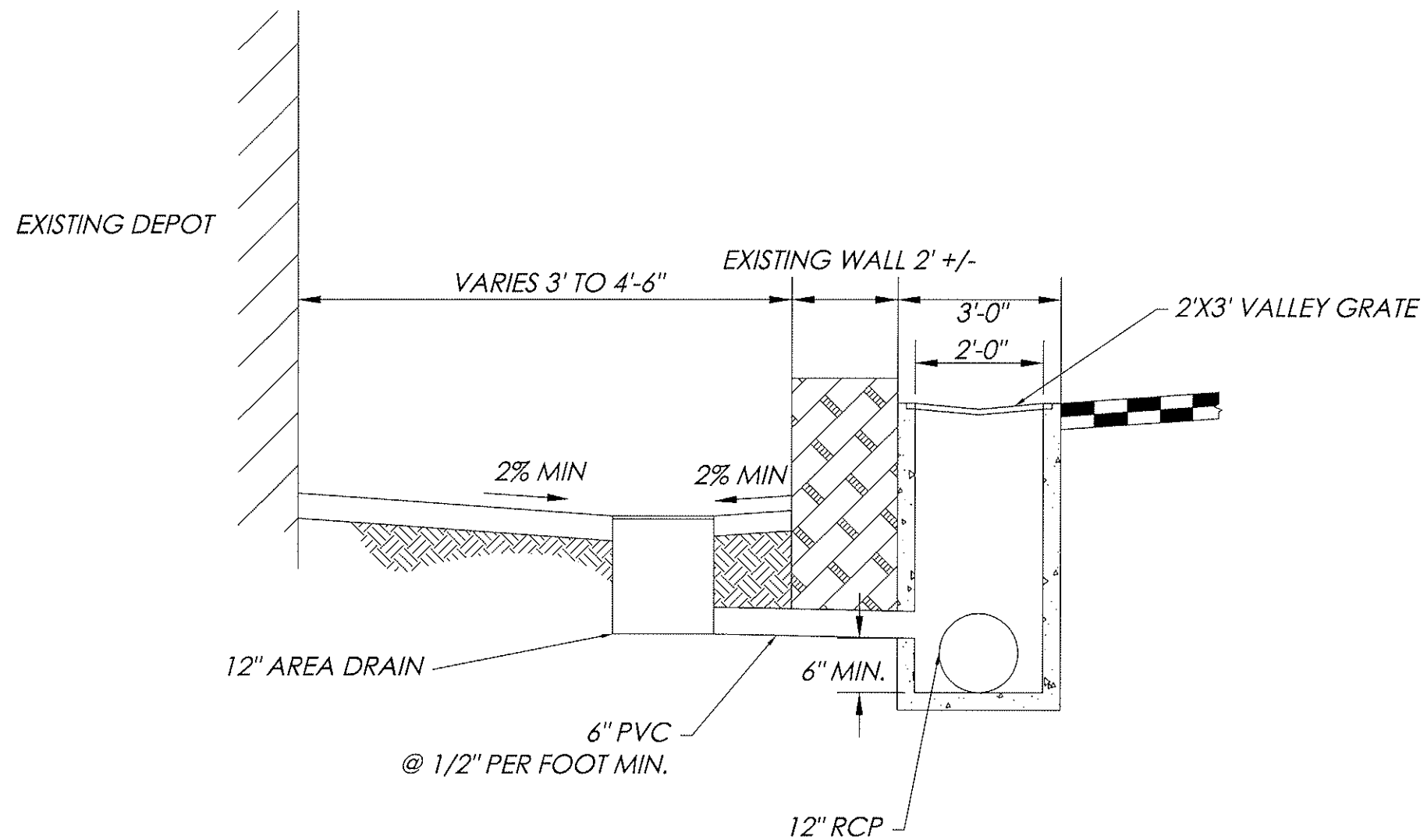
LEGEND

CATCH BASIN	ELECTRIC RISER	WATER RISER	TELEPHONE RISER
ROOF DRAIN	GUY	WATER METER	BOLLARD / POST
STORM MANHOLE	UTILITY POLE	LIGHT POLE	TREE
FIRE HYDRANT	WATER VALVE	SEWER MANHOLE	



