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National Park Service

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National Register of Historic Places
Multiple Property Documentation Form

NATIONAL REGISTER

This form is for use in documenting multiple property groups relating to one or several historic contexts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. For additional space use continuation sheets (Form 10-900a). Type all Entries. Use letter quality printers in 12 pitch. Use only 25% or greater cotton content bond paper.

New Submission Amended Submission

A. Name of Multiple Property Listing

Colorado National Monument Multiple Property Submission

B. Associated Historic Contexts

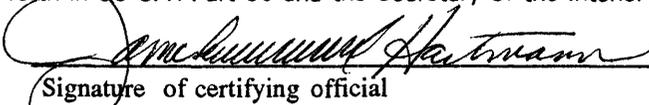
National Park Service Rustic Architecture and Public Works Construction,
1933-1942; Development of Automobile Routes and Access in Colorado National Monument,
1912-1950

C. Geographical Data

The geographic area encompasses the 1911 presidentially proclaimed established lands of Colorado National Monument, as extended by presidential proclamations in 1933 and 1959, which is located west of Grand Junction, Colorado, near the northern rim of the Uncompahgre Plateau. Comprised of six canyons, with distinctive cliffs and sandstone monoliths, the monument is in an arid region of Colorado with terrain of high desert and sparse vegetation typical of desert and plateaus, such as sagebrush, juniper, and pinon trees.

D. Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this documentation form meets the documentation standards and sets forth requirements for the listing of related properties consistent with the National Register criteria. This submission meets the procedural and professional requirements set forth in 36 CFR Part 60 and the Secretary of the Interior's Standards for Planning and Evaluation.


Signature of certifying official

March 26, 1993
Date

State Historic Preservation Office
State or Federal agency or bureau

I, hereby, certify that this multiple property documentation has been approved by the National Register as a basis for evaluating related properties for listing in the National Register.

Beth Baland
Signature of the Keeper of the National Register

4/21/94
Date

E. Statement of Historic Contexts

Discuss each historic context listed in Section B.

The contexts for this multiple property submission include historic association with the broad patterns of the history of Colorado National Monument and its development as a national monument. The association with the history and construction of Depression-era public relief agencies, as well as the National Park Service, is addressed within the "National Park Service Rustic Architecture and Public Works Construction, 1933-1942" context, and its implementation in Colorado National Monument. Properties associated with the development of the monument have been addressed within the "Development of Automobile Routes and Access in Colorado National Monument, 1911-1950" context. This multiple property submission does not include prehistoric or ethnographic properties.

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**NATIONAL PARK SERVICE RUSTIC ARCHITECTURE AND PUBLIC WORKS CONSTRUCTION,
1933-1942**

In any area in which the preservation of the beauty of Nature is a primary purpose, every modification of the natural landscape, whether it be by construction of a road or erection of a shelter, is an intrusion. A basic objective of those who are entrusted with development of such areas for the human uses for which they are established, is, it seems to me, to hold these intrusions to a minimum and so to design them that, besides being attractive to look upon, they appear to belong to and be a part of their settings.

Arno B. Cammerer, Director (1933-1940)
National Park Service

This philosophy, which appeared in the 1935 Department of the Interior publication, Park Structures and Facilities, had governed architecture within the National Park Service (NPS) since 1918. Conceived during the formative years of the Service under the directorship of Stephen T. Mather, this architectural style was referred to as "rustic" architecture. As early as 1842, architects were aware of the influence that surrounding landscape had on architectural design. Andrew Jackson Downing, noted landscape architect of the 19th century, published his ideas on "picturesque" landscape and architectural design in his book Cottage Residences. Frederick Law Olmstead, Sr., a student of Downing, emphasized the connection between landscape and architecture by incorporating "natural" materials, such as native stone, log, and timber, into his designs. As building forms blended to their surroundings, it was apparent that landscaping would become an integral part of architectural design.

With a focus towards preserving pristine lands, the establishment of the first national parks was a "response to the romanticism that re-structured the American concept of wilderness in the nineteenth century."¹ With the inception of Yellowstone in 1872 and Yosemite in 1890, public lands were reserved for the first national parks. Under the jurisdiction of the U.S. Department of the Interior, some park lands were protected and administered by the U. S. Army and the War Department until the agency of the NPS evolved in 1916. Stephen T. Mather, an 1887 graduate of the University of California at Berkeley and a Sierra Club conservationist, became the director of the NPS after a lengthy campaign leading to the establishment of the agency. Horace Albright, appointed Assistant Director to the new agency, held the same beliefs and ideals as Mather for the conservation and use of the park lands.

Visiting the parks, Mather and Albright began to formulate the type of architecture that would conform to the wilderness character of the areas. Finding different degrees of development in the parks, it was obvious that a variety of architectural styles had been employed in the construction of park structures. Existing government buildings were

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¹ Tweed, et al., p. 1.

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small and unassuming, except in some of the earlier parks, such as Yellowstone, where the U.S. Army and the railroad companies had erected permanent structures. Other parks were just as sophisticated in their development. Glacier, for example, had a system of hotels, chalets, and roads as the Great Northern Railway had moved through the area and developed along its route. These hotels, employing such building materials as native stone and logs, were harmonious to the surrounding landscape and terrain. Mather and Albright, through their investigations, reached the conclusion that landscape architecture would be an important element in the evolution of park lands. Working with the American Society of Landscape Architects (ASLA), Mather realized the importance of the relationship between the landscape and designed architecture.

With the growth of the NPS, a more defined architecture was applied to the earlier vernacular building designs that housed park administration. Mather and Albright began utilizing the ideas of the ASLA and the basic principles of Downing and Olmstead to create a rustic style of park architecture. These architectural precepts would dominate park planning for nearly thirty years. Introduced in the National Park Service's 1918 "Statement of Policy," the philosophy of NPS Rustic Architecture was to harmonize any construction or improvements in the parks with the natural surrounding environment. Through the use of engineers and landscape architects, all improvements were to be carried out in accordance with a preconceived plan developed in special reference to the preservation of the landscape. As the terrain and environment was varied in the parks, it became apparent that a single architectural style would not be appropriate for all of the parks. Following preconceived design plans, administrative and visitor buildings were stylistically adapted to specific environments. The mountainous parks boast styles such as Swiss Chalet or Tudor, as seen in Lake MacDonald Lodge in Glacier National Park, or the LeConte Memorial Lodge in Yosemite National Park. Grand Canyon National Park, with its El Tovar, and many of the other desert-like parks, offer structures of native stone in scale to the surroundings. Although these exemplified resources pre-date the policy of NPS Rustic Architecture, some adherence to principles of landscape and architectural design is obvious.

As the NPS developed its own Rustic Architecture, structures such as the Fall River Entrance Station in Rocky Mountain National Park and the administration buildings at Zion National Park and Mount Rainier National Park appeared. With little emphasis on man-made characteristics, harmony with landscape was achieved through use of native materials. By incorporating native materials into design and construction, the subordination of the structure to the environment was achieved in several ways. By situating the structure in an appropriate site, secluded or behind natural vegetation, the constructed materials were less of an intrusion to the environment. Structural elements of the design were important to keep the building in the proper scale and perspective. In high, mountainous areas, such as Yosemite and Yellowstone, an emphasis on overscaling of the materials and size was a predominate design influence so the building would not be dwarfed in the presence of the surrounding trees and rough terrain. In lower, less rugged areas, there was not a crucial

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need for the design to be oversized. A focus was placed on the choice of building materials and placement of the structure. An emphasis on horizontal lines, as opposed to more conspicuous vertical lines, helped to keep roof lines low and unobtrusive in the non-mountainous terrain.

By the time that Rustic Architecture had become an accepted element to park planning, the NPS had acquired a great deal of land for public use. Many national parks were instated and visitation rose as the automobile made travel accessible for a large part of the population. To accommodate the influx of visitors, the NPS recognized the need to develop service and information areas, as well as roads and trails. During the 1930s, Colorado National Monument, along with other national parks, was planned by the Landscape Engineering Division. With the assistance of the Civilian Conservation Corps (CCC) and the Public Works Administration (PWA), the NPS accomplished a great deal of development and improvement within the national parks.

Franklin Delano Roosevelt, inaugurated into presidential office on March 4, 1933, was faced with the Great Depression and thousands of unemployed citizens. Introduced on March 21, 1933, the Federal Unemployment Relief Act was enacted on March 31, 1933. Encouraged by his long interest in forestry and conservation of natural areas, President Roosevelt proposed to utilize the manpower of 250,000 men in public work projects. In a solution to alleviate the unemployment problem, President Roosevelt established the agency of Emergency Conservation Work (ECW), popularly known as the Civilian Conservation Corps. On June 28, 1937 the Civilian Conservation Corps was formally established as an independent agency. With available labor, the NPS, along with many other government agencies, was able to develop and construct many administrative facilities. As stated by Conrad Wirth, departmental representative on the CCC Advisory Council and subsequently the Director of the National Park Service (1951-1969):

The Civilian Conservation Corps advanced park development by many years. It made possible the development of many protective facilities on the areas that comprise the National Park System...[which] benefitted immeasurably by the Civilian Conservation Corps. The CCC also provided the manpower and materials to construct many administrative and public-use facilities...restore historic sites and buildings...and to do many other developmental and administrative tasks that are so important to the proper protection and use of the National Park System. The CCC made available to the superintendents of the national parks, for the first time, a certain amount of manpower that allowed them to do many important jobs when and as they arose. Many of these jobs made the difference between a well-managed park and one "just getting along."²

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² Wirth, p. 147.

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In addition to the CCC, park superintendents often employed the services of Local Experienced Men (LEMs), individuals that were trained and skilled in specialized trades. The LEMs trained the CCC enrollees in the decorative techniques when finishing a project. Skilled in such areas as carpentry and masonry, the LEMs not only taught the CCC, but also aided in the decorative features. In Colorado National Monument, this is obvious in the completion of Rim Rock Drive and other structures within the park boundaries.

