## **Great Smoky Mountains National Park**

National Park Service U.S. Department of the Interior

Great Smoky Mountains National Park Tennessee



# **Cultural Landscape Assessment Newfound Gap Road**

Milepost 0.0 to Milepost 14.5 Sevier County, Tennessee

February 2009



## National Park Service U.S. Department of the Interior

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### INTRODUCTION

#### HISTORICAL OVERVIEW

Newfound Gap Road is a significant cultural landscape within the Great Smoky Mountains National Park (GRSM). The states of Tennessee and North Carolina initially built Newfound Gap Road between 1926 and 1930, and it was realigned by the National Park Service (NPS) and the Bureau of Public Roads (BPR) according to the design standards of the NPS between 1933 and 1939. Improvements to the roadway and to the surrounding landscape continued, with the help of the Civilian Conservation Corps (CCC), until the onset of World War II in 1942.

As defined by the National Park Service (NPS), a component landscape is "a definable physical area of a landscape that contributes to the significance of a National Register property, or, in some cases, is individually eligible for listing in the National Register" (Page et al 1998: 10). Newfound Gap Road, a component landscape within the proposed larger Park Development Historic District, is a linear resource individually eligible for inclusion in the National Register of Historic Places (NRHP). The road is significant as a physical representation of the impact of New Deal-era programs on the national park system and as an embodiment of the NPS design philosophy and craftsmanship that were refined during the 1930s. Character-defining features of Newfound Gap Road include topography and drainage, spatial organization and circulation, vegetation, views and vistas, and road-related structures. Although the road has been modified since its initial reconstruction in the 1930s, its character-defining features retain sufficient integrity to collectively convey the road's significance as a cultural landscape.

#### PURPOSE OF CULTURAL LANDSCAPE ASSESSMENT

The NPS contracted with The Louis Berger Group, Inc. (Berger), to prepare a cultural landscape assessment (CLA) for the 14.5-mile Tennessee section of Newfound Gap Road in GRSM, near Gatlinburg, Sevier County, Tennessee. The purpose of this study is to provide historical documentation, a description of existing conditions, and an evaluation of character-defining features for this section of Newfound Gap Road, for which the NPS is planning rehabilitation. The rehabilitation work scheduled to occur over the 14.5 mile section of Newfound Gap Road is currently planned to be sequenced over 3 phases/projects. The first phase PRA-GRSM 1A25, is planned to rehabilitate the road from approximate milepost 12.5 to 14.5, the second phase, PRA-GRSM 1A26, from approximate milepost 6.5 to 12.5, and the third phase, PRA-GRSM 1A28, from approximate milepost 0.0 to 6.5. Project PRA-GRSM 1A25 is currently programmed to receive construction funding in Fiscal Year 2010. The project will involve rehabilitation of the stone masonry guard walls that line many portions of the road. The proposed rehabilitation would also include milling and/or overlaying existing pavement in the roadway and in roadside pull offs and parking areas.

The scope of work specifies that the CLA include research and report preparation tasks. The research components consist of a literature review and a site visit to inventory and document existing conditions along the 14.5-mile Tennessee section of Newfound Gap Road from milepost 0.0 to milepost 14.5. This CLA documents the results of the existing conditions survey, the significance of the road within its historic context, and the evaluation of the integrity of 14.5-mile section of Newfound Gap Road.

#### ASSESSMENT METHODOLOGY

A cultural landscape is defined as a "geographic area, including both cultural and natural resources and wildlife or domestic animals therein, associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values." Newfound Gap Road can be defined more specifically as a designed landscape, which is "a landscape that was consciously designed or laid out by a landscape architect, master gardener, architect, engineer, or horticulturist according to design principles, or an amateur gardener working in a recognized style or tradition. The landscape may be associated with a significant person, trend, or event in landscape architecture; or illustrate an important development in the theory and practice of landscape architecture" (Birnbaum 1994: 1-2).

#### **Field Reconnaissance Survey**

In December 2007, Berger Architectural Historians Patti Kuhn and Kristie Baynard and Landscape Architect Erin Kimsey conducted a reconnaissance survey to record landscape features of Newfound Gap Road. Digital photographs were taken of identified landscape features. In addition, black and white archival photographs were taken of features potentially affected by the road rehabilitation project.

Recorded landscape features were located and given survey numbers in the order in which they were documented, which generally proceeded from the Gatlinburg entrance to Newfound Gap. Mileposts along Newfound Gap Road begin at zero at the Gatlinburg entrance to the park and Newfound Gap is approximately 14.5 miles from the Gatlinburg entrance. Since complete existing conditions plan sets were not available at the time of survey, landscape features along Newfound Gap were recorded in relation to the current mileposts. It is important to note that milepost locations have shifted since previous studies. The majority of the landscape features, in particular those not documented in previous studies, were recorded by GPS and given waypoint numbers to facilitate mapping. An inventory of recorded landscape features is provided as Appendix A. This inventory lists each landscape feature by its field survey number and its corresponding waypoint number. GIS maps of Newfound Gap Road illustrating those structures recorded by GPS (shown by waypoint numbers) are included as Appendix B.

#### Research

Newfound Gap Road has been extensively researched and documented in several previous studies. In 1996, the Historical American Engineering Record (HAER) recorded roads and bridges throughout GRSM and also specifically Newfound Gap Road. These documents consist of a context and history of GRSM and Newfound Gap Road, drawings of structures and features associated with the road, and historical and current photographs. Berger also accessed the NPS List of Classified Structures database for a listing and brief description of landscape features along Newfound Gap Road.

In 1999, a draft *Historic Research Study: Great Smoky Mountains National Park*, written by Robert W. Blythe of the Southeast Regional Office of the NPS, was submitted to the Tennessee and North Carolina State Historic Preservation Offices (SHPO) for review. This study recommended the designation of the Park Development Historic District as a property eligible for the NRHP. The draft nomination form specified that in order to be a contributing feature within the Park Development Historic District, the feature must have been constructed "during the 1933 to 1942 period within the park's master plan." Within this context, Newfound Gap Road

was determined eligible for listing in the NRHP under Criterion A because it "represent[s] the efforts of conservationists, state officials, Congress, and the Roosevelt Administration to revive the economy through public works while also conserving national resources and providing recreational opportunities to the American People. Newfound Gap Road was also determined eligible under Criterion C because it embodies "the distinctive design philosophy and qualities of craftsmanship perfected by the National Park Service in the New Deal period" (Blythe 1999: 137, 138). The North Carolina SHPO has concurred with the determination of eligibility. Although the document was sent to the TN SHPO by staff in the regional office (Atlanta) no record of their response is on file either here or in the regional office. Copies of these letters are provided in Appendix C.

GRSM Landscape Architect Dianne Flaugh compiled historical research on Newfound Gap Road for a Cultural Landscape Inventory (CLI) in 2000-2001. Ms. Flaugh's research included original documents, such as the Superintendent's Monthly Reports, and drawings available at the GRSM Archives from the early development and construction of Newfound Gap Road. GRSM made this preliminary draft document (as yet incomplete) as well as Ms. Flaugh's research, available to Berger for use in the CLA.

In January 2000, the Federal Highway Administration (FHWA) inspected, reported deficiencies, and made recommendations for improvement of the guard walls, retaining walls, and some of the headwalls along Newfound Gap Road. Wall inspection reports were created for 79 structures along the entirety of Newfound Gap Road. These structures were measured, drawn in plan and section form, photographed, and numbered in relation to their milepost location along the road. This document was used as a reference for the CLA. Those structures recorded in December 2007 that have a corresponding wall inspection report are listed with the same structure number used in the 2000 *Wall Inspection Reports* (FWHA 2000).

NPS Master Plans for GRSM dating from the late 1930s and early 1940s were accessed at the National Archives Records Administration (NARA) in College Park, Maryland. The Master Plans discussed each construction phase, exiting features, and proposed work specifically on Newfound Gap Road, as well as planning information on other areas of the park. Also accessed at NARA were original construction plans for Newfound Gap Road. Both the Master Plans and the construction plans were found in Record Group 79 under the title "Master Plans for National Parks," and "Road Plans for Parks and Parkways."

Berger also used Linda Flint McClelland's *Building the National Parks* (1998) and *Historic Park Landscapes in National and State Parks* Multiple Property Documentation Form (1995) in developing Newfound Gap's historic context as a representation of the NPS design aesthetic and the expansion of National Parks in the New Deal era. McClelland's period of significance for park expansion during the New Deal era is 1933 to 1942 (McClelland 1995: 204).

#### STATEMENT OF SIGNIFICANCE

Newfound Gap Road is a 31-mile scenic highway that traverses GRSM from Gatlinburg, Tennessee, to Cherokee, North Carolina (Figure 1). The Tennessee section of the road was initially constructed by the State of Tennessee in 1926 and was realigned by the NPS and the BPR between 1933 and 1939 incorporating NPS road design standards. Thus, in its built form, the road is a testament to the NPS's emphasis on road design, the preservation of the natural landscape, the harmonization of built structures with nature, and the overall experience of the visitor whose primary interaction within the park would take place along the road. The reconstruction of the road was a result of newly established New Deal programs, in particular the Emergency Conservation Work (ECW) and the CCC. The collaborative road building effort among the NPS, the Bureau of Public Roads (BPR), and the CCC is still evident to those traveling along the road today.

Newfound Gap Road is a component landscape within the proposed Great Smoky Mountains Park Development Historic District, determined eligible under the National Register Criteria A and C.

Criterion A: That are associated with events that have made a significant contribution to the broad patterns of our history.

Under Criterion A, Newfound Gap Road is significant as a representation of New Deal-era programs that involved the efforts of conservationists, state officials, Congress, as well as the Roosevelt administration. In addition, the construction and design of the road illustrate the importance placed on reviving the economy through public works, such as the CCC, while conserving natural resources and providing recreational opportunities for the American people.

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

Newfound Gap Road meets Criterion C as an embodiment of the NPS naturalistic design philosophy and craftsmanship refined during the New Deal era.

The period of significance for Newfound Gap Road is 1933 to 1942. Although the initial construction of the road was begun in 1926 by the State of Tennessee, the extant road is a result of the NPS reconstruction of Newfound Gap Road, which began in 1933. After the realignment was more or less completed in 1939, improvements on the road and the surrounding landscape continued. Work along Newfound Gap came to a standstill in 1942, after the onset of World War II, ending the initial NPS construction phase of the road. It is this road design that reflects the emphasis the NPS placed on naturalistic and noninvasive landscape design principles.

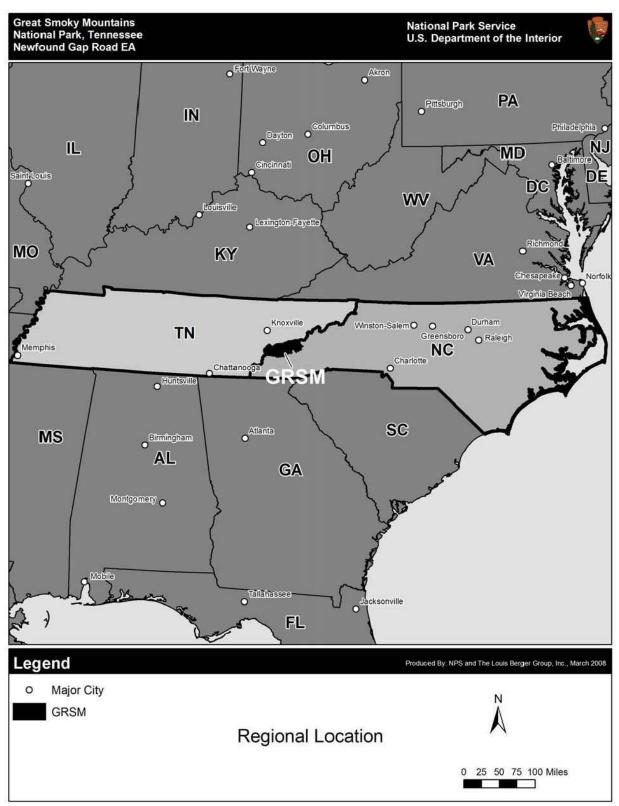


Figure 1. Regional Location Map.