**PRELIMINARY
NOT FOR CONSTRUCTION**

DESIGNED: HKP	SUB SHEET NO. 	TITLE OF SHEET GRAND CANYON DEPOT DRAINAGE REMEDIATION ALTERNATIVE 1 HISTORIC STRUCTURE REPORT GRAND CANYON NATIONAL PARK	DRAWING NO. 2
CHAD			3
TGM			PMIS/PKG NO.
TECH. REVIEW:			SHEET
DATE:			2 of 6



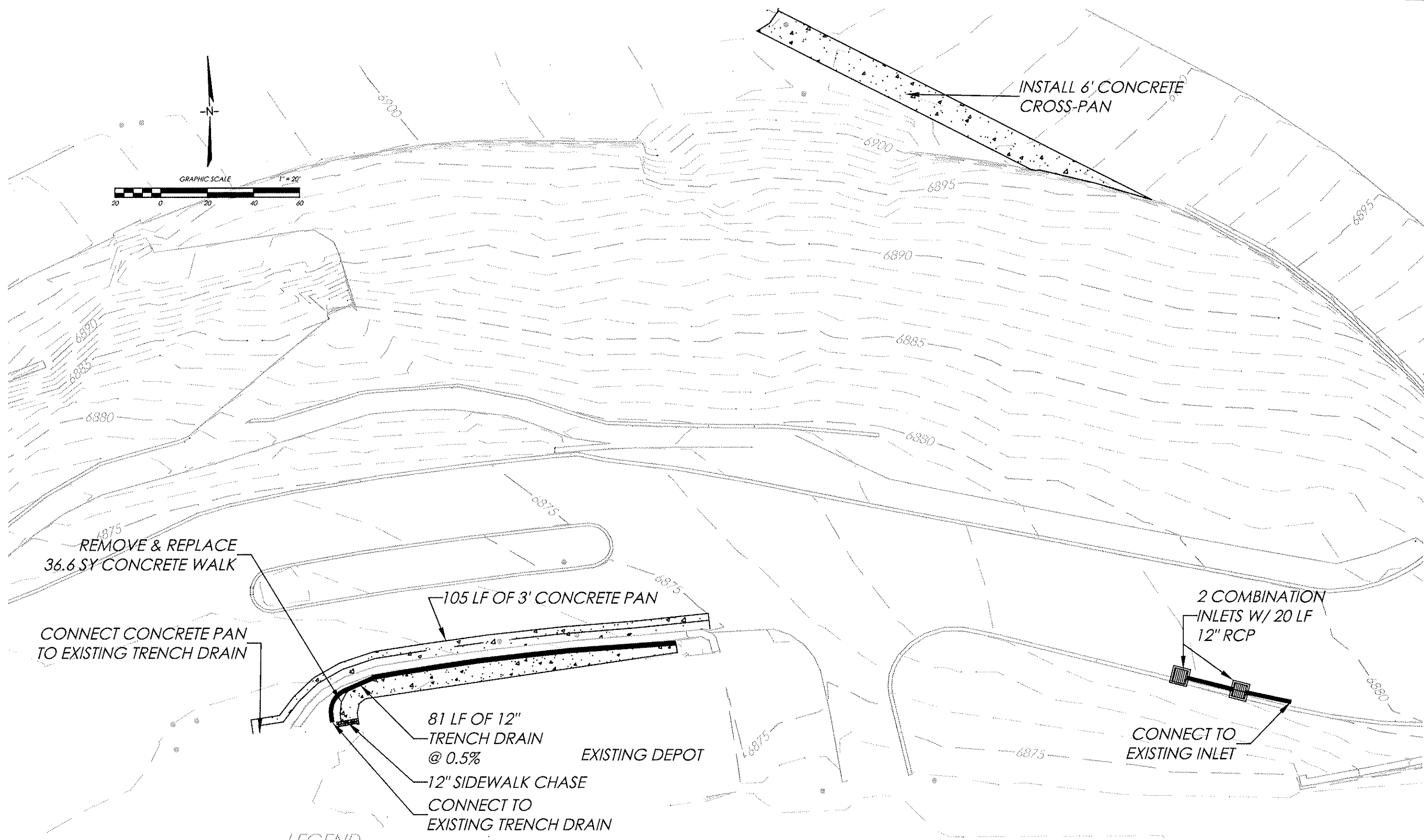
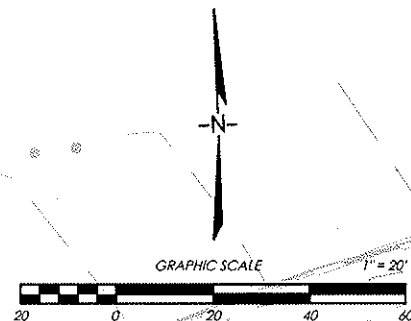
ALTERNATIVE 1 DETAIL
(NTS)