In western Colorado, the most impressive examples of CCC construction work are located within Colorado National Monument. Three major projects representing the most significant period of monument development: Rim Rock Drive, the Saddlehorn Headquarters/Campground Area (utility area, caretaker's residence and garage, and comfort station) and the Devils Kitchen Picnic Shelter. These construction projects illustrate the labor of several thousand CCC enrollees and LEMs. Through use of the CCC and LEMs, the NPS was able to improve and construct needed facilities using preconceived ideas originating in the Landscape Engineering Division and the Branch of Landscape and Design. Architects had adopted the rustic architecture theory and calibrated their designs to be unassuming, but responsive to the surrounding terrain.

**DEVELOPMENT OF AUTOMOBILE ROUTES AND ACCESS IN COLORADO NATIONAL MONUMENT,
1911-1950**

Created by presidential proclamation in 1911, Colorado National Monument consists of 32-square miles displaying colorful and scenic geological formations. The monument, which is located approximately four miles southwest of Grand Junction in extreme west-central Colorado, is administered by the National Park Service. The Colorado River roughly parallels the northeastern boundary of the monument at a distance of one to two miles. The monument embraces a number of scenic, deeply-cut canyons, monoliths, and mesas, ranging from less than 5,000 to more than 7,000 feet in elevation. The overlying sandstone formations at the monument have been eroded over millions of years, exposing darker igneous and metamorphic rocks in the canyon bottoms. These geological formations illustrate the processes of erosion and the enormity of earth's time.³

Accounts of early explorations of the area hold no reports of the "discovery" of the monument. The Dominguez and Escalante expedition travelled north of the region in August 1776. Fur trappers visiting Antoine Robidoux's supply and trading post to the south probably passed through the area in the early 1830s. In 1853, Capt. John W. Gunnison's 38th Parallel survey expedition passed just north of the monument.

Given the rugged terrain and relative remoteness, access to the monument was a problem for decades after its creation. J. E. Connolly, a Special Agent for the U. S. General Land

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³ Lohman, pp. 22-23.

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Office, wrote in 1911 that the "existence of this monument is scarcely known to the citizens of Grand Junction, and not at all to persons passing through or stopping there for a day or two." Connolly recommended erecting signs and building an access road to the monument.⁴

The opening up of Colorado National Monument to automobile travel and tourism involved two stages: 1) the building of an access road to the monument and 2) the construction of a scenic highway through the monument. The Serpents Trail (also known as the Trail of the Serpent or Serpentine Trail) was built during the 1912-21 period and enabled automobile access from Grand Junction, up the north side of No Thoroughfare Canyon to the top of the rimrocks near Cold Shivers Point. The unpaved, two-lane, two-way road was approximately 19 feet wide and 2.5 miles long and used numerous switchbacks to ascend the side of the canyon.

Rim Rock Drive was constructed as a scenic highway between the monument's Fruita and Grand Junction entrances between 1931 and 1950. Running on a generally northwest-southeast axis through the monument, the road was built on the rims of the major canyons. The paved, two-lane, two-way highway is 22.42 miles long and 24 feet wide and includes such features as three tunnels, scenic overlooks, guard walls, retaining walls, and drainage structures. Rim Rock Drive permitted automobile travelers to easily view the most scenic aspects of Colorado National Monument. The No Thoroughfare Canyon section of Rim Rock Drive was completed in 1950, replacing the Serpents Trail as the east entryway to the monument. The new highway in the park obliterated the upper portion of Serpents Trail and the remainder was converted to a hiking trail.

Serpents Trail

Planning

The early history of trails and roads in the vicinity of Colorado National Monument is closely tied to the story of John Otto. Otto was an eccentric loner, called by his contemporaries "the hermit of Colorado National Monument," who led the drive for the creation of the monument. He served as the first Custodian from 1911-27 and promoted monument tourism and access through numerous letters to the editor and other activities, as well as personally working on development of the area.

John Otto was born in Marthasville, Missouri, in 1879, where his father, a German immigrant, taught at Eden Theological Seminary. At nineteen, after briefly attending Elmhurst College in Illinois, he began working in mining and traveled through much of the West over the next few years. His lifestyle and behavior were often viewed as peculiar

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⁴ J. E. Connolly to Commissioner, General Land Office, letter, November 24, 1911.

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and, during his lifetime, he "had to be locked up three times for insanity to protect government officials."⁵

Otto came to Mesa County, Colorado, in 1907 to work as an explosives handler on a water pipeline project near Fruita. He discovered the nearby canyons and mesas, fell in love with them, and moved to Monument Canyon to live when the Fruita job ended. Soon, he began promoting the canyonlands area as a national park, undertaking a variety of publicity ventures and inviting the public to visit the region. The Grand Junction Chamber of Commerce endorsed Otto's national park drive in 1908. Beginning in 1909, Otto built a series of horseback and hiking trails into and through the Monument Mesa area as a means of increasing public access to and appreciation of the site.

In response to Grand Junction area interest, the Colorado congressional delegation attempted to have the area declared a national park. Senator Simon Guggenheim sponsored such a bill in 1910, which included an appropriation of \$20,000 for "construction of roads and bridges from Grand Junction, Colorado, leading into and through the said park" (S. 4934, January 6, 1910). In April 1910, Otto proposed building "the Grand Rimrock Boulevard, the world's greatest driveway" as a means of automobile access into the area and attracted some backing from Grand Junction area businessmen.⁶ The original plan called for entering the rimrocks near Liberty Cap, rather than in the current Serpents Trail location.

Although the effort to establish a national park was unsuccessful, President William H. Taft designated the area a national monument by presidential proclamation on May 24, 1911. Otto was appointed Colorado National Monument's first Custodian in June 1911 at a salary of one dollar per month; he held the position until February 1927. Following creation of the Colorado National Monument, Representative Edward T. Taylor, who was to become one of the monument's strongest supporters, introduced an unsuccessful measure calling for funding "a national road from the city of Grand Junction, Colorado, to and through the Colorado National Monument" (H. R. 1379, June 8, 1911). Representative Taylor backed similar proposals in succeeding Congresses (H. R. 1643, April 7, 1913; H. R. 35, December 6, 1915; and H. R. 1703, April 4, 1917). While lacking specifics, such proposals demonstrated that the general question of access to the area was clearly recognized by state policy makers. Apparently, Colorado politicians were unable to persuade their colleagues of the merits of such a road project.

Otto continued to boost the development of automobile access to the area. The idea for the current Serpents Trail location had emerged to replace the Liberty Cap alignment by

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⁵ Kania, John Otto, p. 9.

⁶ "Organize to Build Road," Grand Junction Daily Sentinel, April 26, 1910.

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December 1911. Assisted by civil engineer J. F. Sleeper, Otto laid out the route from No Thoroughfare Canyon to the top of the rimrocks. At the request of Otto and others, County Surveyor James H. Fisk examined the proposed path in late December 1911, found it feasible, and estimated construction costs at \$6,500. Fisk reported to the county commissioners in April 1912, who referred the matter for future action. During 1912, Otto continued to barrage the Daily Sentinel with letters to the editor promoting various road schemes. He intended that the Serpents Trail route continue to Glade Park and thence to Moab, Utah, as part of a transcontinental roadway.⁷

According to a March 1921 article in the Daily Sentinel, John Otto named the road the Trail of the Serpent.⁸ It is commonly known as Serpents Trail. During much of the planning and construction period, the route had been described as the new Glade Park Road, the Union Trail, or the Colorado Rim Rock Route.⁹

Construction

Construction of Serpents Trail began in February 1912 but was not completed until 1921. Construction was sporadic due to difficulties in securing financing resulting from competition from other road projects. A hiking and horseback trail was built in the same location during the 1911-12 by John Otto and was used by workers during the construction of the road. Reporting progress on the endeavor in mid-1912, Otto wrote that the road had been "staked out" in January and had "been doing fine at least as best it could ever since it was started."¹⁰ He noted that four days of roadwork had been performed in February.

In December 1912, John Otto, John G. McKinney, and William C. Herrman filed articles of incorporation for the Colorado River Auto Transportation and Toll Road Company. Among the listed purposes of the company was the construction and operation of a toll road built from No Thoroughfare Canyon "by the most direct and feasible route to the top of the rim-rock on Pinion Mesa; thence in a general southwestern direction to the east end of Glade Park."¹¹ The venture was capitalized by numerous Grand Junction area businessmen who bought stock in the company.

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⁷ John Otto to Grand Junction Daily Sentinel, letter, July 11, 1912.

⁸ "'Trail of the Serpent' Proves Popular," Daily Sentinel, March 1921, cited in Wills, p. 57.

⁹ Grand Junction Daily Sentinel, June 11, 1921, cited in Kania, Report, p. 65-7.

¹⁰ John Otto to Grand Junction Daily Sentinel, letter, July 11, 1912, cited in Kania, Report, p. 24.

¹¹ Kania, Report, p. 27.

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When state funding for the road appeared impossible in late 1912, Otto asserted that "we as individuals pushed the road and started work the first Monday in January."¹² The upper portion of the road was under construction at that time, as Otto observed that he and three co-workers had to go "a mile up the hill over the snowy trail to work." Alan J. Kania, who authored a book on Otto's life in 1984, concludes that "a considerable amount of excavation work along the route of the road was being done under Otto's direction and paid for with stock certificate income from the company."¹³

Conflict between competing transcontinental highway alignments increased during 1912-13. Otto backed his extended Serpents Trail alignment through the canyonlands to Utah, while the Grand Junction Chamber of Commerce supported the Midland Trail, which followed the line of today's Interstate 70. In May 1913, the Chamber passed a resolution praising Otto for boosting roads, while recommending that financing of Otto's Glade Park Road be deferred until mid-summer. The Chamber feared its effort to prepare for the visit of a group of Indiana motorists would be undermined if funds were made available for the Serpents Trail.