## **HISTORIC CONTEXT**

#### **EARLY DEVELOPMENT OF NEWFOUND GAP ROAD: 1926-1932**

Although primitive roads through the Great Smoky Mountains existed prior to the twentieth century, the first initiative for a modern road through the mountains developed in the 1920s. As with other road improvements during the early twentieth century, the automobile was the biggest catalyst for the road construction project. As automobile tourism increased throughout the United States, the popularity of the Great Smoky Mountains, known for their spectacular beauty and unsurpassed vistas, quickly grew as a tourist destination. In addition, residents of the region wanted a more direct route between Asheville, North Carolina, and Knoxville, Tennessee, and a road across the mountains was a difficult but achievable option. Consequently, the states of North Carolina and Tennessee agreed to construct their respective portions of the road. Initially, the two sections were to meet at the states' border at Indian Gap, thought to be the lowest mountain pass over the Great Smoky Mountains; the project was thus first known as "Indian Gap Highway." However, it was later decided to route the road through Newfound Gap, one and a half miles east of Indian Gap, because it had a more feasible grade (HAER 1996b: 14-15). In July 1926, the states completed their initial road surveys (Flaugh 2000-2001).

Even as the states planned the new highway, the National Park Service was in the process of developing a National Park in the Great Smoky Mountains. On May 22, 1926, President Calvin Coolidge signed legislation establishing three new eastern parks, including GRSM (Blythe 1998:82). Although the states were fully aware of the creation of the park and were in complete support of it, they did not halt the construction of the road. Several factors contributed to the states' decision. First, the development of the park was uncertain because of Congress's stipulation that all of the land had to be donated or purchased by the two states and then ceded to the federal government. State funds and donations only provided for roughly half of the \$10 million anticipated for property acquisition. Authorizing legislation allowed for limited NPS administration after the donation of 150,000 acres to the federal government; however, full development could not occur until a substantial percentage of the land was under federal government control (Flaugh 2000-2001). That the states were uncertain of the park's development was expressed in a 1927 letter from C.N. Bass, the Tennessee Commissioner of Highways. He wrote, "[t]here can be no assurance that the [federal] Government will build the road until after the National Park is established." (HAER 1996b:16). The consensus was that the road was needed whether the park was established or not; thus the states moved forward with their plans for the Indian Gap Highway.

Despite opposition from the NPS, which wanted to build the road in accordance with its own design philosophy after it acquired the land for the park, construction on the Tennessee portion of the road was begun in 1927, under contract with the Discus Brothers of Waynesville, North Carolina (Flaugh 2000-2001). Although the NPS was not able to halt the road's construction completely in Tennessee, the agency did try, although not always successfully, to influence its design. The NPS opposed the routing of the road through Newfound Gap instead of Indian Gap, on the grounds that this routing would ruin the view from what the NPS considered the most beautiful peak in the area, Mount LeConte. Tennessee argued, however, that the grade was more favorable at Newfound Gap, and that although a portion of the road would be visible, great care would be taken to leave the virgin timber along the side of the road in order to camouflage the roadway (Flaugh 2000-2001). Although not entirely complete, the road opened to traffic in the summer of 1929 (HAER 1996b:24).

Although Tennessee for the most part chose not to coordinate with the NPS, the agency was able to successfully influence the design of the North Carolina section of Newfound Gap Road. Early on, the NPS recognized that the road construction policies of North Carolina at that time would have a negative impact on the landscape. Thus, the NPS frequently consulted with state officials in order to reduce impacts to the landscape. Discus Brothers completed the 17-mile section of the road in North Carolina in 1933 (Flaugh 2000-2001).

While the Tennessee and North Carolina sections of the Newfound Gap Road were under construction, the states received the additional \$5 million needed to purchase the remaining acreage to create a National Park. The funds for the purchase came from John D. Rockefeller, Jr. and the Laura Spellman Rockefeller Memorial, a charitable foundation began by John D. Rockefeller, Sr. in honor of his wife. In July 1930, the Federal government accepted title to 158,876 acres of land, exceeding the 150,000-acre minimum set by Congress for the NPS to begin administering and protecting the land.

With the NPS now able to begin planning efforts, Assistant Park Ranger John Needham inspected the newly established park and Newfound Gap Road in August 1930. In his report, Needham wrote:

The contractor has already left this job and the State [of Tennessee] is just finishing up the rock resurfacing. The road is in splendid shape but is a bit dusty when dry. It was constructed without regard for the vegetation and trees along the right of way presents a sorry spectacle in places. Much can be done to improve the looks of things by roadside cleanup but in places all trees for a hundred feet below the road have been destroyed by overcast material [Flaugh 2000-2001].

Although Needham stated that the road was "in excellent condition," the Tennessee section of the road, which by 1930 was being called Newfound Gap Road, did not meet the NPS's standards for safety or scenic qualities (Flaugh 2000-2001). As a result, between 1933 and 1939, the NPS and the BPR almost entirely realigned the Tennessee section of Newfound Gap Road.

#### **NEWFOUND GAP ROAD AND THE NEW DEAL: 1933-1942**

The realignment of the Tennessee section of the Newfound Gap Road coincided with a time of advancement of NPS landscape design principles in the National Parks as well as the onset of President Franklin D. Roosevelt's New Deal programs. Consequently, the Newfound Gap Road is not only a testament to the NPS's design philosophies during the 1930s but also illustrates the use of labor from the ECW carried out by the CCC. The programs established by Roosevelt in early 1933 to improve employment provided the momentum "for a massive expansion of park development nationwide, from the construction of roads and administration facilities to forest preservation, landscape naturalization, roadside cleanup, campground construction, and recreational development" (McClelland 1998: 328).

On March 31, 1933, President Roosevelt signed the Federal Unemployment Relief Act that called for ECW on public lands. In turn, the act created the CCC, composed of generally unemployed and unskilled men, to carry out the work. By 1933, the National Park Service was organized to open 63 camps that would accommodate 12,600 men to work in national parks and monuments. The larger parks contained as many as six or seven camps at one time. Each camp at its full capacity held 200 men who would work on projects over a six-month period.

Camps typically included a landscape architect/engineer that served as foreman, and some camps also had a planting expert. Additional landscape architects, not assigned to a particular camp, inspected the work of all the camps. The NPS was also allowed to hire a number of skilled local men, known as LEMs (Local Experienced Men), who provided insight on local conditions, climate, vegetation, and building traditions. By 1935, there were 340 camps in the national parks. In 1937, Congress passed new legislation that established the CCC as an independent agency and extended the program for three more years. With the help of the CCC, the NPS was able complete work that it was trying to justify under ordinary appropriations, including landscape preservation and forest protection (McClelland 1998:338).

#### THE DESIGN PHILOSOPHY OF THE NATIONAL PARK SERVICE

Beginning in the 1920s, the NPS began to advance its already established principles on naturalistic design. According to Linda Flint McClelland in *Building the National Parks*,

Naturalism required that roads and trails follow the natural contours in curving lines and the overlooks be located to take the best advantage of scenic views and provide access to outstanding natural features without impairing them. It also called for roadside cleanup. Park roads were built with a minimum cut and fill, and steep grades, sharp turns, and switchbacks were eliminated. Wherever roads would be visible from a distance, either from other places along the road or from scenic turnouts, viewpoints, or trails, they were blended into the scenery [McClelland 1998:1998:192].

In addition, roads avoided damaging natural features such as stone outcroppings, waterfalls, and groves of trees; however, the road was routed close enough to these features in order to provide views from the roadways or pull offs. If structures had to be built and could not be hidden by vegetation or topography, they were designed to blend into the natural setting (McClelland 1998:192).

The NPS's desire for naturalistic design was a direct reflection of the practices of American landscape architects at the turn of the twentieth century, who were greatly influenced by nineteenth-century landscape traditions that combined landscape preservation and the blending of built structures within their surroundings. This rustic design ethic drew from nineteenthcentury private pleasure gardens and urban parks that emphasized scenic views, variations in topography, and natural features such as streams and rock outcroppings. Landscape architects combined these characteristics with a circulation pattern that would best benefit the experience of the visitor. Renowned landscape architects such as Andrew Jackson Downing and Frederick Law Olmsted were instrumental in bringing the rustic design philosophy into mainstream American landscape design practices. Consequently, the NPS designers "not only adopted naturalistic principles and practices but advanced them by forging a cohesive ethic of naturalism which simultaneously applied to the design of structures, the construction of roads and trails, and the successful blending of constructed and natural features of the park" (McClelland 1998:18). This design philosophy continued in the 1930s during the tenure of NPS Chieff Landscape Architect Thomas Chalmers Vint. Under Vint in the late 1920s and early 1930s, "the landscape program expanded into a single, fully orchestrated process of park planning and development based on the principles of landscape preservation and harmonious design" (McClelland 1998:196).

The Landscape Division of the NPS, headed by Vint, established a standardized method of design for park roads and structures. Vint's staff, comprised of well-rounded and well-trained landscape architects, produced standardized plans for masonry features such as bridges, guard

walls, and culverts that could be easily adapted for use with local stone. The landscape architects provided specifications to the BPR engineers and other work crews in order to ensure that all work met their standards of design and landscape preservation. In addition, Vint developed a planning process that clearly outlined the development goals of the park. Each park, including GRSM, had a Master Plan, which were composed of three parts: an outline listing the various areas of the parks and their components, a general plan with a graphic representation of each area, and a six-year plan with a list of various projects to complete the plan (McClelland 1998: 201, 294). Vint's office, located in San Francisco, became known as the Western Field Office. Charles E. Peterson, who previously worked under Vint in the Western Field Office, became head of the Eastern Office of the Landscape Division in 1930. Peterson implemented the NPS design principles and planning processes that are evident in GRSM and Newfound Gap Road. It was under these guidelines and planning process that the NPS, with the aid of the BPR and the CCC, realigned Newfound Gap Road (Figure 2).



Figure 2. "The Highway Crosses the Line at Newfound Gap," Ca. 1935, (GRSM Archives).

#### **RECONSTRUCTION OF NEWFOUND GAP ROAD**

In 1932, Director of the National Park Service Arno B. Cammerer described the Tennessee-built portion of the highway as "a road of impossible curves and locations" (HAER 1996b:42). At that time, the actual work of rebuilding the road was the responsibility of the BPR, which was then under the United States Department of Agriculture. In August 1932, the first formal survey of the roads in the park began. BPR had completed the preliminary survey of the road by November, and had marked off the location of 10.5 of the estimated 14.5 miles of roadway on the

Tennessee side. As part of the reconstruction process, the NPS consulted with the BPR and made recommendations on the design of the roads. BPR engineer W.I. Lee reported that the state of Tennessee had constructed a "narrow road" with a "well defined landscape scar on the mountain side." BPR initially planned to minimize the scar by constructing a wider road on the same location and at the same time reducing the grade of the road (HAER 1996b: 50). However, the NPS's curvature and grade standards made this approach impossible. After reconsideration, BPR proposed an alternative approach more likely to meet NPS standards. The new road was to be a 20-foot-wide crushed stone surface with a 30-foot-wide graded bed. compared to the previous 18-foot-wide driving surface and 24-foot wide graded bed. In addition, the grade of the road was increased from 6 percent to 7 percent, which made it possible for the road to be straightened as well as to shorten the total length. For the most part, the general route of the original state-built road was kept. However, a section of the road in proximity to the Gatlinburg entrance to the park where the road was moved from the east side to the west side of the Little Pigeon River and also in the area of the Loop Over Bridge two switchbacks were eliminated. In addition, stone-faced bridges and culverts replaced the original timber bridges and open ditch culverts. The naturalistic philosophy of the NPS was furthered during the reconstruction with the elimination of construction scars, which was accomplished through road bank restoration and the reintroduction of native species along the road (Blythe 1998: 104, Flaugh 2000-2001).



Figure 3. Masonry Arch Under Construction, 1935 (E.E. Exline, Photographer, GRSM Archives).

Reconstruction of the road began in late 1933 and was divided into four separate projects, 1A-1 through 1A-4, beginning with the section of road closest to the gap. The reconstruction of the road also included the construction of eight bridges, including the Loop Over Bridge, overlooks, culverts, guard walls, and retaining walls (Figures 3 and 4). The design of the built structures, like the roadway, followed the NPS design philosophies of rustic structures that blended with the landscape. Peterson created many of the initial designs for the structures, which were then adapted by the BPR engineers. In addition to the road itself, three separate but contiguous

recreation areas or attractions were created along the Tennessee section of the road, to further enhance visitors' experience of the park and the road. These attractions were the Sugarlands Headquarters near the Gatlinburg entrance to the park, the Chimneys Campground near Milepost 6, and the Newfound Gap Overlook and Rockefeller Memorial, which marked the Tennessee and North Carolina border. Each of these areas was detailed in the park's Master Plan.