LEGEND

CATCH BASIN	ELECTRIC RISER	WATER RISER	TELEPHONE RISER
ROOF DRAIN	GUY	WATER METER	BOLLARD / POST
STORM MANHOLE	UTILITY POLE	LIGHT POLE	TREE
FIRE HYDRANT	WATER VALVE	SEWER MANHOLE	

PRELIMINARY
NOT FOR CONSTRUCTION

DESIGNED: HKP	SUB SHEET NO.	TITLE OF SHEET GRAND CANYON DEPOT DRAINAGE REMEDIATION ALTERNATIVE 1 HISTORIC STRUCTURE REPORT GRAND CANYON NATIONAL PARK	DRAWING NO. 3 3
TECH. REVIEW: GADD			PMIS/PKG NO.
DATE:			SHEET 3 OF 6

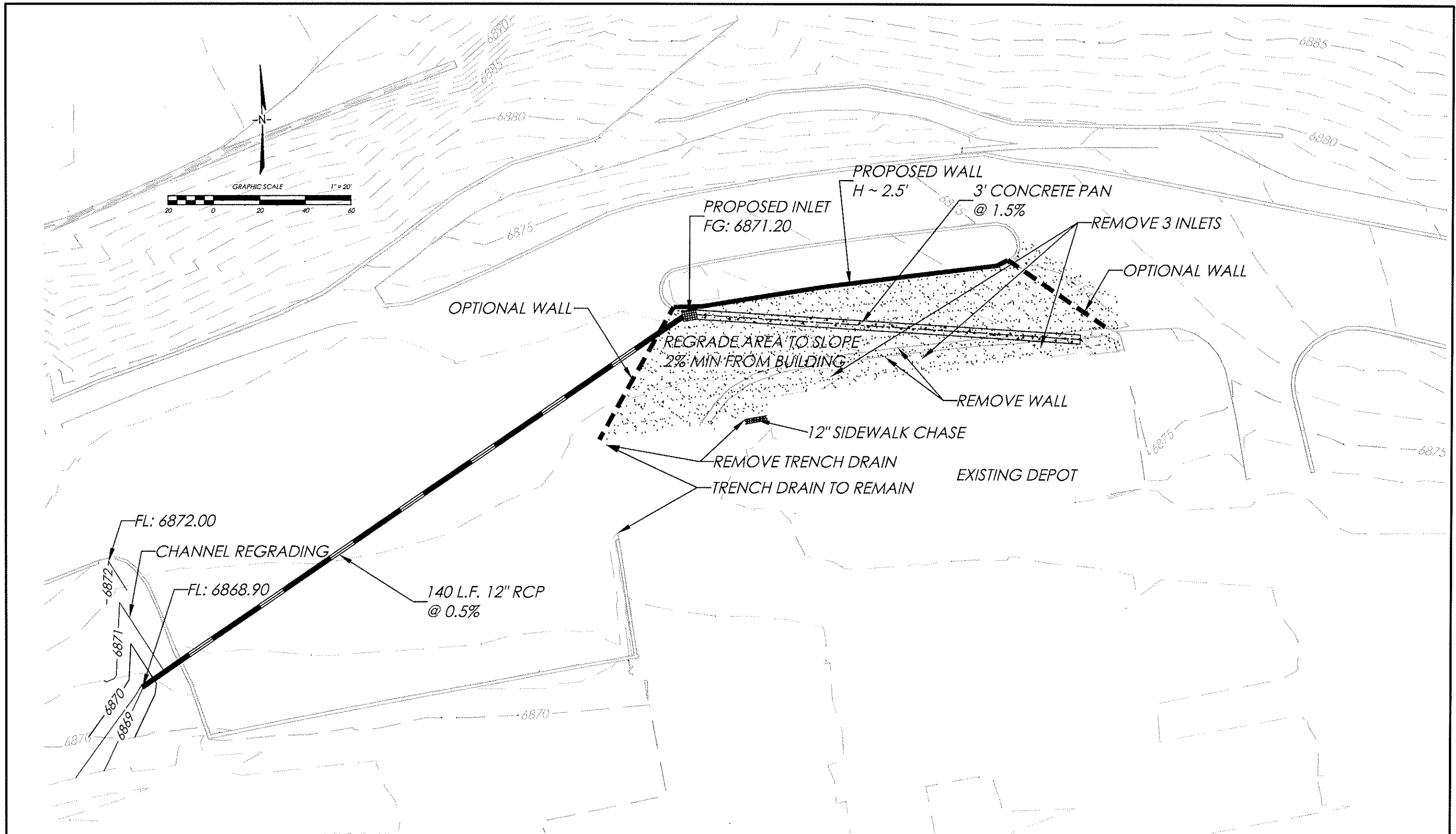


LEGEND