Such opposition undoubtedly made fund raising for Otto's venture more difficult. In April 1914, Otto indignantly denounced the Chamber as a "tin-horn road organization," asserted his intention to leave the area, and then changed his mind and decided to stay.¹⁴ Given such problems, work on the road was apparently set aside for several years. Otto wrote in 1917 that he wanted "to see that rimrock road into Glade Park started again."¹⁵

Interest in the road project was revived in 1918, when a group of Mesa County officials, including Commissioner Grover Rice, inspected the route. The project lay dormant, however, until mid-1920, when Glade Park residents began to push for better road access to Grand Junction and pledged \$5,200 to partially fund the project. Further discussions and surveys were undertaken in the fall, resulting in the County Commissioners calling for bids on October 29, 1920. On December 10, 1920, the commissioners accepted the bid of J. S. Shaw to perform two miles of construction work up the side of No Thoroughfare Canyon along the route laid out by John Otto. The bid was based on a rate of \$1.33 1/3 per cubic yard of material handled. The services of J. B. Claybaugh for "engineering and personal

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¹² John Otto to Grand Junction Daily Sentinel, letter, May 10, 1913.

¹³ Kania, John Otto, p. 89.

¹⁴ Kania, John Otto, pp. 86-87.

¹⁵ John Otto to Grand Junction Daily Sentinel, letter, January 22, 1917, cited in Kania, Report, p. 46.

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supervision of the work" were retained at ten dollars per day.¹⁶ Blasting and leveling operations on the upper portion of the road were underway by January 1921 under the direction of Claybaugh. Claybaugh indicated that "some practical use" could be made of the excavation work previously done on the road by Otto and others.¹⁷

In June 1921, the Daily Sentinel reported that rock work on the road "is practically completed." The remaining roadwork included completion of the connecting links to Grand Junction and Glade Park. A year later, John Otto reported that "last fall... the top of the Colorado River rimrocks was opened up with a road."¹⁸ While completed to a rock grade in 1921, the Serpents Trail was not completely surfaced until late 1924 or early 1925. The total cost of the road was approximately \$12,000, with Glade Park residents putting up \$5,000 and the county \$7,000.

In the 1930s, National Park Service engineers considered upgrading Serpents Trail as an alternative to Section E of Rim Rock Drive through No Thoroughfare Canyon. The amount of excavation and retaining walls needed to bring the road up to acceptable standards was "so appalling" that the idea was rejected. The upper portion of Serpents Trail was realigned and widened and became part of Section E of Rim Rock Drive in the 1939-40 period. Approximately 0.8 miles of the original Serpents Trail were obliterated in the process, including five switchbacks. At the bottom of the road, one switchback (a distance of 0.1 miles) may also have been lost when the lower portion of Rim Rock Drive was constructed.¹⁹ In April 1950, when Section E of Rim Rock Drive was opened, the Serpents Trail was closed to automobiles and part of it became a hiking trail within the monument.

Significance

The completion of Serpents Trail in 1921 was the first step in opening up Colorado National Monument to the automobile. Rather than facing a long trek by horseback or foot, the

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¹⁶ Proceedings of the Board of County Commissioners, December 10, 1920, vol. 7, p. 396, cited in Kania, Report, p. 59.

¹⁷ Proceedings of the Board of County Commissioners, November 6, 1920, vol. 7, p. 376, cited in Kania, Report, p. 57.

¹⁸ John Otto to B. L. Vipond, Acting Director, National Park Service, letter, June 12, 1922, cited in Kania, Report, pp. 67-68.

¹⁹ This analysis is based on a comparison of the USGS 7.5-minute Colorado National Monument quadrangles dated 1948 and 1973. A National Park Service map showing the existing Serpents Trail and planned Section E was also consulted. See, "Section E Betterment, Scenic Rim Rock Road, Colorado National Monument," NM-COLO 53039, February 1939. Serpents Trail and Rim Rock Drive between Cold Shivers Point and the east entrance were digitized and lengths of specified road segments measured using a computer mapping program.

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visitor was now able to drive to the mesa top. Serpents Trail was the only automobile access to the monument until 1937, when the Fruita Canyon portion of Rim Rock Drive was opened. The road remained the only route from the Grand Junction end of the monument until 1950, when Rim Rock Drive through No Thoroughfare Canyon was completed.

The drive up Serpents Trail to the top of the rimrocks was itself scenic. The motorist was afforded distant views of Grand Junction and the Grand Valley, as well as the southern wall and depths of No Thoroughfare Canyon. Observers compared the route to those in the Garden of the Gods near Colorado Springs.²⁰ Serpents Trail is illustrative of the engineering techniques used in the construction of early automobile roads. The roadway was blasted out of the steep canyon side, with the material for excavations and fills moved by human and animal power.

In April 1925, John Otto wrote that Serpents Trail "is now being traveled by hundreds of people. Yesterday, Sunday, I saw car after car going up."²¹ Whereas in 1915 an estimated 300 to 400 people visited the Monument Canyon and another 1,000 visited No Thoroughfare Canyon, by the end of the 1927 tourist season an estimated 9,500 visitors came to Colorado National Monument.²²

For the residents of the Glade Park area southwest of Grand Junction, completion of the Serpents Trail meant improved access to the principal market where they sold their products and bought supplies. A more direct route for transporting stock was important to Glade Park, as it was primarily a cattle and sheep ranching center. The Serpents Trail cut the total distance from 20 miles to 11.5 miles, greatly reducing the travel time for trips from Glade Park to Grand Junction.

Rim Rock Drive

Planning

John Otto also played a part in developing the concept of a scenic automobile highway through Colorado National Monument. As early as 1913, Otto portrayed the Serpents Trail as merely the first segment of a national highway "headed for the Grand Canyon of the Colorado River, from there it will take us into Southern California.... The world's greatest driveway shall be built on top of the shelfrocks overlooking the National

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²⁰ "Says Road Can Be Built for \$6,500," Grand Junction Daily Sentinel, January 25, 1912.

²¹ John Otto to Arno B. Cammerer, Assistant Director, National Park Service, letter, April 27, 1925, cited in Kania, John Otto, p. 71.

²² C. Gordon to Commissioner, General Land Office, letter, June 17, 1915, cited in Kania, Report, p. 43 and "Visitors to National Parks Increase During 1927," Estes Park Trail, November 11, 1927.

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Monuments...."²³ Otto variously called this ambitious road alignment the Colorado River Rim Rock Route, the Union Trail, the Trail of the Serpent, and the Big Rimrock Driveway.

J. E. Connolly, Special Agent of the General Land Office, wrote in 1913 that it "is hardly possible that this monument will (within the near future) become of great public interest, notwithstanding the extraordinary examples of erosion which it contains, unless some money is expended on the building of such a road as will enable the ordinary citizen to wander at some convenience through it."²⁴ Efforts by Representative Edward T. Taylor to secure congressional appropriations for roads to and through the monument had been unsuccessful throughout the 1910s. In 1915, C. Gordon, Mineral Examiner for the General Land Office, reported that:

John Otto, L. Antlers, Secretary of the Chamber of Commerce of Grand Junction, and most of the business men of the town are trying to get up an interest in a sky-line drive or road along the top of the rim rock which would extend from No Thoroughfare Canyon to Monument Canyon. This would be one of the greatest sky-line drives in the world, were such a road constructed. However, it would cost approximately \$25,000.00 to build a road of this kind which makes it almost prohibitive.²⁵

Reporting to National Park Service superiors in 1924, John Otto asserted that a road along "the top of the rim rocks with a look down into the various canyons for the automobile, is entirely feasible, practicable and all within reason."²⁶ The completion of the Serpents Trail in 1921 provided only a partial answer to the goal of developing greater automobile access to Colorado National Monument. Its twisting path brought visitors to the top of the rimrocks at the southeast edge of the monument. Writing to U. S. Senator Lawrence C. Phipps of Colorado in 1928, W. M. Wood, Secretary of the Grand Junction Chamber of Commerce, explained that the "difficulty in making available the features of the area been the lack of a highway leading into it." Disappointed tourists found that from the top of Serpents Trail at Cold Shivers Point, "an uncomfortable trip by horseback or foot" was necessary to reach Monument Canyon and the more scenic portions of the monument.²⁷

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²³ John Otto to Commissioner, General Land Office, letter, January 22, 1913.

²⁴ J. E. Connolly to Commissioner, General Land Office, November 22, 1913.

²⁵ C. Gordon to Commissioner, General Land Office, letter, June 17, 1915, cited in Kania, Report, p. 43.

²⁶ John Otto to A. E. Demaray, Acting Director, National Park Service, letter, June 20, 1924, cited in Kania, Report, p. 70.

²⁷ W. M. Wood to Lawrence C. Phipps, letter, December 13, 1928.

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The Grand Junction Chamber of Commerce had long promoted development of Colorado National Monument, viewing the monument's success as beneficial to the Grand Junction economy. The Chamber supported initial efforts to create the monument and its Secretary acted as the monument's Custodian for the period 1927-33. By the late 1920s, the Chamber had begun exploring the possibility of constructing a scenic highway through the monument and, in 1928, it retained an engineer to assess possible routes and costs for such a roadway. The estimated cost of "an automobile trail to circle the rims and connect with the Fruita highway on the north" was \$50,000, compared to an estimate of \$5,000 for a more limited road from the county highway to the rim of Monument Canyon.²⁸ The first alternative would constitute a "scenic loop road" linking Fruita and Grand Junction via Colorado National Monument.