Construction drawings of the roadside features and the various design elements of the road, illustrate the importance the NPS placed on preserving the landscape and harmonizing the architectural features into the existing landscape. Drawings specify the location, size, and species of trees that were present at the time of construction. A number of these trees were saved during the construction process. Some of them required stone-lined tree wells in order to protect these rare or important species from the surrounding fill. In the vicinity of the "Loop Over," Bridge for example, over 107 trees were to be saved, 17 with tree wells (Flaugh 2000-2001). The stone bridges, tunnel portals, guard walls, and culvert headwalls were all built of local stone (Figures 5-8). Although all of the masonry walls were constructed in accordance to design specifications that regulated the size and coursing of the stone, the walls exude a feeling of cohesive randomness that give them an appearance similar to the natural rock outcroppings that line the road. Views and vistas were emphasized through the placement of pull offs, which allowed motorists to stop to admire views, look at water features such as streams and waterfalls, and gain access to trails.

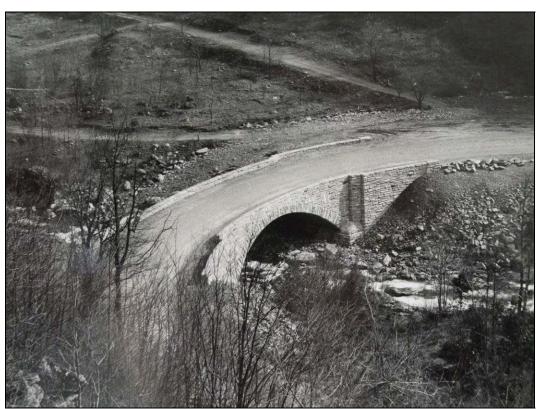


Figure 4. Chimneys Campground Bridge, Ca. 1936 (GRSM Archives). (E.E. Exline, Photographer, GRSM Archives).

The BPR began on the realignment the road's final section (Section 1A4) in September 1937. Despite the fact that the road was not yet complete, Newfound Gap Road opened to traffic in April 1938. A park document stated at the time that the "road from Gatlinburg from Newfound Gap is under construction for a distance of approximately four miles. A detour is maintained and is in good condition, although dusty at times." The last four miles were completed by June 1938. The final surfacing of the road occurred in 1940 (HAER 1996b: 57-58).

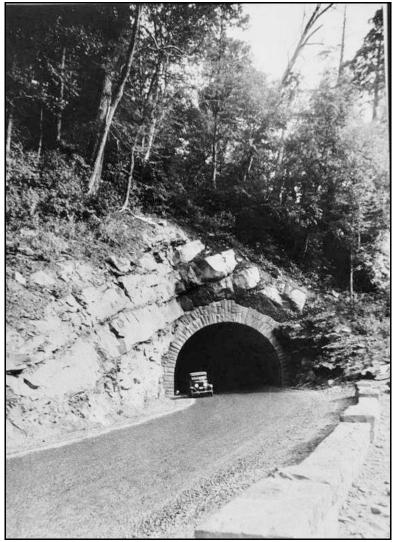


Figure 5. Lower Portal of the Chimney Tops Tunnel, 1936.

#### THE CCC AND NEWFOUND GAP ROAD

The landscaping and a number of structures along Newfound Gap Road were the work of the CCC; they illustrate the emphasis placed on public works during the initial development of GRSM and Newfound Gap Road. In May 1933, the first five CCC camps were established in GRSM. Three of the five initial camps were located along Newfound Gap Road; one of these

was located at Sugarlands Valley, near the Gatlinburg entrance to the park. After the NPS completed its landscape plans for the road in January 1934, work on the road by the CCC soon began (Flaugh 2000-2001).

CCC work initially began with roadside cleanup, primarily on the North Carolina section, but later involved landscaping projects in the newly constructed Tennessee section. The CCC established nurseries at Sugarlands in Tennessee and Ravensford in North Carolina, and crews often moved trees from construction areas to the nurseries for later planting in new locations. In 1937, crews seeded the road shoulders on the Tennessee side and landscaped the high slope below "Grassy Patch" (the Alum Cave parking area); this involved sloping, planting seedling rhododendrons, and mulching the area with material such as blackberry canes as well as birch and beech twigs. Crews also removed trees from the construction zone between the Gatlinburg entrance and the Park Headquarters area and replanted them at Park Headquarters to screen the buildings from the road. In 1938, CCC crews landscaped the area around the Loop Over Bridge, work that consisted of placing boulder barriers, planting trees, and mulching (Flaugh 2000-2001).

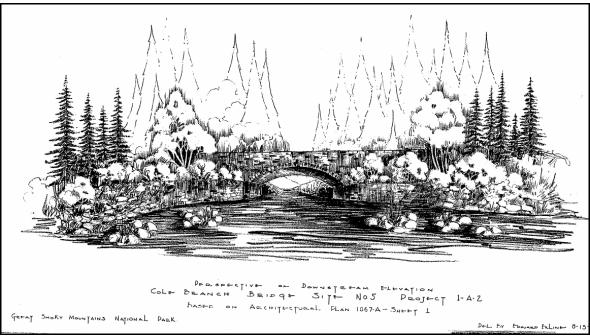


Figure 6. "Perspective of Downstream Elevation Cole Branch Bridge," (Edouard (E.E) Exline 1934).

In addition to landscaping, the CCC crews also constructed four of the eight bridges along the road and several of the small bridges. Two of the large bridges built by the CCC are Bridge No. 1 near the Park Headquarters at Sugarlands Valley and Bridge No. 2 near the Chimneys Campground (HAER 1996b:63). Construction of Bridge No. 1 began in May 1937 and was completed by December. In addition, the CCC played a large role in the construction of the

Chimneys Campground, the Park Headquarters at Sugarlands Valley, and the Rockefeller Memorial and comfort station at Newfound Gap.

The CCC operated successfully until the onset of World War II. Despite efforts by President Roosevelt to continue the program, Congress officially terminated the CCC in July 1942. On July 8, 1942, CCC work in GRSM was halted, leaving several projects unfinished, including the Alum Cave parking area along the Tennessee section of Newfound Gap Road. Nonetheless, improvements made to the park by the CCC were substantial. In all, nineteen CCC companies and twenty-two camps, some of them side or spur camps, originated in the Park. As park official Robert White stated in 1935, the "CCC camps stationed in this Park have helped develop this Park at a much more rapid rate than any other Park ever built by the Federal Government. . . the Park has advanced at least ten years" (HAER 1996a:61-62, 78).

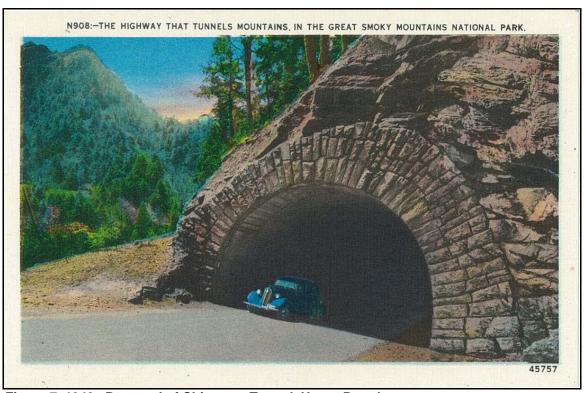


Figure 7. 1940s Postcard of Chimneys Tunnel, Upper Portal.

#### POST WORLD WAR II AND MISSION 66: 1946-1966

With the nation's financial resources and manpower redirected toward world war, park improvements came to a halt and park maintenance was minimal. Even after the war ended in 1945, only minor improvements were made to Newfound Gap Road: it was resurfaced in 1946, and in 1949 and 1950 overgrown vistas along the roadway were cleared.

In 1950, the BPR inspected Newfound Gap Road. The agency's assessment of the Tennessee section of the road stated:

This road is complete as it stands. Even through traffic during the tourist season will probably soon reach the saturation point for a two-lane road, widening is not practicable

and could not be accomplished except at enormous cost. It would be cheaper to divert some of the traffic by building another trans-mountain road somewhere else in the Park.

Tunnel No. 1 [upper tunnel] will eventually require concrete lining and portals and additional guardrail is needed in the top two miles for safety.

Following recommendations in BPR's Inventory and Inspection Reports, 1.14 miles of guard wall was constructed along the Tennessee section of the road beginning in March 1951. Work on the upper tunnel began in 1957 and involved the removal of timber rings, placement of steel I-beam ribs, installation of a concrete lining, and excavation and construction of portals. The entire project was completed by July 1958 (Flaugh 2000-2001).

A flash flood in September 1951 caused tremendous destruction to the park, washed out Newfound Gap Road in five places, and damaged the Chimneys Campground. A section of retaining wall below the lower tunnel failed and the roadway at that location was limited to one lane of traffic. Consequently, a contract (Project 1A13) was awarded and beginning in 1952, many of the retaining walls along the road and sections of the road were reconstructed (Flaugh 2000-2001, HAER 1996b:72).

It was not until a decade after the war that the NPS fully realized the pressing need for comprehensive park funding. In the postwar economy, automobile travel and leisure activities skyrocketed and visitation to national parks increased accordingly. The park system was greatly unprepared: in 1955, 50 million people visited national parks that were equipped to accommodate only half that number (McClelland 1998: 462). Although park roads received funding under the Federal Highway aid Act of 1954, a great need for improvements to campgrounds, museums, administration buildings, staff housing, and maintenance buildings still remained. Facilities such as lodging were considered outdated and did not meet then-current standards. Illustrating the public interest and dissatisfaction with the condition of the parks, *Reader's Digest* published an article in 1955 entitled "Shocking Truth about Our National Parks: A Report on the Use of Parks Areas and Supporting Funds," which exposed the substandard conditions of the national parks and their facilities.

In 1956, the NPS responded with Mission 66, a multimillion-dollar program that would "meet the needs of a much greater number of visitors and at the same time safeguard fully the wilderness, scenic, scientific, and historic resources entrusted to the National Park Service" (McClelland 1998:462). Overall, the program strove to improve the park visitor's experience with larger staffs, better interpretation, modern facilities, and upgrades to roads, trails, campgrounds, and other amenities. The name of the program was derived from the program's plan for phased improvement over 10 years that would culminate in 1966 and coincide with the fiftieth anniversary of the establishment of the National Park Service.

The initial work in GRSM funded by Mission 66 took place in North Carolina; it included realignment of 8.5 miles of Newfound Gap Road, improvement of several of its sections, and repaving of the entire North Carolina portion of the road. In Tennessee, improvements to the road focused on bridge and tunnel repairs. Repairs on the Morton Tunnel (installation of new lining and portals) began in December 1957. These improvements required a detour, and the tunnel was not reopened for traffic until July 1958. Repairs to the bridges that crossed the West Prong of the Little Pigeon River began in December 1958. The Newfound Gap parking area was also expanded and reconfigured during the Mission 66 program and was completed in 1967 (HAER 1996b:75, 78). Perhaps the most visible addition to Tennessee section of Newfound Gap Road during the Mission 66 era was the construction of the Sugarlands Visitors

Center, which was one of approximately 100 new visitors centers built in national parks under the mid-century Modern design principles of Mission 66 (French 2007).

#### LATE TWENTIETH-CENTURY AND EARLY TWENTY-FIRST-CENTURY CHANGES

The Tennessee section of Newfound Gap Road has undergone minor changes since the Mission 66 era. In 1967, the portion of the road from Gatlinburg, Tennessee, to Newfound Gap was resurfaced. Between 1967 and 1968, eight new pull off/parking areas were built along the roadway. Two years later, the park constructed two more parking areas with sidewalks and timber guardrails. In the 1970s, a number of masonry guard walls were repaired or, in some cases, reconstructed, and in 1976, 8.3 miles of the Tennessee section of the road was resurfaced. Between 1983 and1985, additional new parking areas were constructed along the road, existing parking areas were renovated, and masonry shoulder walls were repaired. Between 1987 and 1988, two new sections of stone guard wall were installed: one in the area of the Chimney Tops Parking Area and at Milepost 12 (Flaugh 2000-2001). Between 2001 and 2004, the road through the tunnels was lowered to accommodate large motor homes and trailers. At that time a new guard rail and masonry guard wall were also installed along the road, adjacent to the tunnels.



Figure 8. 1940s Postcard of Loop Over Bridge.