CATCH BASIN	ELECTRIC RISER	WATER RISER	TELEPHONE RISER
ROOF DRAIN	GUY	WATER METER	BOLLARD / POST
STORM MANHOLE	UTILITY POLE	LIGHT POLE	TREE
FIRE HYDRANT	WATER VALVE	SEWER MANHOLE	

**PRELIMINARY
NOT FOR CONSTRUCTION**

DESIGNED: HKP	SUB SHEET NO.	TITLE OF SHEET GRAND CANYON DEPOT DRAINAGE REMEDIATION ALTERNATIVE 2 HISTORIC STRUCTURE REPORT GRAND CANYON NATIONAL PARK	DRAWING NO. 1 PMIS/PKG NO.
TECH. REVIEW:			SHEET 4 OF 6
DATE:			

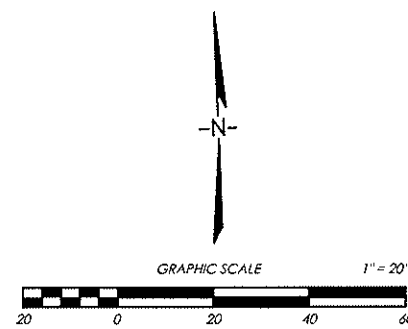
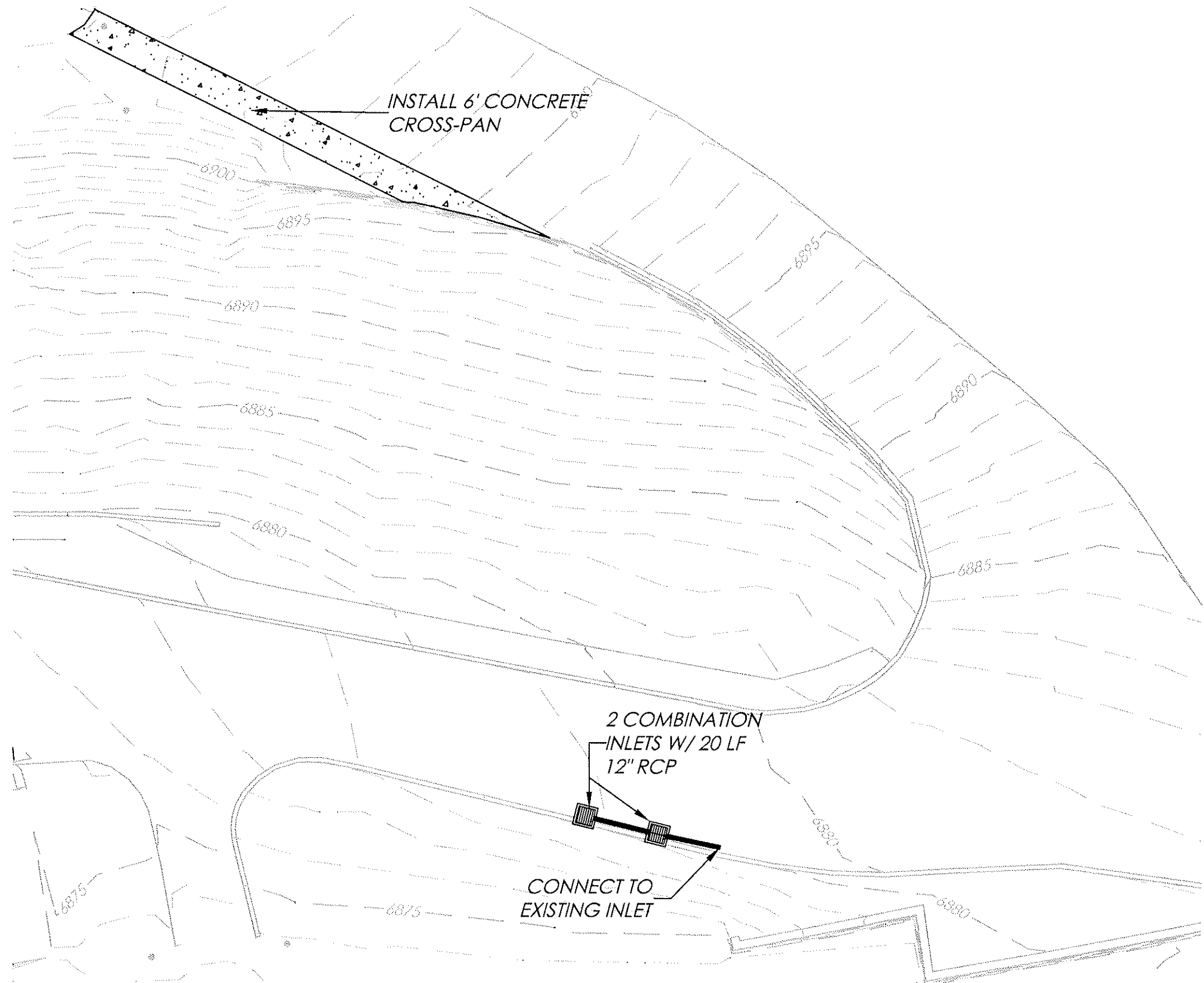