In August 1930, Frank A. Kittredge, Chief Engineer for the National Park Service, made a reconnaissance visit to the monument to assess proposed road activities. Accompanied by W. M. Wood, Secretary of the Chamber of Commerce, and others, Kittredge walked the mesa top and concluded that "now there is no road which will bring the traveling public to within sight of the most interesting features of the Colorado National Monument."²⁹ To address this problem, a spur road was proposed from the Serpents Trail, over the top of the mesa, to the rim of Monument Canyon. Kittredge suggested that the Chamber perform a survey and develop plans for a road that would possess "proper consideration of the landscape and of a type which would reflect credit upon the monument and the Park Service, as well as the Chamber of Commerce."³⁰ Upon approval of the plans by Kittredge, the Park Service would contribute \$3,000 toward the construction of the road, with the Chamber and Mesa County funding the remainder.

John Otto, who had resigned as the monument's custodian in February 1927, was irritated that he had not been apprised of Kittredge's visit and demanded that the engineer return so that Otto could show him the correct route for the road. In a series of letters to National Park Service officials and the Chamber of Commerce, Otto argued that the correct path for such a road extended from the top of Serpents Trail "around the very rim of the famous Buffalo Canyon and under the rim of Monument Canyon...."³¹ Virtually ignored in the planning process, Otto moved to northern California in 1931, where he died in 1952.

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²⁸ Ibid.

²⁹ F. A. Kittredge, "Conference and Inspection of Proposed Road Activities, Colorado National Monument, Grand Junction, Colorado, August 13, 1930," September 3, 1930.

³⁰ Ibid.

³¹ John Otto to Director, National Park Service, October 20, 1930, and John Otto to Director, National Park Service, December 10, 1930.

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Contrary to the Chamber's expectations, Mesa County was not receptive toward putting an uncertain amount of funds into the road project. Late in 1930, Kittredge concluded that the Park Service needed to visit the monument the following spring to "make a complete reconnaissance of the various possible routes and then a short survey covering the actual spur to be constructed."³²

It was not until November 1931 that Park Service Engineer Thomas W. Secrest was dispatched to the monument to investigate possible routes. An initial plan to acquire aerial photographs for this purpose was dropped when it appeared too costly. Secrest spent eight days assessing the monument and existing approach roads and developed an overall plan for a scenic road following the canyon rims through the monument. The Serpents Trail and an upgraded road through Fruita Canyon would complete the Grand Junction and Fruita ends of the road. The project had evolved by this time from construction of a spur road to a comprehensive plan for a highway through the monument.

Secrest recommended that initial construction start in the middle of the western boundary of the monument at the location of the Fruita pipeline road and proceed north toward Monument Canyon and Fruita. He reasoned that "if construction were started from this old pipe line road the best scenery in the monument would be made accessible in the near future and a loop travel route developed some years ahead of the time than if construction started at 'Shivers Point.'"³³ Once this temporary arrangement was in place, construction would proceed south on the segment to Cold Shivers Point. Work began November 21, 1931, following Secrest's plan.

Howard W. Baker, a junior landscape architect with the National Park Service, visited the monument in late November 1931 to examine the proposed location of the road. In general, he concurred with the alignment proposed by Secrest but raised questions about using the existing road through Fruita Canyon and the Serpents Trail as "final" parts of the new road. Baker noted that Serpents Trail was steeper than Park Service standards and concluded that the "problem of getting off the rim is one worth considerable study...."³⁴ By late 1932, both Congressman Taylor and the Chamber of Commerce supported an expansion of the monument's boundaries at the Fruita end and at No Thoroughfare Canyon to accommodate the contemplated route of the new road.³⁵ The additional acreage on the northern end of

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³² F. A. Kittredge to Director, National Park Service, letter, November 5, 1930.

³³ T. W. Secrest to F. A. Kittredge, monthly report, December 5, 1931.

³⁴ Howard W. Baker, "Report on Road Location Through Colorado National Monument," December 12, 1931.

³⁵ Representative Edward T. Taylor to Horace M. Albright, Director, National Park Service, letter, October 20, 1932 and L. W. Burgess, President, Grand Junction Chamber of Commerce to Horace M. Albright, Director, National Park Service, letter, October 19, 1932.

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the monument was needed to include the winding section of road and tunnels planned through Fruita Canyon. On the southeastern end, the Grand Junction Chamber of Commerce had acquired 200 acres of land for donation to the Park Service in the No Thoroughfare Canyon area in anticipation of "eventual construction of a new federal road to supersede the Trail of the Serpent... from the foot of the cliffs up to the rimrocks."³⁶ When President Herbert Hoover added more than 3,900 acres to Colorado National Monument on March 3, 1933, one of the reasons cited by the proclamation was "protection of the Rim Road."³⁷

A National Park Service map dated February 1934 shows the alignment of Rim Rock Drive in its present configuration, including a planned road through No Thoroughfare Canyon in addition to, or in place of, the Serpents Trail.³⁸ Contemporary newspaper accounts also assumed completion of the No Thoroughfare Canyon segment as a part of the overall road project.³⁹ However, some discussion of improving the Serpents Trail as an alternative continued within the National Park Service until the late 1930s. By mid-1939, however, the apparent advantages of the No Thoroughfare Canyon route were accepted. As work on the No Thoroughfare Canyon section progressed, the National Park Service made plans to close the Serpents Trail to auto traffic once the new road was completed.

World War II intervened to suspend construction of the final No Thoroughfare Canyon portion of the road from mid-1942 through 1948. When construction resumed in late 1949, the pre-war plans were followed through in the building of that road segment. Upon completion of the project in 1950, Serpents Trail was closed to traffic and became a hiking trail.

Planning for the road divided the project into 5 segments, designated by letters A through E. Section A was the northernmost segment, including Fruita Canyon and Tunnels 1 and 2 south to nearly the current location of the Visitor's Center. It was approximately 3.8 miles in length and covered construction stations 380+00 to 584+00. Section B extended from that point to the west boundary of the monument. This segment was approximately 7.2 miles in length from station 380+00 to 0+00. The portion of the roadway from the west boundary eastward to approximately Fallen Rock Overlook on Ute Canyon was designated Section C. It stretched from station 0+00 to 149+22, a distance of approximately 2.8

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³⁶ "C. of C. Buys Entrance to No Thoroughfare Canyon on Behalf of Service," Grand Junction Daily Sentinel, February 1933, cited in Wills, pp. 71.

³⁷ Proclamation 2037 in Proclamations and Executive Orders: Herbert Hoover, March 4, 1929 to March 4, 1933. Washington: U. S. Government Printing Office, 1974.

³⁸ See, J. K. Somerville, Report to the Chief Architect through Resident Landscape Architect Baker, Colorado National Monument, November 1-30, 1935.

³⁹ See, "Long Hidden Wonders of Nature Accessible to All," Grand Junction Daily Sentinel, May 13, 1934. and "Funds Assured to Complete Monument Road," Grand Junction Daily Sentinel, December 21, 1934.

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miles. Section D was the next section to the east, stretching from Fallen Rock Overlook to the intersection with the existing road south of Cold Shivers Point. It covered roughly 5.7 miles from station 149.22 to 274+87. Section E consisted of the roadway from the end of Section D, past Cold Shivers Point and through No Thoroughfare Canyon, to the east end of the monument. This section included Tunnel 3 and was approximately 3.2 miles in length.⁴⁰

Rim Rock Drive's designers were aware that they were building more than just a road to get from point A to point B. The designers of the highway strove to create a roadway and associated features that would blend in with the surrounding landscape. In building rock guard and retaining walls, for example, designers emphasized the use of "naturalistic" construction techniques to harmonize with the rocky terrain of the monument. The road was first and foremost a scenic drive, planned to permit visiting motorists to view the monument's attractions from the road and numerous turnouts and overlooks. Thus, the road hugged the rim of the mesa, following the winding curves of the canyons to permit views of the depths. The road was consistently described in work orders and reports as the "Scenic Rim Rock Road." Landscape Architect Howard W. Baker, who had hiked the canyons and mesas of the monument during his 1931 visit, observed that "a view from the rim gives one a much better idea of the different formations, the varied shapes which one monolith can take, and the varied colors of the sandstone and granite canyons."⁴¹ The most outstanding vistas within the park were emphasized through the construction of turnouts which allowed the visitor to contemplate natural features.

Construction

Construction of Rim Rock Drive began November 21, 1931 and ended in April 1950. Work progressed on a more or less continuous basis from 1931 through June 1942, when all projects not essential to the war effort were suspended. Roadwork resumed in October 1949 and proceeded to completion. Work began in 1931 under the direction of Project Engineer Thomas W. Secrest, who had earlier laid out the path of the road. The project began near the middle of the highway at the southern end of Section B on the western boundary of Colorado National Monument and proceeded north. By May 1, 1932, the rough-graded road extended past the southwestern tip of Monument Canyon--a distance of about 1.4 miles. By April 20, 1933, the road had progressed roughly 3.7 miles along the western rim of Monument Canyon to reach a point opposite the formation known as the Kissing Couple. August 1934, saw the road in Section B pushed northward roughly 7.1 miles to the vicinity of today's Fruita Canyon View overlook. By this time, work had also begun in Section A through Fruita Canyon.

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⁴⁰ See, J. K. Somerville, Report to the Chief Architect through Resident Landscape Architect Baker, Colorado National Monument, November 1-30, 1935. Due to rounding and the use of estimates during the construction process, the lengths by section sum to 22.7 miles, somewhat more than today's 22.4 miles.

⁴¹ Howard W. Baker, "Report on Road Location Through Colorado National Monument," December 12, 1931.