### LANDSCAPE FEATURES AND EXISTING CONDITIONS

#### **GENERAL DESCRIPTION OF NEWFOUND GAP ROAD**

Newfound Gap Road is a 31-mile-long linear landscape that spans GRSM, connecting the park's entrance in Gatlinburg, Tennessee, with the entrance in Cherokee, North Carolina. The two states converge at Newfound Gap. The road was constructed not only as a transportation route between the two states, but also as a scenic road with carefully planned views of the landscape for motorists and hikers. The 14.5-mile Tennessee section of Newfound Gap Road begins in the Sugarlands Valley, at the Gatlinburg entrance to the park. The topography and natural landscape gradually change as one ascends to Newfound Gap, affording a variety of views and vistas. Rustic bridges and tunnels enhance the picturesque character of the road; their designs and materials help them blend compatibly with the surrounding natural landscape. Pull offs at intervals along the road provide places of rest for visitors, access to trails, as well as more controlled views of the landscape.

Cultural landscapes are composed of tangible and intangible aspects that individually and collectively "give a landscape its historic character and aid in the understanding of its cultural importance" (Page et al. 1998:53). A character-defining feature is defined as a "prominent or distinctive aspect, quality, or characteristic of a cultural landscape that contributes significantly to its physical character (Birnbaum and Peters 1996). Character-defining features that generally date to the period of significance and are present in the Newfound Gap Cultural Landscape include:

- Natural Systems, Topography and Drainage
- Prehistoric and Historic Land Use Patterns
- Spatial Organization and Circulation
- Vegetation
- Views and Vistas
- Road-Related Structures

#### **TOPOGRAPHY AND DRAINAGE**

Newfound Gap Road is located in the Southern Blue Ridge physiographic province, a region characterized by highly dissected uplands with numerous steep slopes. The highest elevations in the Blue Ridge are found in GRSM; within the park, several peaks reach heights of more than 6,000 feet. Clingman's Dome, which is 5 miles south of Newfound Gap, reaches an elevation of 6,642 feet.

The section of Newfound Gap Road that is the subject of this study extends 14.5 miles from the park entrance to the proximity of Newfound Gap, which is the Tennessee-North Carolina border. Surface elevations along the road ascend from approximately 1,360 feet at the park entrance (Milepost 0.0) to 5,046 feet at Newfound Gap (Milepost 14.7). The dramatic rise in elevation over such a short distance of roadway brings significant changes in the physical landscape, ranging from an intimate, narrow stream valley to a broad, dissected upland with open views of ancient mountain ranges.



Figure 9. Newfound Gap Road, Looking Towards Cherokee, Bridge No. 2 along the Little Pigeon River.

In the lower elevations, the road follows the narrow valley floor of the West Prong of the Little Pigeon River where adjacent slopes rise more than 600 feet above the floodplain (Figure 9). The West Prong's stream gradient descends almost 900 feet in the lower 5 miles, producing many rapids and falls (Figure 10). The adjacent hillsides are dissected by numerous tributary streams, which have created coves and hollows along the main valley of the West Prong. The riffles, rapids, cascades, and falls of the West Prong and its tributaries create a soundscape along the road, an audible expression of the forces that have shaped the physical form of the natural landscape. Above Milepost 4, the valley becomes increasingly narrow with greater elevation, and the adjacent mountainsides exhibit steeper slopes and greater relief. Sugarland Mountain rises to 4,833 feet only a mile to the west of the road. In this section, the roadside is textured with stones and boulders that have fallen from the mountainsides that tower over the coves and valleys. At Chimneys Picnic Area (Milepost 6), the terrain becomes so steep that the road requires a switchback (Milepost 7) and the Loop Over Bridge (Milepost 9.05). The slopes of the adjacent mountainsides can exceed 90 percent (a vertical rise of 900 feet over a horizontal distance of 1,000 feet). As the road reaches the higher elevations in the upper section (Milepost 12 to Newfound Gap), the road twists and turns as it closely tracks the steeply dissected, precipitous mountainsides that rise above 4,000 feet. Newfound Gap marks the highest point in the road (5,046 feet), placing the visitor at a commanding vantage point where the surrounding ranges and peaks are visible for miles into the receding horizon (Figure 11). Newfound Gap Road's topography and drainage played a significant role in both the original design of the road and its 1930s reconstruction and are integral to the current visitor experience. As contributing elements dating to the period of significance, topography and drainage are contributing character-defining features of the cultural landscape.



Figure 10. View of typical rapids on the West Prong of the Little Pigeon River along the lower five miles of Newfound Gap Road.



Figure 11. View from Morton Overlook.

#### PREHISTORIC AND HISTORIC LAND USE PATTERNS

For thousands of years, GRSM has been used by human groups for various purposes, and the surrounding landscape bears evidence of these varying uses, ranging from habitation, hunting, fishing, gathering of wild foods, farming, mining, and the commercial harvesting of timber. For most of its length, Newfound Gap Road follows an ancient Indian trail, known as the Indian Gap Trail. In the park as a whole and along Newfound Gap Road in particular, prehistoric and early historic land use practices along Newfound Gap Road would have varied according to local conditions.

Prehistoric use of the area, which is known through the archeological record, is described according to four major periods of development: Paleoindian (10,000-8000 BC), Archaic (8000-1000 BC), Woodland (1000 BC-AD 900), and Mississippian (AD 900-1600) (Dickens 1976; Keel 1976; Ward and Davis 1999). Paleoindian populations were small nomadic or seminomadic bands with settlement/subsistence strategies based on hunting and the collection of plant foods. Evidence of Paleoindian settlement is very sparse in the Blue Ridge, as in the entire eastern U.S., but the limited evidence seems to show that base camps were located near quarry sites where high-quality stone could be obtained to manufacture stone tools.

Archaic period lifeways were characterized by a mixed hunting/gathering subsistence economy that included a variety of different food resources and a settlement pattern based on scheduled seasonal movements throughout various resource zones. As the southeastern climate moderated from late glacial conditions into more modern and temperate ranges, Archaic peoples developed a diversified subsistence economy focused on seasonal hunting, fishing, and collecting of wild plant foods. At the end of the Archaic period, a more broadly diversified economy would have focused on more intensive use of riverine resources such as fish and shellfish.

Overall land use and subsistence patterns changed little from the Late Archaic to the Early Woodland and Middle Woodland (1000 BC-AD 700) periods. Residential camps were located in riverine environments where shellfish and other aquatic resources were concentrated. Seasonal and special-use sites were located in the adjacent upland zones. More complex cultures, agricultural economies, and material culture developed during the Late Woodland.

During the Mississippian period, complex, chiefdom-level societies developed in the southeastern United States. This period is characterized by large villages along river floodplains, as well as by earthen mounds, evidence of social stratification, and an economy based on agriculture. Secondary settlements included small farmsteads and specialized procurement stations or hunting camps that were widely distributed across the landscape. The Cherokee nation was well established in the Blue Ridge at the time of Euro-American settlement. The Cherokee lived in more than 40 villages that ranged in size from a few dozen to hundreds of households. The entire nation was linked by a network of trails that connected the major river valleys. For most of its length, Newfound Gap Road follows one of these ancient trails, known as the Indian Gap Trail, which connected Cherokee towns on both sides of the Smoky Mountains. The trail followed the West Fork of the Little Pigeon River, through Indian Gap (west of Newfound Gap), and south along the Oconaluftee River (Flaugh 2000-2001). The Cherokees suffered major upheavals during the wars of the eighteenth century, being drawn into the Seven Years War (French and Indian War) and the Revolutionary War. Diseases introduced by traders and settlers placed further stress on Cherokee lifeways.

White settlement in the GRSM area was limited before 1819, when the Treaty of Calhoun opened the area between the Little Tennessee and Hiwassee rivers for white settlement. Initial white immigration was dominated by Scotch-Irish subsistence farmers. Agricultural settlement was concentrated in the lower elevations that were suitable for subsistence farming. These first settlers utilized the Cherokee network of trails, including Indian Gap Trail.

Settlers established several communities and enclaves within what is now GRSM during the 1800s. What is now the town of Gatlinburg was established as White Oak Flats around 1800. Transportation improvements after the Civil War included the construction of the Oconalufty Turnpike in 1840, which followed the Indian Gap Trail from the Smokemount area of GRSM, though Indian Gap, and down through the mountains in Tennessee. The turnpike led to greater settlement in the area. Large-scale exploitation of the region's timber and mineral resources occurred after the Civil War, when steam-powered sawmills were constructed and railroads were able to reach the area. By the 1920s, settlements had extended from Gatlinburg, into the Sugarlands Valley, and ended just below what is now the Chimneys Picnic Area. Remnants of these settlements can still be seen from the road in the form of stone walls and chimneys.

A small amount of visible evidence of prehistoric and historic land use patterns that predates the reconstruction of Newfound Gap Road remains; however, additional evidence of Native American and early historic land use could potentially be revealed through archeological investigation. Nonetheless, The evidence of prehistoric and historic land use patterns of Newfound Gap Road fall outside the period of significance and therefore are non-contributing elements.

#### **VEGETATION**

The natural vegetation of GRSM and Newfound Gap Road is incredibly diverse and widely varied throughout the park, which adds to the depth and range of the visitor experience. Deciduous forests account for approximately 80 percent of GRSM. Over 100 native tree species have been identified within GRSM, with five major forest types within the park boundaries: Cove Hardwood Forest, Spruce-Fir Forest, Northern Hardwood Forest, Hemlock Forest, and Pineand-Oak Forest.

The Cove Hardwood Forest is the most diverse of the forest types, with 40 to 60 types of tree and shrub species. This type of forest is primarily located in the valley areas (Figure 12). In contrast, the Spruce-Fir Forest covers the park's highest elevations. The boreal forest species found here, at elevations above 4,500 feet, are also present in places like the northern reaches of Maine and Quebec (Figure 13). Northern Hardwood Forests are primarily in the middle to upper elevations, 3,500 to 5,000 feet. These are the highest elevation deciduous forests in the eastern United States; resembling forests typically seen throughout the New England states, they provide rich fall foliage (Figure 14). The Hemlock Forest lines the stream banks and other moist, shady areas up to 4,000 feet in elevation and can include rhododendron and mountain laurel (Figure 15). Finally, the Pine-and-Oak Forests are seen in areas with well drained soils and dry, exposed slopes and ridges, mostly in the western portion of the park. Fires, common on these dry slopes, serve as a natural part of seed propagation. The park uses controlled burns as a preventative measure for fire safety while aiding in the essential regeneration process.



Figure 12. Cove Hardwood Forest Along Newfound Gap Road.



Figure 13. Spruce Fir forest at Newfound Gap.

There are also two major plant communities identified separately from the forests -- grassy balds and heath balds. These "balds" are large meadows or treeless areas, located at mid- to high level elevations, that have distinctive plants and animals associated with them. The balds found within the viewsheds of Newfound Gap Road are heath balds, which have a heavy, shrubby vegetative cover, comprising plants like mountain laurel, rhododendron, blueberry, huckleberry, and sand myrtle.

During the reconstruction of Newfound Gap Road, great care was taken to preserve existing vegetation. Where it was necessary to remove trees, CCC crews often moved them to nurseries, one of which was located at the Sugarlands Valley; the trees were subsequently replanted. When new planting was required to disguise road construction scars, only appropriate species that were already found in the area were planted. Thus, the extant mix of vegetation species is a significant character-defining feature and contributes to the significance of the Newfound Gap Road cultural landscape.



Figure 14. Northern Hardwood Forest.



Figure 15. View along stream through hemlock forest.



Figure 16. View From Campbell Overlook illustrating the variety of forest types of GRSM.

#### SPATIAL ORGANIZATION AND CIRCULATION

Newfound Gap Road is a vital component of the circulation system within GRSM and is the only improved road across the entire park. In Tennessee, the road begins in the Sugarlands Valley and follows the path of the West Prong of the Little Pigeon River as it ascends to Newfound Gap. The 1930s reconstruction of Newfound Gap Road responded to the natural topography, landscape features, and views to enhance the motorist's experience. This reconstruction transformed the roadway to follow the design philosophies of the NPS. Consequently, the road was realigned to avoid steep grades, road banks were restored to have a naturalistic appearance, and all road-related structures were built in a rustic aesthetic in order to harmonize with the surrounding landscape (Figure 17). General Construction Notes of GRSM specified that "[r]oad grading will involve many variations as determined by field conditions. However, in all cases a natural effect should be created when possible feathering all slopes out into the natural topography (Blyth 1998: 107, General Construction Notes 1935: 64).

In addition to being a scenic thoroughfare between Gatlinburg, Tennessee, and Cherokee, North Carolina, Newfound Gap Road also provides access to several roadside attractions that allow visitors to stop, get out of their cars and have a more intimate interaction with the park. Visitors entering the park from the Gatlinburg entrance first arrive at the Headquarters area in the Sugarlands Valley before they begin their ascent to Newfound Gap. The Headquarters area and its Mission 66 visitor center allow visitors to stop and familiarize themselves with the park. The Headquarters area contains the largest concentration of buildings along the Tennessee section of the road.