LEGEND

CATCH BASIN	ELECTRIC RISER	WATER RISER	TELEPHONE RISER
ROOF DRAIN	GUY	WATER METER	BOLLARD / POST
STORM MANHOLE	UTILITY POLE	LIGHT POLE	TREE
FIRE HYDRANT	WATER VALVE	SEWER MANHOLE	

**PRELIMINARY
NOT FOR CONSTRUCTION**

DESIGNED: HKP	SUB SHEET NO.	TITLE OF SHEET GRAND CANYON DEPOT DRAINAGE REMEDIATION ALTERNATIVE 3 HISTORIC STRUCTURE REPORT GRAND CANYON NATIONAL PARK	DRAWING NO. 1 2 PMS/PKG NO.
TECH. REVIEW:			SHEET 5 of 6
DATE:			



LEGEND

CATCH BASIN	ELECTRIC RISER	WATER RISER	TELEPHONE RISER
ROOF DRAIN	GUY	WATER METER	BOLLARD / POST
STORM MANHOLE	UTILITY POLE	LIGHT POLE	TREE
FIRE HYDRANT	WATER VALVE	SEWER MANHOLE	

**PRELIMINARY
NOT FOR CONSTRUCTION**

DESIGNED:
HKP
GAPD
TGM
TECH. REVIEW:
DATE:

SUB SHEET NO.

TITLE OF SHEET
GRAND CANYON DEPOT
DRAINAGE REMEDIATION
ALTERNATIVE 3
HISTORIC STRUCTURE REPORT
GRAND CANYON NATIONAL PARK