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By November 1935, all of Section B had been rough graded from the starting point of construction to just past the location of today's Visitor Center. In Section A, 3.2 of 3.8 miles had been rough-graded. The pilot bore for Tunnel 2 was complete and excavation had begun on the pilot bore for Tunnel 1. Workers were placing material for the large fill between the two tunnels. In Section D, 3.6 of 5.7 miles had been rough-graded, with construction beginning at Cold Shivers Point and moving westward. No rough-grading had been performed in Section C, but work had begun to build an access road to link Sections B and D. No work had been performed on Section E.

By March 1936, Section C had 0.3 miles of its 2.8 total miles rough-graded, with work beginning at the western boundary of the monument and proceeding east to link up with Section D. Small additional segments had been rough-graded in Sections A and D, which had 3.5 miles and 3.8 miles, respectively, rough-graded. By June 1936, both tunnels 1 and 2 were excavated and were carrying construction traffic from the Fruita entrance to the headquarters area. Of the 19.5 miles of Sections A through D, 12.5 miles had been completed by late November 1936. An additional 5.5 miles had been rough-graded and 1.5 miles (mostly in Section C) remained to be rough-graded.

In July 1937, Tunnel 1 was lined with gunite and concrete curbs were installed in Tunnels 1 and 2. By late July 1937, Resident Landscape Architect J. K. Somerville could state that in Sections A through D the "road construction through the entire job is completed."⁴² Widening Section C from a 14- to 18-foot road bed to a full 24 feet and additional finishing tasks such as bank sloping, building retaining and guard walls, and installation and replacement of drainage structures were performed on Sections A through D between 1937 and 1940.

T. W. Secrest left the Rim Rock Drive project in late-July 1937 to return to Seattle. Associate Engineer Horace Miller joined the monument road project in late 1938. As finishing efforts were continuing on Sections A through D, construction of Section E, from Cold Shivers Point to the East entrance began. The initial phase of the work involved realigning and widening the existing Serpents Trail from Cold Shivers Point down to today's upper parking turnout for Serpents Trail. This task was largely completed by mid-1939 and later that year construction on the lower portion of Section E began. Dorsey G. Son served as construction superintendent for this portion of the road.

Construction on Tunnel 3 began in early 1940. The pilot bore was through by June 1940 and by July 1941 the tunnel was complete, except for some trimming in the bore and at the portals. Work proceeded on a large cut and fill below Tunnel 3 in No Thoroughfare Canyon and completion of Section E was anticipated sometime in 1942.

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⁴² J. K. Somerville, Report to the Chief Architect through Resident Landscape Architect Baker, Colorado National Monument, June 20-July 20, 1937.

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The attack on Pearl Harbor in December 1941 and subsequent United States entry into World War II interrupted Rim Rock Drive construction. All CCC projects not directly related to the war effort were terminated in 1942. By mid-1942, it became increasingly difficult to retain skilled construction workers and on June 9 the project was officially shut down.

Following the war, the Grand Junction Chamber of Commerce renewed efforts to complete Rim Rock drive. In 1947, the Chamber formed a committee to pursue the matter. A 1947 National Park Service memorandum indicated that completion of Section E would require some minor work on Tunnel 3 and about a half mile of work below the tunnel on "grading, drainage, and base course."⁴³

Funding for the continuation of the road effort was made available in late 1949. Highway Engineer John H. Diehl of the National Park Service visited the monument from October 21 to November 5, 1949, and inspected Section E. Construction, under the direction of Foreman Hubert Atchison, resumed October 31, 1949. By April 19, 1950, the project on Section E had been completed and the new road segment with a graveled surface was in use. Serpents Trail was closed at that time and converted to a hiking trail. Sections D and E of Rim Rock Drive were paved in 1951, while the northern sections had been paved at an earlier date. Plans for paving the entire roadway had existed at least since 1937.

Workforce

Project Engineer Secrest noted that at one point in the early 1930s more than 800 men were working on the building of Rim Rock Drive, reflecting the project's Depression-era role in relieving unemployment. In order to distribute this large workforce efficiently, sections of the road were opened up "which otherwise would have remained untouched." When relief funding was reduced, sections were left partially completed; the remaining, smaller workforce focused on completing and linking segments into a finished roadway.⁴⁴

The workforce for the construction of Rim Rock Drive consisted of workers supplied by a variety of Depression-era public works relief agencies, as well as individuals directly hired by the National Park Service through its Roads and Trails program. During the 1933-34 period, for example, approximately 800 persons were employed on the project: 200 from the Civil Works Administration; 200 from Roads and Trails; and 400 Emergency Conservation Work workers.⁴⁵ The major entities involved with the project for the 1935-42 period were

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⁴³ Harvey H. Cornell, Regional Landscape Architect to Regional Director, National Park Service, June 6, 1947.

⁴⁴ T. W. Secrest, "Final Construction Report on Scenic Rim Rock Road, Stations 210+00 to 370+00," Section 1-B, Account F. P. 95.8, March 15, 1937.

⁴⁵ Preston Walker, "Long Hidden Wonders of Nature Accessible to All," Grand Junction Daily Sentinel, May 13, 1934.

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the Public Works Administration (PWA), the Works Progress Administration (WPA), the Emergency Conservation Work program (known after 1935 as the Civilian Conservation Corps, or CCC), and Roads and Trails. Section E through No Thoroughfare Canyon was completed by Roads and Trails during 1949-50.

The CCC probably had the most visible presence on the Rim Rock Drive project for the 1933-42 period. This perhaps explains numerous accounts which attribute construction of the highway solely to CCC workers.⁴⁶ Camp NM-2-C, established May 1933 near the Coke Ovens Overlook, was one of the earliest CCC camps in Colorado. It later relocated to a larger area at the Saddlehorn in mid-1933. In October 1933, Camp NM-1-C was occupied near Glade Park on Pinyon Mesa; it moved to the mouth of Fruita Canyon in June 1934. A 1939 photograph of the CCC enrollees of this camp suggest that this particular camp was in existence at least until that year.

Although a small number of Local Experienced Men (LEMs) were hired by the CCC, the camps were generally comprised of younger, less-experienced workers. While some enrollees at the monument camps were from the local area, a majority were from other parts of Colorado or from out-of-state. The 1936 rosters for the two camps showed an even split between Coloradans and workers from other states, with 102 of 242 enrollees from Oklahoma.⁴⁷ On the other hand, the PWA, WPA, and Roads and Trails contingents were typically composed of workers with greater skills and experience. They were more likely to be residents of the Grand Junction area who returned to their homes each night.

Heavy construction in pioneering the rough grade of the road and such technical jobs as tunnel construction were primarily performed by PWA, WPA, and Roads and Trails crews. CCC workers, under Roads and Trails supervision, principally worked on road widening, bank sloping, ditch construction, landscaping, clean up, and other finishing tasks. The roadway in Section D appears to have been the only portion of Rim Rock Drive pioneered by CCC workers. (This conclusion is based on an examination of the reports of the Resident Landscape Architect.) All of the groups engaged in building parking areas, guard and retaining walls, installation of drainage structures, and tote road obliteration.

Thomas W. Secrest, who laid out the road in late 1931, served as Project Engineer from that date through July 1937, and was a key figure in the design and construction of Rim Rock Drive. Secrest was born in Oakesdale, Washington, in 1884. After studying engineering at Whitman College and the University of Washington, he went to Cordova, Alaska, in 1904. Secrest worked on the construction of the Copper River Northwest Railroad and located and supervised the building of the Alaska Central Railroad in the Broad Paths

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⁴⁶ See, for example, Lohman, p. 4 and Houk, p. 9.

⁴⁷ Gleyre and Aleger, pp. 134 and 137.

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region. Leaving Alaska in late 1921 or early 1922, he returned to Washington to work for W. E. Boeing in constructing railroads for logging operations.

After the economic crash of 1929, former classmate Frank A. Kittredge helped Secrest obtain a position with the National Park Service designing a trail system for Grand Teton National Park. Following his work on Rim Rock Drive in Colorado National Monument, Secrest returned to Seattle, where he continued his work with W. E. Boeing. From 1939 to 1949, he worked in general construction in the Seattle area. Secrest retired in 1949 and died in 1975.

Congressman Edward T. Taylor also played a pivotal role in promoting and acquiring funding for Colorado National Monument and its road system. Born in 1858 in Woodford County, Illinois, Taylor came to Leadville, Colorado, in 1881, serving as a high school principal and later superintendent of schools. He received a law degree from the University of Michigan in 1884 and returned to Leadville to practice law. Moving to Glenwood Springs to practice law in 1887, he was elected district attorney in 1887 and state senator in 1896.

Taylor was first elected to the U. S. House of Representatives in 1908, where he served until his death in 1941. At the time of his death, Taylor was the dean of the House in age and one of its most senior members in terms of House tenure. He became chairman of the House Appropriations Committee in 1937, after previously serving as the chairman of the appropriations subcommittee for the Department of the Interior. Taylor's seniority and critical position on committees controlling funding allocations permitted him to obtain adequate appropriations for Rim Rock Drive. The Daily Sentinel described Taylor as the "Godfather of the Colorado Monument since work first started..."⁴⁸

Engineering Considerations

The topography of Colorado National Monument, the goal of creating a scenic highway, and reliance on manpower instead of heavy equipment dictated Rim Rock Drive's path and construction techniques. From the west entrance near Fruita, the 22.42-mile long road enters the monument through Fruita Canyon. From an elevation of 4,690 feet on the valley floor, the road employs a series of long switchbacks and two tunnels to reach the top of the mesa at an elevation of 5,700 feet, slightly north of the Saddlehorn area. Continuing in a southerly direction, the road follows the western rim of Monument Canyon. Crossing Monument Mesa, the road turns southeastward and follows the southern rim of Upper Ute Canyon. Rounding the southern end of Ute Canyon the road reaches its highest point at 6,640 feet and then proceeds eastward along the southern rims of Red and Columbus Canyons to Cold Shivers Point. Rim Rock Drive then begins its descent from the mesa through a third tunnel into No Thoroughfare Canyon and thence by a series of switchbacks to the

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⁴⁸ Preston Walker, "Improvements in Colorado National Monument Continue," Grand Junction Daily Sentinel, June 10, 1941.