The Chimneys Campgrounds (now the Chimneys Picnic Area), located approximately 6 miles from the Gatlinburg entrance, is a convenient place for visitors to make extended stops. Several "Quiet Walkways," short trails that do not require hiking gear, are accessible from small parking areas, and additional trailheads, for day hikers, are also accessible from the road via designated parking areas. Pull offs, located at regular intervals along the road, provide additional stopping points and opportunities for parking (Figure 18). These pull offs often incorporate a picturesque landscape feature, such as a waterfall or vista of the Little Pigeon River, Once at Newfound Gap, visitors can leave their vehicles to experience the road at its highest elevation, view the landscape from overlooks, and visit the Rockefeller Memorial.

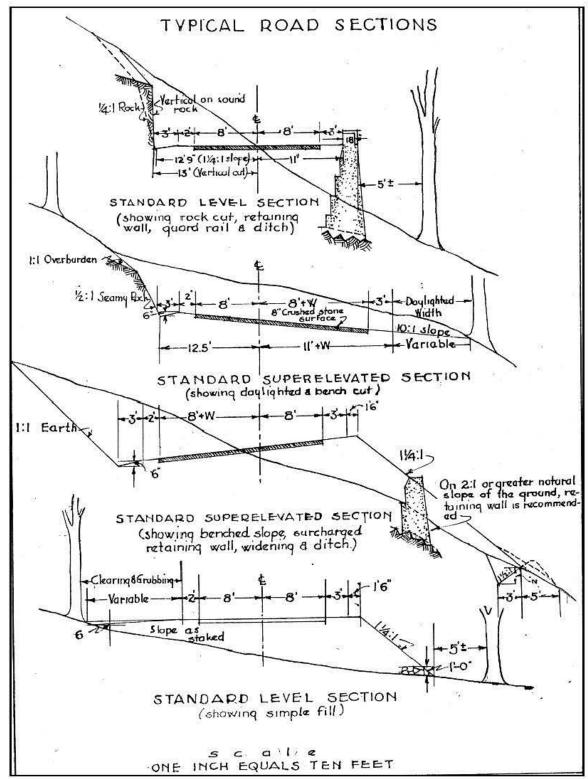


Figure 17. "Typical Road Sections (General Construction Notes, 1935).

Unlike the North Carolina section of Newfound Gap, of which a large portion was substantially realigned during the 1960s, the circulation pattern and spatial relationships of the Tennessee segment of the road have largely retained their original configuration from the 1933-1939 reconstruction of the road. Thus, they are contributing elements of the cultural landscape.



Figure 18. View South Towards Gatlinburg, Roadside Pull Off, Milepost 14 (No. 204).

#### **VIEWS AND VISTAS**

Newfound Gap Road was specifically designed to provide various views and vistas of the landscape either from inside an automobile while traveling the road, or outside an automobile while stopped at a designated overlook. The winding nature of the road lends itself to a progression of more confined vistas, framed by the tree-lined tunnel-like route of the lower elevations that open to expansive mountain views in the upper elevations. Overlooks on the roadside guide visitors to specific locations of designed views and vistas. *A Guide to Cultural Landscape Reports* defines views as "the expansive or panoramic prospect of a broad range of vision, which may be naturally occurring or deliberately contrived. In comparison, vistas are "the controlled prospect of a discrete, linear range of vision, which is deliberately contrived" (Page et al 1998:150).

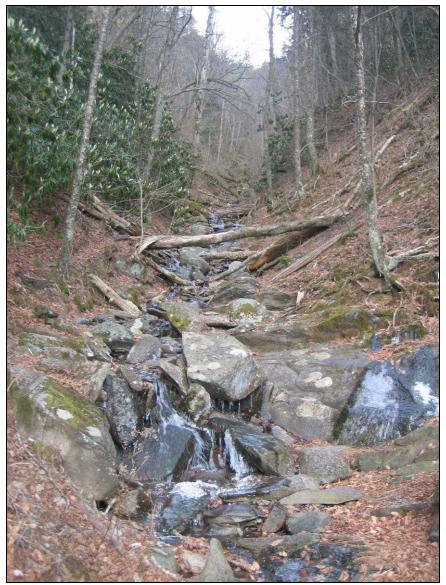


Figure 19. Vista of Cascade From Pull Off Along Newfound Gap Road.

At the Gatlinburg entrance to the park and near the Headquarters area, visitors experience level, wooded terrain that offers frequent views of the West Prong of the Little Pigeon River. As the road climbs along the north side of the Sugarland Mountain (approximately Milepost 2 to Milepost 6), the river disappears from sight; however, the trees lining the road create a cavernous effect. Overlooks from this portion of the road provide views of Bullhead and Mount Le Conte. As the visitor continues to ascend (approximately Milepost 6 to Milepost 8.5), the Chimney Tops can be seen from various overlooks. The picturesque setting is further enhanced by the steep slope on the right side of the road and exposed rock on the left, as well as a hairpin turn, the Chimney Tops Tunnel, and the Loop Over Bridge. After the Loop Over Bridge, the grade of the road settles and the road gently curves to follow the bank of Walker Camp Prong (Milepost 8.5 to Milepost 9.5). There is a notable concentration of picturesque stone-faced bridges and culverts along this section of road, as well as several overlooks affording views of the cascading stream. Above the Walker Camp Prong Bridge (Milepost 9.69), the road once

again begins to ascend through a series of pronounced curves until it peaks at Newfound Gap. Almost continuous spans of stone guard wall line the right side of the road, and the left is bounded by exposed rock. Here, overlooks provide views of the valleys and mountain tops (Flaugh 2000-2001). Although vegetation has naturally evolved since the realignment of the road by the NPS, views and vistas have remained remarkably unchanged from the Period of Significance. Thus, the extant views and vistas along Newfound Gap Road are contributing character-defining features of the cultural landscape (Figure 19).

#### **ROAD-RELATED STRUCTURES**

#### **BRIDGES**

The typical stone arch bridge incorporated into the national parks as early as the 1920s was based on romantic English prototypes. Although all the bridges had certain standardized features in common, the design of each bridge was tailored to the specific project and location within the park. The bridges also varied in the ways in which the two NPS Field Offices interpreted the stone arch bridge concept.

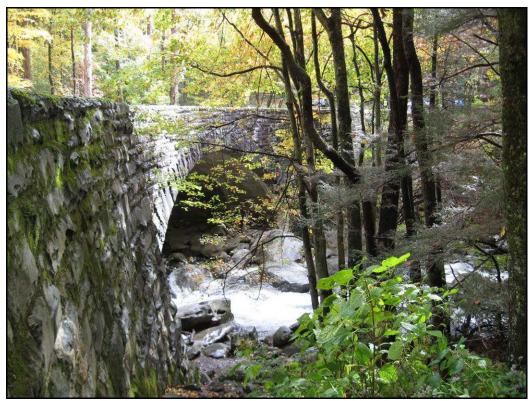


Figure 20. Bridge No. 2 (Chimneys Bridge).

In the Western Field Office, Vint's Landscape Division collaborated on bridge design with engineers at the BPR. By the 1930s they had begun to include specifications for stone facing, arch rings, masonry, and other architectural features in the working plans for each bridge project. These detailed drawings ensured that the bridges would be built in keeping with the

design aesthetic desired by the NPS. The bridges designed by the Landscape Division avoided "decorative" treatment of coping or piers. Instead, the arched stone bridges, which incorporated parapets, buttresses, and spandrels in one continuous curvilinear form, were designed to blend into the surrounding landscape.



Figure 21. West Prong Little Pigeon Bridge.

Charles Peterson and his landscape architects in the Eastern Field Office were greatly influenced by structures in Olmsted's nineteenth-century parks and also by features of the George Washington Memorial Parkway, completed in 1932, in which the Olmsted firm played a major role. In the 1930s, Peterson was also designing the Colonial Parkway between Jamestown and Yorktown, "where he introduced brick stonemasonry and details such as molded coping rails, stringcourses, and buttresses following the brickwork and historical prototypes found at Williamsburg and the Tidewater region." As a result, bridges designed by the Eastern Field Office were slightly more "formal" (or less "rustic") than those built from designs by the Western office. McClelland emphasizes, "The stonemasonry of the bridges and similar road structures in GRSM built under [Peterson's] direction exhibited a greater proportion of rectilinear shaped stones laid horizontally and mortar joint that roughly followed horizontal and vertical lines." In addition, Peterson introduced piers and buttresses that were not found in the bridge design of western parks. In spite of these differences, the bridges executed by Peterson's office still "achieved harmony with the surroundings of boulder-laden streams, forests, and steep rocky slopes and met the specifications set by Vint's office several years earlier" (McClelland 1998:223-224). This aesthetic was reiterated by the BPR, who reported that all of the stones used in the construction of the Headquarters Bridge, which were quarried nearby and cut onsite, "were carefully selected from an ample stock to obtain a pleasing

architectural effect as well as a sound and substantial structure, and were set by expert stone masons" (HAER 1996a:110) (Figures 20-21).

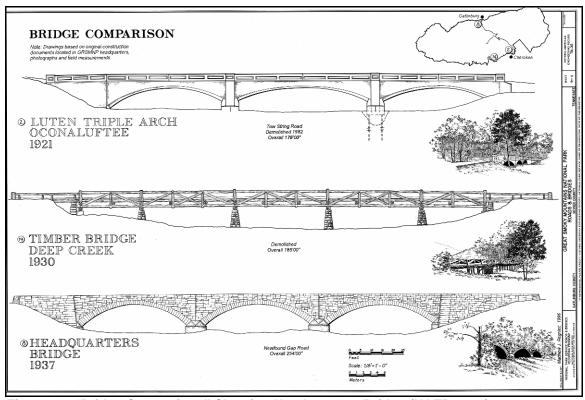


Figure 22. "Bridge Comparison" Showing Headquarters Bridge (HAER 1996).

There are eight bridges on Newfound Gap Road, most of which carry the road over the West Prong of the Little Pigeon River. Constructed in the late 1930s, they are reinforced concrete structures with stone masonry facing. The four single-arch bridges are Bridge No. 2 (Milepost 6), the Cole Creek Bridge and the Trout Branch Bridge (Milepost 9), and the West Prong Little Pigeon Bridge (Milepost 12), all constructed in 1937. The two double-arched bridges are Walker Camp Prong Bridge (Milepost 9), built in 1937, and Two Mile Branch Bridge, constructed in 1935 between the entrance to the park and Milepost 1. A triple-arch span (known as Headquarters Bridge or Bridge No. 1) carries Newfound Gap Road over the West Prong of Little Pigeon River approximately 1.5 miles from the Gatlinburg entrance to the park (Figure 22). Each bridge is slightly different in design and is capped with stone masonry parapet walls. In most cases, a masonry guard wall extends from the bridge parapet along the roadway, creating a continuous line while protecting motorists. All of the bridge walls follow the same NPS standards for stone masonry and are finished with a subtlety battered end or terminated with a single pier.



Figure 23. Cole Creek Bridge, Parapet and Pier.

Cole Creek Bridge is one example of Peterson's influence on bridge design as its wing walls, which are capped with stone masonry parapets, terminate with a single heavy pier (Figure 23). The original plans illustrate that a "typical guard wall" was to be attached to each pier, creating a continuous line from the bridge. However, the walls were never built, thus giving the bridge a more formal appearance than other stone bridges built by NPS. In comparison, the 2-foot, 7inch high parapets of the nearby Trout Branch Bridge end with a slight battered edge. A similar example is Bridge No. 2, whose curved, heavy stone parapets are finished with a subtle batter. The Walker Camp Prong bridges and the West Prong Little River Bridge in particular have a unique design that is unparalleled to those in GRSM and other National Parks. One distinctive characteristic of these bridges are the juxtaposition of its abutments and wing walls. At the termination of each arch, the bridge abutments project from the bridge. Thus, the wing walls and parapets, which extend from the abutments, help create an overall notch-like plan (Figures 24-25). These bridges, with their restrained but distinctive ornamentation, are illustrative of Peterson's leanings towards historically-derived stone bridges; however, with their construction of local stone of deliberate variance, the bridges still blend in with their surroundings and exude a naturalistic feeling.



Figure 24. Walker Camp Prong Bridge Wing walls.