DRAWING NO.
2
2
PMIS/PKG NO.
SHEET
6 OF 6

Grand Canyon Drainage Remediation

Alternative 1

Item Description	Quantity	Unit	Cost	Extension
1 12" Class IV RCP C.I.P.	251	LF	\$ 70.00	\$ 17,570.00
2 12" Area Inlet	4	EA	\$ 1,000.00	\$ 4,000.00
3 Valley Inlet	3	EA	\$ 3,500.00	\$ 10,500.00
4 Combination inlet	1	EA	\$ 3,500.00	\$ 3,500.00
5 3' Concrete Pan	78	LF	\$ 20.00	\$ 1,560.00
6 Concrete Walk	36.3	SY	\$ 35.00	\$ 1,270.50
7 Channel Grading	4	HR	\$ 110.00	\$ 440.00
8 12" FES	1	EA	\$ 500.00	\$ 500.00
9 Remove Existing Inlet	3	EA	\$ 250.00	\$ 750.00
10 Remove Concrete Walk	36.3	SY	\$ 15.00	\$ 544.50
11 6" HDPE	33	LF	\$ 75.00	\$ 2,475.00
12 Connect To Existing Inlet	1	EA	\$ 1,000.00	\$ 1,000.00
13 Remove Asphalt	76	SY	\$ 7.00	\$ 532.00
14 Asphalt Patching	50	SY	\$ 20.00	\$ 1,000.00
15 Erosion Control/Landscaping	1	LS	\$ 1,000.00	\$ 1,000.00
16 6' Concrete Cross-Pan	1	EA	\$ 5,000.00	\$ 5,000.00

Subtotal \$ 51,642.00

Indirect Costs (mobilization, etc) 30% \$ 15,492.60

Contingency (20%) \$ 10,328.40

Total \$ 77,463.00

Alternative 2

Item Description	Quantity	Unit	Cost	Extension
1 12" Class IV RCP C.I.P.	20	LF	\$ 70.00	\$ 1,400.00
2 Combination Inlet	2	EA	\$ 3,500.00	\$ 7,000.00
3 3' Concrete Pan	105	LF	\$ 20.00	\$ 2,100.00
4 Concrete Walk	36.3	SY	\$ 35.00	\$ 1,270.50
5 Remove Concrete Walk	36.3	SY	\$ 15.00	\$ 544.50
6 Sidewalk Chase	1	EA	\$ 1,000.00	\$ 1,000.00
7 Connect To Existing Inlet	1	EA	\$ 1,000.00	\$ 1,000.00
8 Remove Asphalt	35	SY	\$ 7.00	\$ 245.00
9 Asphalt Patching	5	SY	\$ 15.00	\$ 75.00
10 Remove Existing Inlet	3	EA	\$ 250.00	\$ 750.00
11 12" Trench Drain	81	LF	\$ 250.00	\$ 20,250.00
12 6' Concrete Cross-Pan	1	EA	\$ 5,000.00	\$ 5,000.00

Subtotal \$ 40,635.00

Indirect Costs (mobilization, etc) 30% \$ 12,190.50

Contingency (20%) \$ 8,127.00

Total	\$ 60,952.50
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Alternative 3

Item Description	Quantity	Unit	Cost	Extension
1 12" Class IV RCP C.I.P.	160	LF	\$ 70.00	\$ 11,200.00
2 Valley Inlet	1	EA	\$ 3,500.00	\$ 3,500.00
3 Combination Inlet	2	EA	\$ 3,500.00	\$ 7,000.00
4 3' Concrete Pan	85	LF	\$ 20.00	\$ 1,700.00
5 Sidewalk Chase	1	EA	\$ 1,000.00	\$ 1,000.00
6 Remove Trench Drain	31	LF	\$ 15.00	\$ 465.00
7 Channel Grading	4	HR	\$ 110.00	\$ 440.00
8 12" FES	1	EA	\$ 500.00	\$ 500.00
9 Remove Existing Inlet	3	EA	\$ 250.00	\$ 750.00
10 Remove Concrete Walk	36.3	SY	\$ 15.00	\$ 544.50
11 Retaining Wall	160	LF	\$ 100.00	\$ 16,000.00
12 Connect To Existing Inlet	1	EA	\$ 1,000.00	\$ 1,000.00
13 Remove Asphalt	250	SY	\$ 7.00	\$ 1,750.00
14 Resurfacing	2220	SF	\$ 5.00	\$ 11,100.00
15 Erosion Control/Landscaping	1	LS	\$ 1,000.00	\$ 1,000.00
16 6' Concrete Cross-Pan	1	EA	\$ 5,000.00	\$ 5,000.00

Subtotal \$ 62,949.50

Indirect Costs (mobilization, etc) 30% \$ 18,884.85

Contingency (20%) \$ 12,589.90

Total	\$ 94,424.25
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As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