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canyon floor, where it exits the east entrance of the monument at an elevation of 4,930 feet. The highway meanders 22.42 miles to connect two points that are only separated by eight miles on a straight line.

The construction of the road through the rocky terrain of the monument necessitated a substantial amount of excavation and fills. For example, an average of 39,000 cubic yards per mile was excavated in the northern portion of Section B.⁴⁹ The largest single fill on the road was estimated at 73,000 cubic yards.

Most of the excavation was through solid sandstone along canyon walls, which required drilling and blasting. Fifty-pound air drills run by compressed air were used for drilling blast holes. Black powder and forty percent dynamite were used for blasting, detonated by fuse or electric firing. Secrest observed that grading was "very heavy and difficult work."⁵⁰ Grading and removal of the blasted material for fill was almost entirely a manual operation, using one cubic yard dump cars, pushed by workers or hauled by horses on two-foot track. Dump trucks were used for hauling material to more distant sites.

The absence of heavy machinery and reliance on manpower is often recalled by press accounts and workers on the project. The goal of the various relief agencies supplying workers for the project was to put large numbers of unemployed men to work. The requirements of the CCC, for example, provided that funds should be expended primarily on labor and not for buying bulldozers or other expensive equipment.

The three tunnels on Rim Rock Drive were blasted through solid sandstone. Tunnel 1 was 236 feet in length, while Tunnel 2 was 185 feet. Both of these tunnels were 16 feet, 8 inches high with a width at the base of 24 feet. Tunnels 1 and 2 utilized seven-by-seven-foot pilot bores along the center line of each tunnel which were then widened to the full width of the heading. The remaining material was then excavated down to the desired road grade. Excavation was accomplished by drilling and blasting. Tunnel 3 was the longest tunnel on Rim Rock Drive at 517 feet. It was 13 feet high and 24 feet wide and also used a pilot bore in its construction. Tunnels 1 and 3 were lined with gunite, while Tunnel 2 was unlined.

Proper drainage of Rim Rock Drive also presented engineering problems. While the monument receives low levels of rainfall annually, occasional episodes of heavy rainfall required that all drainage "be designed to carry immense volumes of water." Rather than installing traditional iron, corrugated culverts, in many instances a drainage way was blasted under

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⁴⁹ T. W. Secrest, Final Construction Report on Scenic Rim Rock Road, Stations 210+00 to 370+00, Section 1 B, Account F. P. 95.8, March 15, 1937.

⁵⁰ T. W. Secrest, Final Construction Report on Scenic Rim Rock Road, Stations 430+00 by 540+00--Section 1A, Account No. 4X436.1, July 12, 1937.

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the road through the sandstone formations. During the summer of 1939, heavy rains revealed the necessity for replacing a number of existing culverts with larger structures.

The terrain and extensive blasting created hazardous working conditions. Nine locally-hired WPA workers died December 12, 1933 in a rockfall at the Half Tunnel location just south of today's Grand View Overlook.⁵¹ In July 1935, one worker was killed and two others injured in a blasting incident.⁵² In November 1935 a large rock slide of 25,000 to 60,000 cubic yards in the Fruita Canyon segment fell on the road after normal work hours and took several months to clear. One local man who worked for the National Park Service on the project characterized his foreman as "quite a driver. He was awful hard on us. And he would want us to make more time, more time, more time, and get more loads in, and, of course, there was everybody looking for jobs at that time. It was pretty rough going."⁵³

Significance

The completion of Rim Rock Drive as a scenic highway through Colorado National Monument represented the second stage in the improvement of automobile access to the area. The construction of the 22.42 mile long road from the west to east entrances in the monument comprised a scenic loop, accessible from U. S. Highways 6 and 50 and, later, Interstate 70. A through road permitted visitors, approaching from either the east or the west, to plan a visit through the monument and then continue on their way without doubling back. Rim Rock Drive also facilitated monument access by eliminating Serpents Trail as an entryway into the park. Designed and built in the 1910s and early 1920s, Serpents Trail did not meet highway standards and drivers' expectations by the time it was replaced. Serpents Trail as an access route into the monument may well have deterred casual vacationers from venturing into the area.

The trend in increased visitation to Colorado National Monument would probably never have reached current levels but for the building of Rim Rock Drive. In 1927, the estimated number of visitors was 9,500.⁵⁴ By fiscal year 1940, more than 39,000 people came to the monument. The upward trend has continued in subsequent years: 1957, 100,000 visitors;

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⁵¹ Carol Davis, "Life on the Rim," Grand Junction Daily Sentinel, August 8, 1983 and "Black Day at Rim Rock," Fruita Times, August 26, 1987.

⁵² "Investigation of Worker's Death in Blast Dropped," Rocky Mountain News, July 25, 1935.

⁵³ Interview with Kenneth Thompson, oral history number 0178, transcript, Mesa County Public Library, Grand Junction, Colorado.

⁵⁴ "Visitors to National Parks Increase During 1927," Estes Park Trail, November aa, 1927.

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1967, 450,000; 1974, 648,000; and 1989, 959,773.⁵⁵ Auto sightseeing has been and remains the dominant way most visitors view Colorado National Monument.

Rim Rock Drive was a significant engineering achievement produced by Depression-era public works relief programs. A number of observers described the road project as "one of the most ambitious projects ever undertaken by the CCC in Colorado" and "one of the most impressive legacies of the CCC in western Colorado."⁵⁶ The rugged terrain, the substantial excavations and fills, the three tunnels through solid rock, and the reliance on manpower rather than heavy machinery complicated the engineering task. The emphasis on the scenic nature of the highway and the goal of making it conform to the landscape provided further challenges.

The construction of Rim Rock Drive had a substantial impact on the economy of the Grand Junction, Colorado area. The project was described as the only construction employment available to unemployed persons in the area during the early 1930s.⁵⁷ Direct purchases of construction materials and camp supplies for the road project, as well as indirect spending by workers, helped the region during the Depression. The Grand Junction Chamber of Commerce, which pushed the scenic highway concept for more than 20 years, viewed successful completion of Rim Rock Drive and better auto access to Colorado National Monument as integral to the area's tourism industry.

⁵⁵ National Park Service, Colorado National Monument: Master Plan (Denver: National Park Service, 1976), pp. 4 and 12.

⁵⁶ McCarthy, "History of the CCC in Colorado," in Lyons, 1930 Employment 1980 (Denver: Colorado Division of Employment and Training, 1981), p. 9.

⁵⁷ T. W. Secrest, "Final Construction Report, Scenic Rim Rock Road, Stations 430+00 to 540+00--Section 1A, Account No. 4X436.1," July 12, 1937.

F. ASSOCIATED PROPERTY TYPES

NAME OF PROPERTY TYPE: Rustic buildings and structures

Rustic Architecture includes individual buildings or structures with or without associated outbuildings, or as part as a stylistically related district included with boundaries that are well defined and coherent. Buildings can be used for habitation, park operations, or maintenance operations. The buildings may have been modified or altered to accommodate additional needs that occurred since initial construction. If the historic use of the building is still visibly apparent and has not been compromised, the historic integrity still remains.

Construction materials must be "natural," with the structure being in subordination to the terrain and blending with the surrounding environment. Indigenous stone, with log or wood support or accents, should be used in construction of the structure. The design should be in proper scale to the topography, careful not to be oversized to the surrounding terrain. An emphasis on horizontal stratification, which is less conspicuous than verticality, should be observed in construction. The silhouette of the structure, as well as the pitch of the roof, should be low. The structure and rock construction should be in the proper scale. A variety of size should characterize the rocks, which should be large enough to warrant the use of masonry. Generally, larger rocks predominate the base and perimeter of the structure, while the more modest sizes fill the remaining surface. As the entire building is meant to be viewed, the design and construction of the building should render the same attention of the facade to the other elevations. The positioning of the structure on the site is an important element in the plan of the design. The resources should be in subordination to the environment of the area, often shielded or placed behind natural vegetation or rock croppings, away from the view of visitors. Buildings within a district must be arranged to show an obvious consideration of park planning and unity of building design and construction.

The rustic buildings at Colorado National Monument are closely related not only stylistically, but historically as well. The Civilian Conservation Corps (CCC) and an organization of Local Experience Men (LEM) succeeded in constructing the designs that originated from the Landscape Engineering Division and the Branch of Landscape and Design. In keeping with the preservation of the natural park area, these designs and methods of construction are sympathetic to the surrounding landscape both in scale and materials. Native rock, much of which was extracted from the monument grounds, was used in construction. Observing the semi-desert terrain and sandstone monoliths, the architecture of the park subserved the natural terrain and geology of the area.

SIGNIFICANCE

The examples of Rustic Architecture in Colorado National Monument, either as individual buildings or of a unified district, are significant under Criterion A for their association with the public works relief agencies of the Great Depression, and under Criterion C for their relationship to the distinctive characteristics that have made park Rustic Architecture such an important facet of early park development. Resources significant under this property type possess local significance for their relationship to the CCC and the historic development of Rustic Architecture. The period of significance for these resources in Colorado National Monument fall within the years of 1933-1944.