Figure 25. West Prong Little Pigeon River Bridge Wing Walls

One of the most interesting structures in GRSM is the "Loop Over" Bridge, located approximately 9 miles from the Gatlinburg entrance along the Tennessee section of the road. The Loop Over Bridge was built in 1936 during reconstruction of Tennessee Route 71 in order to eliminate two dangerously tight switchbacks. A loop over structure, commonly known as a "corkscrew," was built as early as 1906 in Yellowstone National Park in the form of a wooden viaduct. For GRSM, Charles Peterson developed a much more sophisticated design that was later adapted by BPR engineers. The Loop Over Bridge is a reinforced concrete structure with an arch of stone voussoirs and stone masonry-veneered walls. Massive curvilinear abutments flank the arched opening and serve as retaining walls for the fill that carries the approaches. When the Loop Over Bridge was built, long railings on the upper deck served as guard walls and trees and shrubs were planted around the structure to hide any construction scars and blend the structure into the landscape (McClelland 1998: 214) (Figures 26, 27).

The bridges are an integral component of the circulation as well as of the picturesque quality of Newfound Gap Road. They illustrate the refinement of the NPS design of park structures during the 1930s and the emphasis placed on combining function with the rustic aesthetic. Unchanged since the period of significance, the bridges along Newfound Gap Road are contributing elements of this cultural landscape.

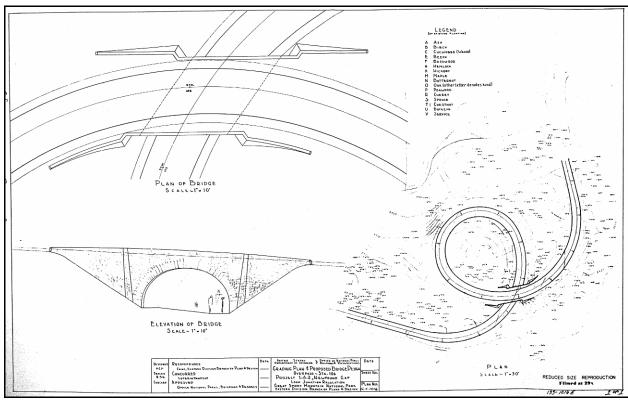


Figure 26. "Grading Plan & Proposed Bridge Design," Ca. 1935.



Figure 27. Loop Over Bridge.

# **TUNNELS**

The two tunnels built by the BPR on Newfound Gap Road in 1937, functionally speaking, permitted safe and continuous travel up to Newfound Gap. Aesthetically speaking, the tunnels allowed for the avoidance of major road scars and created picturesque focal points along the road. Masonry techniques employed in bridges and culvert headwalls were also used in tunnel portals, where weathered stone laid in random, irregular, and rough courses blended with the surrounding landscape. The lower Chimneys Tops Tunnel, with its double-ring arch, has been described as "one of the most successful set of portals to achieve a harmonious synthesis between the natural outcroppings and stone masonry by merging the stonemasonry into the surrounding rock. . ." (McClellan 1996:226). In comparison, the portals of the upper Morton Tunnel consist of stepped headwalls constructed of coursed stone and have a single stone arch (Figures 28-29).

Although it is documented that the upper tunnel was relined with concrete in 1957-1958 and the road through both of the tunnels was lowered between 2001 and 2004, the tunnels generally retain their integrity of location, setting, design, materials, and workmanship from their original period of construction. Both tunnels are contributing elements of the cultural landscape as they are exemplary of the NPS's rustic aesthetic.



Figure 28. View of Chimney Tops Tunnel, South Portal.



Figure 29. View of Morton Tunnel, North Portal.

#### **CULVERTS**

Culverts were integral structures in the design of park roads, permitting the natural flow of water underneath roads and trails. In 1928, Vint's office issued "Standard Architectural Details for the Headwalls for Culverts" that included eight designs for masonry headwalls, all of which were to be harmonious with the landscape. The designs specified how the stones were to be cut as well as the lengths and heights of the stones and the width of mortar joints, which drew attention to irregularities and the weathered nature of the surfaces. Variations of culvert headwalls included stepped parapets; jack, pointed, elliptical, and round arches; and simple post and lintel construction (McClelland 1998: 224).

Three basic culvert types were illustrated in the 1935 General Construction Notes for GRSM: box culverts, pipe culverts, and inlets (Figures 30-31). These culverts followed construction standards set by the NPS, allowed water to flow naturally beneath the road, and were designed to be inconspicuous or to harmonize with the surrounding landscape. Culverts carrying natural waterways are typically box culverts that consist of an inlet set in a depression on one side of the road, a box culvert running beneath the road, and an outlet along the down slope on the opposite side. Both the inlet and the outlet of the box culverts feature stone masonry headwalls (Figures 32, 33).

The smaller culverts, specifically concrete pipe culverts and drop inlets, mainly handle roadway runoff. Similar to box culverts, but constructed to handle lesser volumes of water, the inlets of concrete pipe culverts are located in a depression on one side of the road, and the outlet on the opposite, often down slope side of the road. Both the inlets and outlets of pipe culverts have stone masonry headwalls and the concrete pipe, which carries the water under the road, is often visible despite the square opening on the headwall (Figure 34). Drop inlets are typically located along the upslope side of the road. On the down slope side, water gathered by these inlets typically exits the culverts through a pipe culvert outlet with a stone masonry headwall. These culverts were constructed at regular intervals along the road and as necessary to aid in drainage (Figure 35).

Because they were not readily subject to public view, culvert headwalls were not always built with the same quality of stonework as bridges and walls. Nonetheless, the attention given to the headwall design aesthetic is clear: their irregularly cut and coursed local stone invoke a naturalistic feeling. In fact, even the outlet headwalls, which are often located quite far from the road, were still constructed with stone masonry similar to that of the inlet headwalls which were much closer to the road. The larger culverts were much more substantial and often had headwalls capped with a parapet, flanking wing walls, large arched openings, and concrete or rock-lined channels. Headwalls on each end often doubled as retaining walls to support the fill of the roadway. The craftsmanship of these larger culverts was much more in keeping with the bridges and walls than that of the smaller culverts; however, they too were not intended to be seen from the road (Figures 28-34).

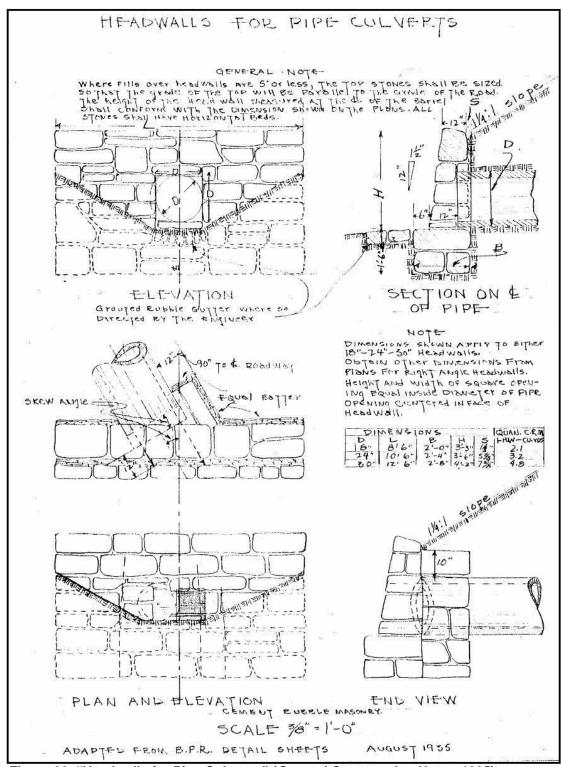


Figure 30. "Headwalls for Pipe Culverts," (General Construction Notes, 1935).

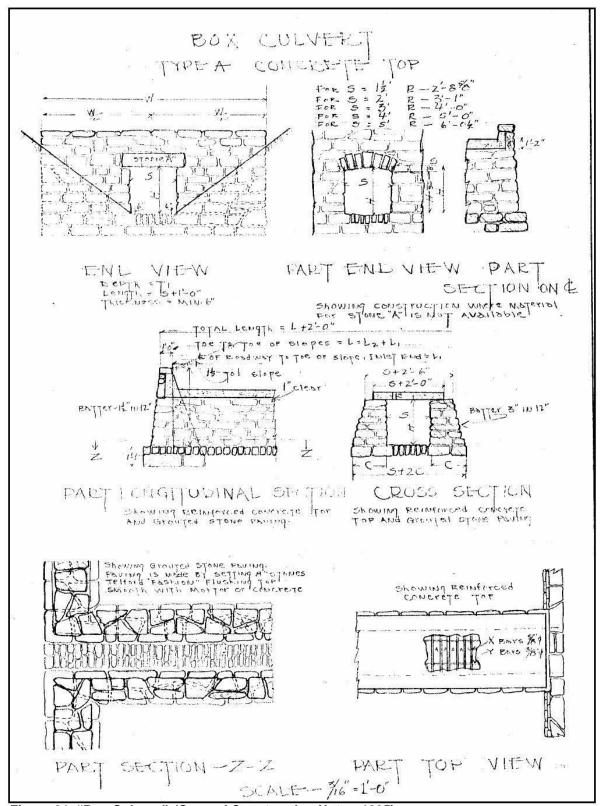


Figure 31. "Box Culvert," (General Construction Notes, 1935).



Figure 32. Structure 1.10, Double Box Culvert with Stone Masonry-Faced Headwall and Parapet, Milepost 2 (No. 22).



Figure 33. Large Box Culvert with Stone Masonry Faced Headwall, Milepost 5 (No. 73).



Figure 33. Pipe Culvert with Stone Masonry Faced Headwall, Milepost 3 (No. 46).



Figure 34. Drop Inlet Slab Culvert, Milepost 5 (No. 67).

A small number of culverts are capped with parapet walls and/or have extended wing walls that serve as guard walls. Two examples are large double box culverts, located on Milepost 1 (Structure 1.10) and Milepost 2 (Structure 2.40). Unlike the majority of the culverts along Newfound Gap Road, the stone masonry headwalls or these substantial culverts are capped with stone parapets and large, curved wing walls (Figure 30). While the west headwall of Structure No. 3.90 is typical with its masonry-clad headwall on-grade with the roadway, the east headwall is capped with a stone parapet. The parapet, which extends above the road grade, serves as a guard wall, protecting motorists from the steep grade on the east side of the road (Figure 35).



Figure 35. Structure No. 3.90, View of west headwall, looking east towards east headwall capped with stone parapet/guard wall.

The 1935 General Construction Notes illustrate the dimensions of the headwalls, the treatment of stones, and the slope of the fill. The plans for pipe culverts stated, "Where fills over headwalls are 5' or less, the top stones shall be sized so that the grade of the top will be parallel to the grade of the road. . . . All stones should have horizontal beds." The height and width of the square openings on the headwall were equivalent to the size of the pipe, which was typically 18 inches, 24 inches, or 30 inches. Specifications for box culverts consisted of two subtypes, A and B. Subtype A consisted of a stone slab top, and Subtype B had a concrete top. Plans for the concrete slab culvert also illustrated the headwall as having an arched stone lintel that disguised the concrete slab ceiling. A standardized formula created for the dimensions of box culverts was based on the size of the waterway and the volume of water to control. Inlets were illustrated as "Type A," which consisted of a grate and/or a concrete slab inlet, and "Type B" was composed of a stone drop inlet or a skew inlet that emptied out of a pipe culvert headwall faced in stone. The size of the pipes for these inlets varied between 18 inches and 24 inches (General Construction Notes 1935:86).

The culverts surveyed for this CLA retain their original configuration and have not been substantially altered. The majority are in excellent condition with only a small number that display missing or loose or missing stones. Culverts constructed after the initial reconstruction phase are almost indistinguishable from the earlier ones. Although constructed outside the period of significance, they do not compromise the integrity of Newfound Gap Road. The culverts along Newfound Gap Road, constructed of local stone, illustrate the NPS's desire to preserve the natural landscape and harmonize all man-made structures with the landscape and are a significant structure type associated with Newfound Gap Road. Culverts built during the period if significance are a contributing character-defining feature of the cultural landscape.

#### **ROADSIDE BARRIERS**

# STONE MASONRY WALLS

Stone masonry walls along Newfound Gap Road are among the most visible character-defining features of the cultural landscape. These walls, which include retaining walls and guard walls, are integral structural elements and are distinctive of NPS road design. Stone masonry retaining walls and guard walls are often freestanding; however, they are also used jointly. In addition, masonry guard walls often cap or are extended from retaining walls, culvert headwalls or bridges to create continuous lines of walls. Guard and retaining walls often incorporate headwalls, or culverts, to facilitate drainage. Alone or in these combinations, masonry guard walls protect motorists from steep edges along the mountainsides and the rivers and visually guide the visitor to pull offs, bridges, and other roadside features. With their construction of locally quarried stone, the masonry walls express a naturalistic feeling that unifies with the surrounding landscape. After World War II, additional masonry guard walls and retaining walls were added along the road as needed to improve safety.



