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GRAND CANYON NATIONAL PARK ROADS,
VILLAGE LOOP DRIVE RETAINING WALL No. 1
Grand Canyon National Park
Grand Canyon Village
Coconino County
Arizona

HAER No. AZ-35-A

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Western Region
Department of the Interior
San Francisco, California 94107

HISTORIC AMERICAN ENGINEERING RECORD

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Location: Village Loop Drive is the east-west loop road on both sides of the railroad tracks, running from the Fred Harvey operations building west to just beyond the Bright Angel Lodge. Village Loop Drive Retaining Wall No. 1 is located south of the tracks along the north side of the roadway: east of the mule barn, directly north of "The Pub," and northwest of the Ranger Ops building.

UTM: 12/397480/3990500

USGS Quad: Grand Canyon, AZ 1988 1:24,000

Date of Construction: [1936]

Type of Structure: Road Retaining Wall

Use: Road retaining wall

Designer/Engineer: National Park Service

Builder: [Civilian Conservation Corps]

Owner: National Park Service

Significance: This retaining wall is representative of rustic style road structures constructed by the Civilian Conservation Corps and other depression-era public works agencies within the western national parks during the period 1933-1942. It is purposely constructed of undressed native sandstone and limestone and rough-mortared to blend with surrounding natural ground features.

Project Information: Documentation of Village Loop Drive Retaining Wall No.1 is the result of a mitigation study in anticipation of imminent Grand Canyon road work which may bury the structure or require that it be rebuilt. This report was prepared as an NPS Denver Service Center contract assignment in September and December 1993, by Michael F. Anderson, 985 N. Granite Reef #150, Scottsdale, AZ 85257 (602) 423-1602.

INTRODUCTION

Many of the minor roads and associated structures within Grand Canyon National Park's residential and commercial areas were designed in the 1920s/1930s by NPS and Bureau of Public Roads engineers. These men designed roads to federal highway standards of the time, which considered far fewer and smaller vehicles than travel these routes today. Changing traffic patterns have required new alignments, grades, and roadway widening since the 1930s. Such modifications are now being considered which may result in the burial or dismantling and reconstruction of Village Loop Drive Retaining Wall No. 1 and several other masonry walls along Center Road, Apache Street, Boulder Street, and Village Loop Drive within Grand Canyon Village. This report describes the retaining wall and documents its construction, subsequent modifications, and the historic context within which it is significant.

HISTORY OF THE STRUCTURE

The author found no specific references nor photographs for Village Loop Drive Retaining Wall No. 1 in the various Grand Canyon archives, thus its origin is not certain. Portions of today's Village Loop Drive existed as early as 1901, and by 1918, some form of the road segment above the retaining wall existed as far west as the stables. The only construction report found which mentioned work near the wall entailed the building of a "double road" from the end of the railroad tracks to Center Road in 1928, but this project missed the area of the wall by a few dozen yards as it swept south to join with Center Road. A 1930s photograph pictures a Fred Harvey mule corral in the vicinity of the wall (just south and west of it) but does not reveal the wall itself, if it existed. No other direct reference was found for road work in proximity to the retaining wall.

Since masonry retaining walls were constructed in the park before the arrival of the CCC and no specific reference was found for construction of this wall, it is possible that it was built in the 1920s or earlier and that subsequent road improvements left it intact. Indirect evidence suggests otherwise, however. A sketch map drawn by Park Engineer C.M. Carrel for a minor road construction project in 1935-36 reveals a 750-foot realignment of Village Loop Drive, with the new road grade superimposed on that existing in 1935. This clearly shows that in the area of the retaining wall, the new road would be realigned at least twelve feet north of the old road. Assuming that this project was completed, and Carrel's handwritten "Completed in Oct. 1936."

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C.M.C." suggests it was, Village Loop Drive Retaining Wall No. 1 must have been built between late 1935 and late 1936, or thereafter.¹

Several factors suggest that the retaining wall was built at this time and that the work was performed by the CCC. The engineer's sketch map indicates that the road project was approved at all required levels and Carrel's handwritten note almost certainly refers to completion of the project (completion of the drawing was a year earlier). The road today resembles the path drawn on the map and the wall itself seems integral to the grade--not something that would have been added later. The masonry style and choice of materials is identical to dozens of other CCC masonry structures built during these years and Company 819 was assigned to minor roads projects at this time and in this vicinity. Lacking other evidence, the assumption of a 1936 construction date and CCC builders is reasonable.

Written and photographic evidence is also lacking for any repairs or maintenance to the wall since it was built. A visual inspection suggests that it has not been altered unless entirely reconstructed. Aging of the rock facing and deterioration of the mortar seems uniform. Doug Brown of Grand Canyon's Professional Services office told the author that a footpath once ran along the road above the retaining wall from Village Loop Drive Headwall No. 2 west toward the mule barn, which has since been buried by widening and asphaltting the roadway to the top of the retaining wall. Doug's informant was a road maintenance man who had apparently dug beneath the asphalt and discovered the limestone footpath wall. This roadway modification did not effect the retaining wall itself.

DESCRIPTION

The exposed portion of the retaining wall is approximately fifty feet long and four feet high at its highest point, which is at the center of the wall. It is of undressed, flat, rectangular blocks of sandstone and limestone, collected or quarried locally and crudely mortared. The roadway's asphalt wearing course is laid right to the edge of the top of the wall. The wall rises only to the wearing course level. It is in good condition, showing no signs of bulging, buckling, nor cracking. The only significant sign of aging is the flaking of the exterior mortar.

The retaining wall faces north toward the railroad tracks and is not visible from the roadway. It supports the road grade through a small hollow in the terrain--not a drainage, but an area where

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water might collect following a rain. At one time a Fred Harvey mule corral occupied a portion of this hollow. Although built as a retaining wall, two 8" diameter metal pipes today emerge from the top level of the wall. These pipes are immediately below the roadway wearing course at approximate center of the wall. They at one time apparently carried water across the road from the south side, but are today stuffed with cans and other debris. The terrain at the south side of the road today is level to the wearing course and there is no sign of a drainage ditch nor the other end of the pipes.

CONCLUSIONS/SIGNIFICANCE

Village Loop Drive Retaining Wall No. 1 is significant for its association with the work of the Civilian Conservation Corps within the western national parks. Built during the peak years of CCC activities, it represents a conscious attempt to conform to the tenets of rustic architecture popular at the parks from the 1920s through the 1940s. Constructed of native sandstone and limestone from local quarries and purposely rough-mortared, the retaining wall attracts no attention to itself; rather, it complements the landscape while serving the utilitarian purpose of supporting the road grade.

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ENDNOTES

1. C.M. Carrel, "Department of the Interior, National Park Service, Grand Canyon National Park, Minor Roads Headquarters Area," engineer's sketch map, 12 September 1935, Microfiche #113/5066, Grand Canyon drawings cabinets, top floor of the Grand Canyon Railway Depot, GCNP.

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John Kirkaldie, Photographer, August 1993

AZ-35-A-1 DISTANT VIEW OF RETAINING WALL AS SEEN LOOKING TO THE
SOUTH

AZ-35-A-2 VIEW OF THE TOP OF THE RETAINING WALL LOOKING WEST

AZ-35-A-3 VIEW OF THE TOP OF THE RETAINING WALL LOOKING EAST

AZ-35-A-4 DETAILED VIEW OF MASONRY WORK OF THE RETAINING WALL
LOOKING TO THE SOUTH



H.S.R. No. A3-25-A-1



HER. NO. A2-55-A-2



HILLTOP LANE ROAD
PUBLIC ROAD



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