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REGISTRATION REQUIREMENTS

Resources in Colorado National Monument identified with this property type may be individual buildings with or without associated outbuildings or a cluster of buildings within a district. All eligible resources must be historically associated with the context National Park Service Rustic Architecture and Public Works Construction and have construction dates that fall within the 1933-1944 period of significance. The resources must retain a high degree of integrity and the design, materials, workmanship and historic feeling must be readily apparent. The design and construction methods of the Landscape Engineering Division and the Branch of Landscape and Design of the NPS, as well as the CCC and LEMs, must be apparent. The resources may have had alterations, but must possess a sufficient amount of historic fabric and workmanship to reflect their historic significance and rustic methodology of materials and construction. Additions or modifications must not impair the quality of historic integrity of the individual buildings or those that comprise a historic district. Each resource must retain its essential features that convey its historic function or character during the period of significance. The interiors of these structures must retain the historic appearance of rustic design to be considered significant. The interiors must exhibit a rustic feeling and character that possible alterations have not compromised. Additions or modifications must not have impaired the integrity of the historic interior fabric. All resources should be in their original location or in a similar setting that they were in during the period of significance. Although a relocated building does not necessarily warrant loss of integrity or eligibility, the location of the building should be in sympathetic surroundings as location and environmental setting were important elements in NPS designs and the overall Rustic design philosophy. Within a historic district, the majority of the resources must be contributing, with the historic elements that comprise the district intact and apparent. The exception to the National Register criteria for this property type is if the resource is less than fifty years of age and possesses design and architectural features that are considered to be outstanding and unique contributions to NPS Rustic Architecture.

NAME OF PROPERTY TYPE: Depression-era Scenic Automobile Highway Within Colorado National Monument

Rim Rock Drive is a well-maintained 22.42 mile transportation route composed of a two-lane, two-way, paved roadway, three stone tunnels, and various features associated with the road, including culverts, retaining walls, guardrails, ditches, drop inlets, and turnouts. It is expected that associated features of the road will generally occur within 150 feet of the centerline, although a few drainage features may exist at much greater distances from the road.

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Connecting the east and west entrances of Colorado National Monument, Rim Rock Drive forms a scenic loop road for travelers approaching from the east or the west along major highways. From the west entrance, the road winds through Fruita Canyon, rising roughly 1,000 feet as it passes through two tunnels to reach the mesa top. From there, the highway proceeds in a southerly direction, hugging the edges of the monument's major canyons. Turning easterly along the rims of Ute, Red, and Columbus Canyons, Rim Rock Drive then passes through a third tunnel as it descends No Thoroughfare Canyon through a series of switchbacks to the east entrance.

John Otto, the eccentric first Custodian of the monument, had suggested such a scenic highway as early as 1913. The Serpents Trail, while bringing visitors into the monument, left them some distance from Monument Canyon and the best scenery of the region. By the late 1920s, the Grand Junction Chamber of Commerce, which was promoting the concept of a road into or through the monument, found a supporter in Chief Engineer Frank A. Kittredge of the National Park Service. Kittredge sent T. W. Secrest to the monument, who assessed road needs, laid out a route, and began construction November 1931.

Work on the road continued throughout the 1930s with a workforce supplied by a variety of unemployment relief agencies, as well as Roads and Trails crews hired directly by the National Park Service. Workers from the Civil Works Administration (CWA), Public Works Administration (PWA), Works Progress Administration (WPA), and Civilian Conservation Corps (CCC) worked on Rim Rock Drive. The CCC established and maintained two camps on the monument from 1933 to 1942. By 1937, the road was open from the west entrance to Cold Shivers Point, where connection was made with Serpents Trail. From 1939-42, work proceeded on a new road through No Thoroughfare Canyon to replace the Serpents Trail. The new segment was nearly complete when World War II intervened and stopped projects not essential to the war effort. Construction did not resume until 1949. The work was completed the following April, when the remaining segment of the road was closed to automobiles and became a hiking path.

Rim Rock Drive displays construction techniques and designs developed by the National Park Service for projects within its domain during the Depression era. That organization favored a "naturalistic" or "rustic" philosophy, which encouraged the use of native materials processed and arranged to blend into the natural environment. This process was reflected in a retreat from architectural formalism and an emphasis on structures that displayed the natural elements involved in their construction to their greatest advantage. Designs were executed to convey the impression that pioneer craftsmen with limited hand tools had built a structure. In this effort, natural colors were favored, and natural materials were only lightly processed. Rectangular or irregular stones were utilized and placed to mimic natural rock ledges. This building style required huge amounts of labor and was therefore ideally suited to Depression era public works relief projects.

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ASSOCIATED STRUCTURES AND FEATURES OF THE ROAD

Tunnels

Three tunnels were constructed along Rim Rock Drive. The tunnels were driven through solid rock and have no exterior portals. Concrete curbs were placed along the sides on the interior of each tunnel. Tunnels Nos. 1 and 3 were lined with gunite, which follows the unevenness of the excavated rock. The lining was originally mixed with native mud to give it a color matching the original rock as nearly as possible. The road through and extending for a slight distance beyond the tunnels is composed of concrete. In addition to the three full tunnels, one half tunnel was also constructed on Rim Rock Road.

Culverts

More than 200 culverts exist along the roadway to provide drainage for established channels. Included among the culverts are structures built during the original Depression-era roadwork, those built when the road was completed after World War II, and more recent structures. Many of the culverts have deteriorated over the years, resulting in maintenance modifications, including the addition of new pipe, rebuilding, or remortaring.

The culverts built during the period of the road's historic significance were generally placed a minimum of twelve inches under the road grade, with the culvert floor at the level of the channel bed grade. Full and half culverts exist within the roadway. No dry laid culvert headwalls were constructed.

An effort was made to make headwalls that were more visible conform to the "naturalistic," or less formal, design which was intended to blend with the natural surroundings, a concept favored by the park planners. Walls that would not frequently be seen by the public were constructed following a standard design utilizing evenly coursed, roughly-quarried rock. Earlier culvert headwalls were constructed of roughly squared, quarried sandstone, which was mortared into place and stained with native mud. The top course of stones was roughly level on top and sometimes covered with a layer of dry laid, evenly coursed rubble, other times directly covered with fill. Half-culvert headwalls had shallow arched openings with radiating voussoirs.

Full-culvert headwalls around metal pipes were of coursed, rough-faced, quarried stone, fitted to a circular entrance, without an arched opening. Ends of walls were flared to hold the fill above and to prevent damage by flood water. Some culvert head walls had rock wings on either side of the main wall. The culvert pipes were laid directly atop the stone foundation.

A few examples of rock culverts exist along the roadway. These culverts were constructed with wide, flat, slab lintels, rectangular entrances, and evenly coursed large stone slab

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walls. In Section E, the portion of the road completed after World War II, culverts were constructed utilizing coursed rubble construction. Sections A through D had culvert headwalls constructed of sandstone, while Section E's headwalls were constructed of gneiss, due to changes in rock type found along the roadway. Modern culverts include metal pipes without headwalls. Alterations to culverts have included remortaring of headwalls, replacement or addition of metal pipes, and rebuilding of headwalls.

Retaining walls

Retaining walls were constructed in several places where the shoulder of the roadway was close to the rim of the road. The retaining walls were built of dry laid or deeply mortared, rough-faced, roughly squared, quarried stone, generally placed in even courses. In general, every effort was made to use ledge rock to conform to the natural rock formations. The height of dry laid walls was not to exceed eight feet.

Guardrails

Several styles of guardrails were constructed within the monument as safety features along curves in the road. The most common type of guard rail followed the "naturalistic" or "rustic" philosophy of utilizing native materials which appear to be in their original state and thus blend in well with the natural environment. These guardwalls consist of large, roughly quarried, roughly squared stone slabs and roughly quarried boulders, placed on a horizontal axis, and deeply mortared and stained with mud. There are several variations to these guardrails rails, but the basic design includes from one to three layers of large slabs and boulders, an average of eighteen inches in width and roughly cut. The sides of the stones were battered approximately three inches per foot and the stones were placed in the earth beneath pavement level, the wall itself being fifteen to eighteen inches in height. The top of the walls were finished to a smooth, regular surface. Although several of these guardrails have been remortared, their basic design has been unchanged in most cases.

As a matter of principal, the Park Service desired a "naturalistic" look for guardrails and discouraged walls that looked too architecturally formal or geometric. However, a more evenly laid, symmetrically parapeted guard rail was constructed along Rim Rock Drive. Also built were an unusual polygonal masonry guard rail and one with false mortar joints at varied angles. Some guard walls also have round arched drainage openings. A few guardrails consist of wood posts with reflectors driven into the ground and, in some cases, strung with wire cable.

Ditches

Ditches were placed at many points along the sides of the road to drain water away from the roadway. Originally, these ditches were unpaved, but in recent years many have been covered with asphalt to help with drainage and ease of maintenance. Diversion ditches were also constructed, in lengths as great as 1,400 feet, to direct water running off of slopes

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to prevent flooding and washouts. A typical diversion ditch was from two to five feet wide and constructed of battered walls of quarried stones or rubble atop a stone floor. Portions of these features are likely to be found at distances of more than 150 feet from the centerline of the roadway.

Drop inlets

Another form of drainage was provided by the drop inlet, which consisted of a hole as large as four feet or more in diameter, driven into solid rock. These extended downward as much as twenty feet or more to a drain under the roadway. Some drop inlets have portals constructed of evenly coursed, roughly squared stone or of concrete. Many of the drop inlets have been covered with grates and some have been enclosed with fences as safety measures.

Drainage tunnels

Large drainage tunnels were constructed to direct water away from the roadway in order to prevent washouts and other flood damage. Tunnels were carved through stone and had openings large enough to stand in. Interior surfaces were smoothed as much as possible to prevent rubbish from catching on the walls and creating blockages. Modifications to tunnels have included gunite lining.

Turnouts

Several turnouts were constructed along the roadway to guide the visitor to scenic views, trails, and interpretive areas. Turnouts are of both historic and modern vintage. Historic turnouts feature stone curbs and/or ledges in the "naturalistic" or "rustic" style favored by the Park Service, and some flagstone sidewalks. Most modern turnouts have concrete curbing and sidewalks.