Figure 36. Crenellated Masonry Guard Wall, Milepost 12 (No. 251).

# Masonry Guard Walls (1933-1942)

Part of the NPS's original design of Newfound Gap road, stone masonry guard walls were crucial safety features along steep road edges and overlooks, and are most common and continuous in the upper elevations along Mileposts 13 and 14 of Newfound Gap Road. They also serve an aesthetic purpose by framing the view of the surrounding landscape from the roadway. NPS specifications for masonry guard walls ensured that there was irregularity in the stonework pattern, no harsh right angles or straight lines in the setting of the stones, and that top courses did not contain any parallel lines. Thus, the stone masonry guard walls, constructed of local stone, blended with the natural surroundings. While the standards called for walls to be 18 or 24 inches high, some variation was encouraged. In order to alleviate the monotony of long, linear expanses of masonry guard wall, NPS designers introduced an undulating pattern, or crenellation, into the design of guard walls. Consequently, the "crenellating piers became a distinctive aspect of the masonry work of the National Park Service" (McClelland 1998:218) (Figure 36).

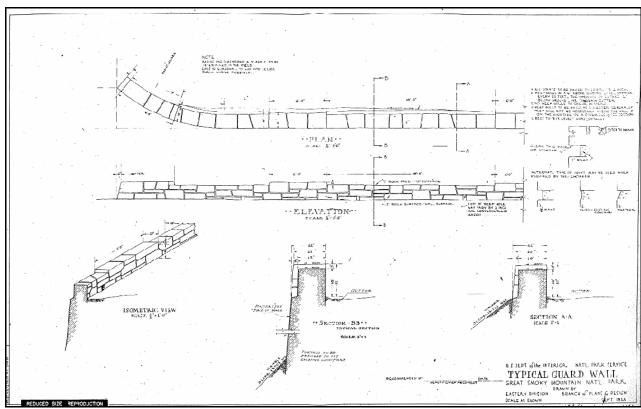


Figure 37. "Typical Guard Wall," (General Construction Notes, 1935).

The 1935 General Construction notes specified that masonry guard walls in GRSM were to be 22 inches high and 21 inches wide. The ends of the walls either had a 6-inch batter or were slightly shorter at 18 inches high. Crenellation consisted of 6-foot-wide merlons interspersed with 18-foot embrasures or crenels. The largest stones were to be on the bottom courses, the second largest on the coping course, and the smallest stones in the intermediate courses. Weep holes, placed along the bottom of the walls, allowed for runoff and drainage. In addition, the specifications stated, "The finished stonework shall present a good architectural

appearance. It shall be free of any drill holes or drill marks. Surface variations shall not exceed one-half inch inside nor two inches outside of the pitch lines on top of the coping course" (General Construction Notes 1935: 97) (Figure 37-38). Although these walls ultimately protected motorists along the road, they were not built at such a height that would block views of the landscape from a vehicle.

Of all the structures located along Newfound Gap Road, the stone masonry guard walls have received the most damage due to vehicles, repaving, and overall wear due to aging. The original height of the walls has been decreased as a result of numerous roadway resurfacings. Curbs and sidewalks, originally constructed along bridges and pull outs to prevent vehicles from hitting the walls have been covered by these resurfacing campaigns, thus making the walls more susceptible to vehicular damage (HAER 1996). Consequently, missing and loose stones are apparent in several sections of guard wall (Figure 39).



Figure 38. Crenellated Guard Wall/Retaining Wall, Milepost 11 (No. 188).

Masonry guard walls dating from 1933-1942 were added as an integral part of Newfound Gap Road's design and construction during the period of significance and are illustrative of the standardized designs executed by the NPS Landscape Division in the 1930s. Although the condition of the walls varies and in some instances deterioration and damage has occurred, the walls retain sufficient integrity of design, materials, and workmanship to convey their historical significance. The use of local stone, the natural weathering occurring since their construction and the growth of lichen on the stone adds to the character of the walls. Therefore, the extant masonry guard walls and retaining walls constructed during the period of significance are contributing character-defining features of the Newfound Gap Road cultural landscape.



Figure 39. Damaged Masonry Guard Wall at Pull Off.



Figure 40. New Guard Wall Near Chimneys Trailhead, Milepost 7 (No. 103).



Figure 41. Guard Wall Built 2001-2000 Near Morton Tunnel (No. 216, Milepost 13)

# Masonry Guard Walls (1942-present)

More recent masonry guard walls, constructed between 1950 and 1970, were constructed in keeping with the overall design and feeling of the original guard walls and in many cases it is difficult to distinguish the newer walls from those built in the 1930s. The masonry guard walls built in the 1980s and 2000s, however, are visually distinctive due to being built to modern crashworthy standards. Although they exhibit crenellation, these walls were built with a concrete core and granite masonry veneer construction. They are also larger in height and width: new walls were constructed on average at a height of 27 inches and width of 24 inches, compared to the average 22-inch height and 21-inch width of the earlier guard walls. Due to the uniform nature of machine-cut granite, the walls to not convey the same variety in stone size and pattern as specified by NPS's stone masonry standards of the 1920s and 1930s. Unlike the original masonry walls, the walls do not express the same naturalistic feeling as the original walls (Figures 40-41). The masonry walls constructed after the period of significance do not drastically alter the historic character of the landscape; however, since their construction does not date to the period of significance, they are considered non-contributing features to the Newfound Gap Road cultural landscape.

# Masonry Retaining Walls

Stone masonry retaining walls were built to stabilize fill slopes along the road and are often capped with guard walls along precipitous slopes in the upper elevations (Figure 42). Similar to the guard walls, retaining walls were built according to NPS standards in the 1930s and are comprised of local stone with recessed mortar joints. Specifications for retaining walls included variants depending on the slope and foundation needed. For example, a "Type 1," consisted of a wall with level fill and a "Type 2" was a surcharged wall. Foundations also varied with a "Type A" that sat on solid rock and "Type B" that was founded on sound sloping rock. Retaining walls were constructed with mortared, coursed stone and often capped with a masonry guard wall. Weep holes were also incorporated into the design and all fill within four feet of the retaining wall was to be hand placed (General Construction Notes 1935: 98) (Figure 43). A number of the retaining walls also served as a headwall for a culvert and are pierced by pipe openings for drainage. Some retaining walls, however, were constructed along the river for bank or channel stabilization. These less visible walls were not as formal and often consisted of rounded rubble stone that appeared to be more natural than the mortared and coursed retaining walls.

The retaining walls are in overall good condition and retain their original design and configuration. Is it assumed that all retaining walls along Newfound Gap Road were built within the period of significance. Thus, exemplary of NPS naturalistic design aesthetic, the retaining walls are contributing character-defining features of the Newfound Gap Road cultural landscape.



Figure 42. Stone Masonry Retaining Wall.

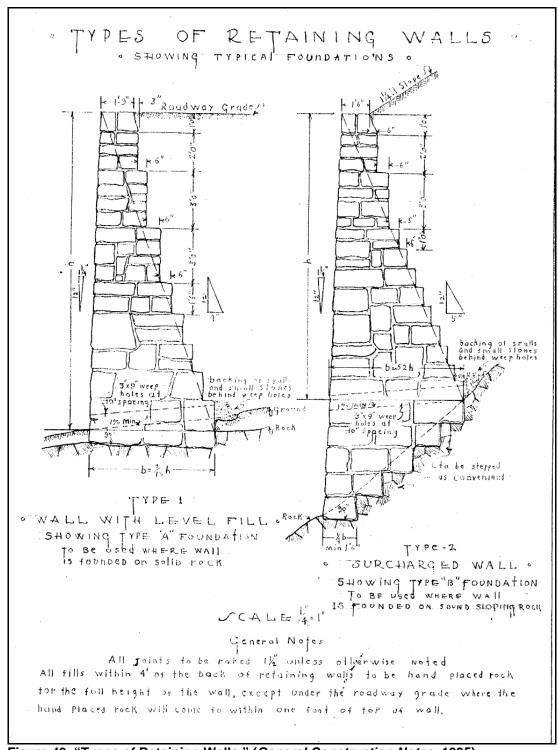


Figure 43. "Types of Retaining Walls," (General Construction Notes, 1935).

# **GUARDRAILS**

Rustic timber guardrail was a part of the original design of Newfound Gap Road during the NPS realignment. In particular, original plans illustrate Locust timber guardrails incorporated as part of the design for the Loop Bridge. While these timber guardrails were characteristic of NPS standard designs, all of the original guardrails have since been removed. Steel backed timber guardrail was installed along the road in various locations in the late twentieth century and in several instances, has been added to supplement the masonry guard walls. These supplementary timber guardrails have changed the overall structural elements of the masonry guard walls (Figure 44). In one instance, metal guardrail was added to supplement masonry guard wall on Milepost 13. These guardrails, constructed outside of the period of significance, are non-contributing elements of the cultural landscape (Figure 45).



Figure 44 Timber Guardrail Attached to Stone Masonry Guard Wall.



Figure 45. Steel Backed Timber Guardrail Along Newfound Gap Road.



Figure 46. Boulder Barriers.

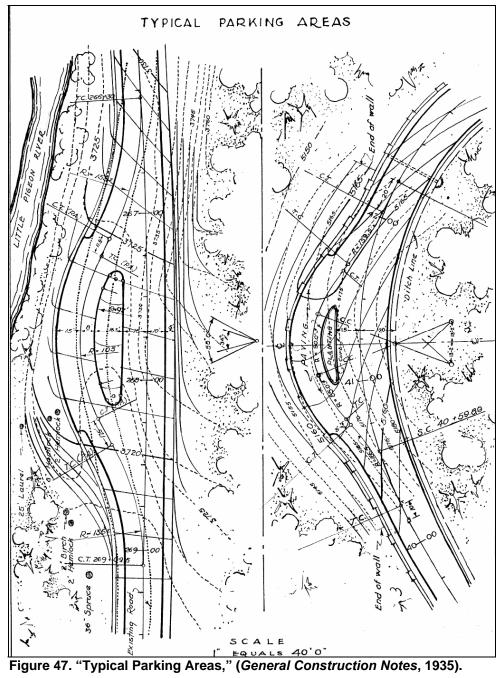
#### **BOULDER BARRIERS**

Boulder barriers (also known at GRSM at Stone Management Boulders) are used along Newfound Gap Road as a method to prevent vehicles from pulling over or parking in undesignated areas. These boulders are inconspicuous elements along the roadway as they are irregularly formed and appear to be irregularly placed. While there is no indication that these were initial design elements of Newfound Gap Road, postcards and photographs dating from the 1940s show boulder barriers along the road. Since the period of significance (1939-1942), boulder barriers have been added and/or moved along the roadside by maintenance crews as needed, thus rendering it difficult to determine which boulder barriers are part of the initial development of Newfound Gap Road. As a result, the boulder barriers are not contributing elements to the Newfound Gap Road cultural landscape (Figure 46).

#### **OVERLOOKS AND PARKING AREAS**

The NPS incorporated formal overlooks and parking areas into the design of Newfound Gap Road to enhance the motorist's experience by providing resting points as well as spectacular panoramic views of the landscape. Overlooks, located in the higher elevations, provided views out into the landscape and had spots for parked cars, viewing terraces with sidewalks, stone curbing, and guard walls in order for visitors to get out of their cars for a better view. Original designs indicate that formal parking areas were located along the lower elevations of the roads and provided access to river and forest views and/or trailheads. These areas were also often combined with trailheads that offered the visitor a more intimate view of a landscape feature such as a water feature (McClelland 1998:211, 212).

The 1935 General Construction Notes illustrate that typical overlooks and parking areas consisted of a semicircular paved area off the side of the road that was edged with stone masonry guard walls or stone curbing. A crescent-shaped planting island along the roadway edge guided cars into and out of the parking area, while at the same time forming a naturalistic visual barrier between the parking lot and the road. The General Construction Notes illustrate a typical overlook as having a larger, semi-circular plan with an attached semi-circular viewing area, which provided a larger area for motorists to stop and park than typical parking areas. A masonry retaining wall and guard wall lined the edge of the overlook and a walkway rounded the inside of the wall, creating a distinction between the paved areas for cars and providing a path for visitors to walk. In addition, the General Construction Notes also included designs of stone curbing and gutters that were incorporated into the overlooks (Figures 47-48).