SIGNIFICANCE

Rim Rock Drive possesses local significance under criterion A because of the role it played in opening up the Colorado National Monument to greater tourism. Its completion created a scenic loop road which facilitated monument access, and made possible a continuous excursion from one entrance to the other. In addition, it is significant under this criterion for its association with public works relief projects. The economic impact of the project was important to the Grand Junction area during the Depression. At one point, more than 800 men were working on the highway, which was the only construction project in the area at the time. Many residents of the Grand Junction area were employed at the monument in one of the CCC or other camps which existed there, and many still remember the camps and their activities.

The road also possesses local significance under Criterion C for its engineering. Intensive applications of manpower, rather than heavy machinery, were employed in the construction of the road.

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The road's path lay through solid rock for most of its length, requiring drilling, blasting, and removal of the shattered rock. A good deal of sledgehammer and pick work was involved and a substantial amount of material was moved by hand or pulled by horses or mules using small dump carts on rails. The three tunnels, the largest more than 500 feet in length, were all blasted through solid rock. The road was intended from its inception as a scenic highway, hugging the canyon rims and blending into the surrounding rocky landscape, while providing motorists views of the geologic formations in the canyons below.

The road also possesses local significance for its reflection of the "naturalistic" or "rustic" style developed by the National Park Service for projects within its properties during the Depression. Monument planners and designers continually strove to create structures which harmonized with the natural environment and detracted little from the scenic beauty within its boundaries. The structures and associated features erected were built utilizing native materials and were designed to reflect as much as possible their occurrence in nature. Toward this effort, many of the marks of construction, such as drill holes or tote roads, were obliterated by workers.

REGISTRATION REQUIREMENTS

Under Criterion A, the property type must have been constructed during the period of historic significance, 1931-1950. The property type must have been constructed in association with the Depression-era development of the monument by CCC, WPA, ERA, and NPS road and trail workers. The property type must maintain a high degree of integrity of location, reflecting the development of transportation routes for the local community, as well as efforts to provide access to the monument's natural wonders, thereby stimulating tourism to the area. The setting of the road should not have been compromised and should reflect the significance of the scenic vistas which led to the growth and development of the monument.

Under Criterion C, the original design of the property type should display a high degree of integrity of plan, location, materials, design, craftsmanship, and setting. Although the continuous use of the property type and changes in safety requirements and automotive technologies may have resulted in modifications, such as widening of the road in some areas, the basic plan and location should remain for the majority of the roadway. The original materials utilized in the construction of the property type, predominantly the roughly quarried stone and natural boulders incorporated into retaining walls, guardrails, head walls, ditches, and turnouts, should maintain a high degree of integrity. Features rebuilt utilizing stone foreign to the original structure would no longer maintain integrity.

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In order to be considered significant, associated features should also display original design. This is particularly the case with landscaping features such as guardrails and turnouts. Because the original features display significant craftsmanship in terms of stone masonry, it is important that details of original craftsmanship be apparent in road features. Associated features contributing to the significance of the road, including stone retaining walls, stone guardrails, culverts, ditches, drop inlets, and scenic turnouts should be evaluated in terms of additions or modifications affecting the overall integrity of the property type. Natural deterioration would necessitate that certain masonry structures such as culvert head walls and guardrails might need to be remortared in order to remain standing. Although remortaring stone walls or replacing culvert pipes would not affect the integrity of such features, the complete rebuilding of features without retention of the original stone placement, or duplicating of the design with nonhistoric materials would destroy historic integrity.

From its earliest conception, the property type was intended as a means of providing access to the scenic vistas from the canyon rim. Therefore, integrity of setting is extremely important for the road.

NAME OF PROPERTY TYPE: Early Automobile Road Within Colorado National Monument

Serpents Trail is presently a 1.6 mile hiking trail within Colorado National Monument. Begun by John Otto in 1912 as a means of permitting more visitors to view the scenic wonders of the monument, sporadic work took place over the next few years under Otto's direction. In the late 1910s, Mesa County officials became interested in a road that would connect the Glade Park area to the southwest with Grand Junction. Sheep and cattle ranchers were demanding improved road access to their principal market in that city. The county awarded a contract for construction of the road to J. S. Shaw, with J. B. Claybaugh providing engineering services. The road was completed in 1921.

The roadbed was blasted from solid sandstone ledges on the northern side of No Thoroughfare Canyon. Blasting holes were hand-drilled and the shattered rock material moved by human and animal power. Originally sixteen feet wide, barely wide enough to accommodate two early automobiles or wagons between the rock ledges and the edge of the road, Serpents Trail was later expanded to nineteen feet. Rising slightly more than 1,000 feet in elevation in its 2.5 mile path from the floor of No Thoroughfare Canyon to Cold Shivers Point, the road employed a number of switchbacks in its climb. One source puts the number of switchbacks at fifty-two and others claim fifty-four, but the existing physical evidence would suggest that there were no more than twenty-seven. The disagreement may stem from confusing characteristics of an earlier hiking and horseback trail Otto built up the canyon side in the same location in 1911-12 with the auto road completed in 1921. Some of the switchbacks may have existed on sections of road obliterated or incorporated into the Rim Rock Drive.

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Dry laid, random rubble and evenly coursed rubble retaining walls reinforce the edges of curves along the trail. Along the rock ledges of the inside of the trail are the marks of its construction, including drill holes, blasting marks, and rock fill used to bridge crevices. Wooden culverts built beneath the surface of the road were used to provide drainage. One masonry retaining wall along the edge of a curve was constructed during the 1930s.

Serpents Trail was never paved. The trail today is surfaced with crushed gravel to a narrower width, reflecting its function as a hiking trail. Six of the original switchbacks and part of a seventh were lost when 0.9 miles of Serpents Trail was obliterated during construction of part of Rim Rock Drive in 1939-40.

SIGNIFICANCE

Serpents Trail possesses local significance under Criterion A for the role it played in making the Colorado National Monument more accessible to visitors. Prior to completion of the road, tourists faced a laborious hike or horseback ride to reach the top of the mesas. Serpents Trail was itself a scenic drive, providing motorists with views of the Grand Valley, the floor and southern side of No Thoroughfare Canyon, and Columbus Canyon from Cold Shivers Point. In addition, the road greatly improved the access of Glade Park residents to Grand Junction, cutting the travel distance from 20 miles to 11.5 miles.

The road is also locally significant under criterion C as an early example of automobile road construction techniques in very difficult terrain. Extensive use of blasting was necessary to carve the road out of the steep canyon side and substantial manual effort was required to move the rubble into fills and dry-laid retaining walls. The use of switchbacks to allow the road to climb in elevation was typical of early road building in such terrain.

REGISTRATION REQUIREMENTS

Under Criterion A, the property type must have been constructed during the early road building period for the monument, 1912-1921, and must maintain a high degree of integrity of location. The resource must have been constructed in connection with the development of transportation routes through the monument and must have served as an integral part of the monument and nearby communities access network. In addition, it must be demonstrable that the property type was also designed and constructed with the intention of providing visitor access to the scenic views within the monument, thereby serving to stimulate awareness of the area's natural features and encourage tourism.

Under Criterion C, the road must retain a high degree of original design elements which would make easily discernable the construction techniques employed in the road building.

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The original plan of the road, including switchbacks which reflect both the difficulty of the terrain and the vision of the road builders, should display a high degree of integrity. Although some features, such as wooden culverts or the original surfacing, may have been lost due to natural deterioration, the property type should retain a high number of less fragile original construction features reflecting building techniques, including stone retaining walls, blasted rock ledges, and stone fill. In addition, the setting of the road should maintain substantial integrity reflecting its original purpose as a means of viewing the natural wonders and vistas within the monument.

Although it is reasonable to assume that the road has undergone some modification due to its changes in function, from an auto road, back to a hiking trail, and due to changes in transportation technology during the lengthy period of its use, the alterations resulting from factors such as safety requirements and function changes should be minor in nature and not obscure the original functions and design. Although the addition or alteration of a small number of road features would not diminish the overall significance of the road, major alterations to large segments of the road, such as changes in terms of location, design, or setting, would affect its historic integrity. If major portions of the road have been disturbed, the remaining intact portion must be large enough to display a representative selection of original construction techniques, design, materials, and plan to make readily apparent the purpose, intent, and period of construction in order to be considered eligible.

G. Summary of Identification and Evaluation Methods

The survey was conducted based on the information provided by the draft nomination of this property. Utilizing 1976 and 1982 List of Classified Structure survey forms, field survey consisted of re-evaluation of known historic resources, as well as appraisal of recent nonhistoric resources. Updated and revised survey forms were completed, with information obtained through archival research of park superintendent and maintenance records, as well as oral interviews with park personnel. Field survey included use of park personnel knowledgeable of resources. The contributing resources were determined to be unified in construction technique as well as architectural and historic affiliation. Using this basis, the contexts were developed. The resources of Colorado National Monument are within park boundaries, hence the designation of the geographic area. The time period of significance is based on the years in which the Civilian Conservation Corps (CCC) was present in the monument and completed construction of facilities. Other National Register nominations and theme studies provided information on the history of National Park Service (NPS) Rustic Architecture, the theory used within the "National Park Service Rustic Architecture and Public Works Construction 1935-1942" context. The typology of significant property types was based on style and association of the resources, which have an obvious relationship to one another. As the theory of NPS Rustic Architecture and the work of the CCC is readily apparent and common to these resources, the choice of property types was logical. The integrity requirements for determining contributing properties were based on the evaluation of the resources and site, and whether enough historic fabric, affiliation, and integrity remained and were readily apparent.

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Primary location of additional data:

State Historic Preservation Office

Other State agency

Federal agency

Local government

University

Other

Specify Repository: Park Records, Colorado National Monument; Denver Service Center Technical Information Center files, and Rocky Mountain Region Office LCS files, Denver, Colorado

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