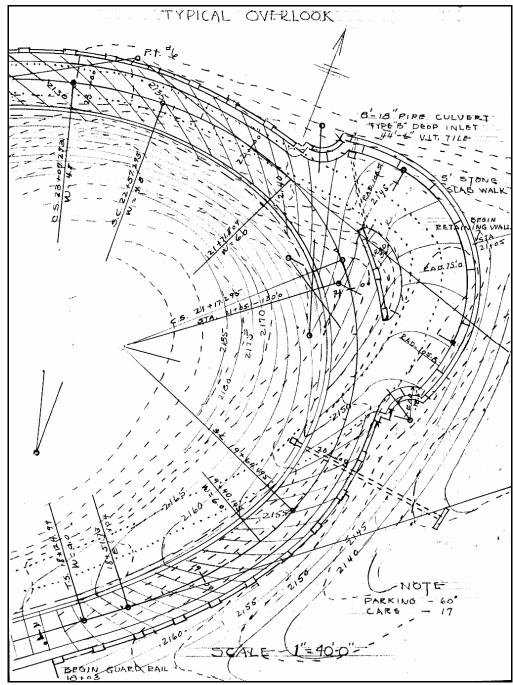


Figure 48. "Typical Overlook," (General Construction Notes, 1935).

One of the 1930s-designed parking areas, illustrated in construction drawings, is located at Milepost 9, between Cole Creek Bridge and the Trout Branch Bridge. This parking area (Structure No. 9.48), called the Bear Pen Hollow Parking Area, has a squared parking area and stone guard wall that incorporates a large arched stone culvert with curved abutment walls. The original 1934 plans indicated that the parking area provided access to the Bear Pen Hollow Trail, which is no longer in use (Figure 49). The "Chimneys Parking Area" (Structure No. 8.66), shown in 1934 plans, provided access to the Chimney Tops Trail (Figure 50). A stone masonry guard wall lines the curved pull off and a stone stair, located in the center of the wall and pull off,

leads down to the trail. A center island for planting shown on the 1934 plans, however, has either been removed or was never executed. Additional parking areas and overlooks include a parking area at Alum Cave Trail, a parking area on the north side of the road along the river at Milepost 10; and large semicircular overlooks along Milepost 14 (Structure14.20) and Milepost 9 (Structure No. 9.82) that have crenellated masonry guard walls/retaining walls (Figures 51-52).

In 1968, eight additional parking areas were constructed along Newfound Gap Road. These parking areas featured stone curbing that was in keeping with the original curbing specifications from the 1930s and consisted of square-plan examples for perpendicular parking and shallow, curved examples for brief stopping or parallel parking (Figure 53). The parking areas varied in capacity from five to 15 cars. In some instances, an additional parking area was created for trailers to park parallel to the curb. The additional parking areas also required the construction of drop inlet culverts and headwalls, which were executed to specifications similar to those for such structures built in the 1930s, with rubble stone ditches and headwalls. In addition to the eight 1967-1968 pull offs/parking areas nine additional parking areas are illustrated on the construction drawing that were "N.I.C" or not in contract. These nine parking were added at a later date and have similar features, such as stone curbing, as those built between 1967 and 1968.

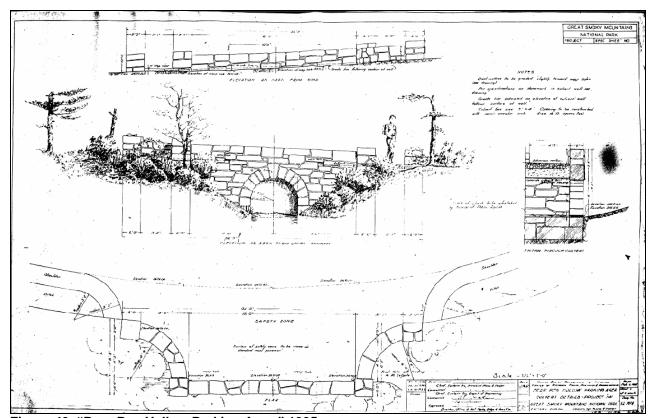


Figure 49. "Bear Pen Hallow Parking Area," 1935.

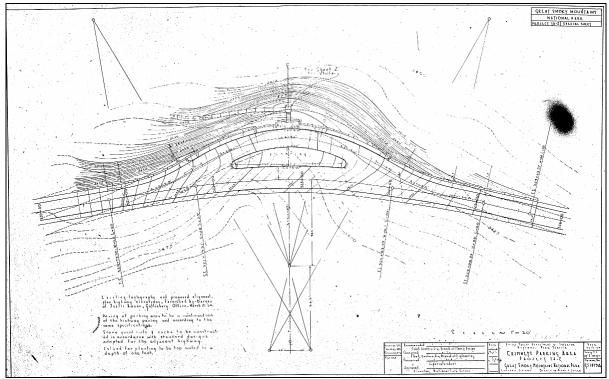


Figure 50. "Chimneys Parking Area," 1934.

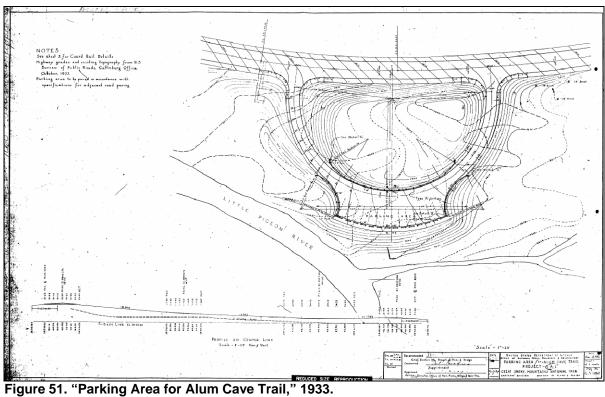




Figure 51. Parking Area with Crenellated Masonry Guard Wall (No. 156, Mile 10).



Figure 52. Overlook with Crenellated Masonry Guard Wall.



Figure 53. 1967-1968 Parking Area #2 (No. 110, Mile 7).

Master Plans for GRSM, dating from the late 1930 or early 1940s, state that there were ten existing overlooks that incorporated parking, including the Chimneys and Alum Cave trailhead areas. A 1940 map of GRSM shows nine "overlooks" or parking areas were located between the Gatlinburg entrance and Newfound Gap (Reixach 1940). Eight of the pre-1940 parking areas and overlooks were recorded in the 2007 survey. The 1967 construction drawing that illustrates the location of the eight new overlooks built between 1967 and 1968 shows the locations of 14 "existing paved parking areas and overlooks": one parking area near the Gatlinburg park entrance, five pull offs near the Chimneys Campground, one parking area between the Chimneys Tunnel and the Loop Over Bridge, four parking areas between the Loop Over Bridge and Alum Cave (including Alum Cave parking area), one overlook south of the West Prong of Little Pigeon River Bridge, and one overlook between Morton Tunnel and Newfound Gap. The parking area near the Gatlinburg entrance and the five overlooks near the Chimneys Tunnel did not appear on the 1940 map. Thus, it is presumed that these parking areas and pull offs were constructed outside the period of significance.

The parking areas and overlooks were an integral part of the design of Newfound Gap Road as they created transition areas for motorists by allowing places of rest, a more intimate view of landscape features and/or access to trails, and controlled vistas of the surrounding landscape. Thus, the parking areas and overlooks constructed during the 1933 reconstruction are contributing character-defining features of the cultural landscape of Newfound Gap Road. Parking areas and overlooks that were not constructed in the 1930s reconstruction of Newfound Gap Road were constructed in keeping with the original plans and do not compromise the integrity of the landscape; however, they are non-contributing resources.



Figure 54. Pull Off with Stone Curbing (Number 13, Milepost 1)

# **PULL OFFS**

In addition to the formal overlooks and parking areas, a large number of pull offs have been built along Newfound Gap Road. Pull offs are typically informal widened areas of the road that allow vehicles to pull over to let vehicles pass as well as provide for quick views of the landscape (Figure 54). The majority of these pull offs have been paved and lined with stone curbing; however, a small number of them are gravel. These pull offs do not appear in the Master Plans, which suggests that they were probably subsequent additions built to meet visitors' and motorists' needs and later paved and lined with curbing to make them more permanent. A total of 33 pull offs were identified during the 2007 survey. Since these roadside elements were not included in original plans or on maps, it is difficult to determine when they were constructed. Thus, the pull offs along Newfound Gap Road are non-contributing features of the cultural landscape. However, because of their low profile that does not obstruct views or change the original configuration of the road, the pull offs do not compromise the integrity of Newfound Gap Road as a cultural landscape.

#### TREE WELLS

During the NPS reconstruction of the road, the CCC installed tree wells around a number of notable specimens to protect them from damage by heavy machinery. The semicircular tree wells, lined with rough cut, uncoursed, and mortared local stone, separated the trees from the surrounding fill. Although construction plans indicated that approximately 17 tree wells were constructed in the area of the Loop Over Bridge alone, only four tree wells are identified in the List of Classified Structures for GRSM, three of which were surveyed in December 2007. These tree wells are contributing elements to the cultural landscape of Newfound Gap Road and

illustrate the emphasis placed on landscape and vegetation preservation by the NPS during the reconstruction of the road (Figure 55).



Figure 55. Tree Wells, Milepost 12 (No. 254).

# **SIGNAGE**

Signage along Newfound Gap Road directs visitors to various stopping points, beginning with the large welcome sign at the Gatlinburg entrance to the park. Road signage consists of modest horizontal planks supported by wood posts approximately 4 feet high with incised white lettering. The signs guide visitors to the visitors center, the Chimneys Campgrounds, to trailheads, quiet walkways, and overlooks along the road. Nature exhibits are also located at several of the trailheads and pull offs. These exhibits provide visitors with more detailed information about the forest cover, the overlooks, natural habitat, and other topics. Documentation does not indicate that the current signage was part of the initial design of Newfound Gap Road. Therefore, the signage is a non contributing element of the cultural landscape. (Figure 56-58).



Figure 56. Gatlinburg Entrance Sign.



Figure 57. Morton Overlook Sign.



Figure 58. Cove Hardwood Forest Nature Exhibit.

# **INTEGRITY**

<b>ASPECT</b>	STATUS
Location	Newfound Gap Road retains its original location; alignment and configuration from the period of significance.
Design	Newfound Gap Road's design features from the period of significance remain; however, new masonry guard walls, timber steel backed guard rail, and pull offs have been added.
Setting	Landscape elements dating from the period of significance are still present along Newfound Gap Road.
Materials	Masonry walls, bridges, and culverts dating from the period of significance are extant, however, modern materials have been introduced such concrete core guard walls with granite veneers.
Workmanship	Stone masonry elements of original bridges, walls, culverts, and tunnels remain as exemplary examples of New Deal-era NPS workmanship. Guard walls constructed in 1980s and 2000s do not exhibit the same level of craftsmanship.
Feeling	Newfound Gap Road's alignment, views and vistas, vegetation, and associated stone masonry structures enhance the feeling of the NPS rustic design aesthetic emphasized by the reconstruction of the road during the period of significance.
Association	Newfound Gap Road's character-defining features constructed during the period of significance continue to maintain direct association with the historic context of the 1930s New Deal era.

#### Location

"Location is the place where the historic property was constructed or the place where the historic event occurred" (NRHP 1997: 44). The NPS and the BPR realigned the Tennessee section of New Found Gap Road beginning in 1933, following the NPS design standards. The 14.5-mile section retains the same alignment when the road was constructed between 1933 and 1942. Thus, Newfound Gap Road demonstrates integrity of location.

# Design

"Design is the combination of elements that create the form, plan, space, structure, and style of a property" (NRHP 1997:44). The 14.5 mile section of Newfound Gap Road retains its original configuration and therefore conveys the NPS design practices of the New Deal era. Planned vistas and views along the road remain and emphasize the importance of the relationship between the road, the traveler, and the landscape. Structures built along the road during the initial construction phase, such as bridges and culverts, have not been substantially altered since their construction and express the rustic design aesthetic of the NPS during the New Deal era.

Masonry guard wall and guard rail constructed in the late twentieth and early twenty-first centuries post date the period of significance and diminish the integrity of design. The design of the recent masonry guard walls differs from the original design: they are taller (27' vs. 22') and wider (24' vs. 21'), are more unvarying appearance due to the uniform size of the stones, and although not visible, are constructed of a concrete core. Instead of being built of local stone, new walls have a granite veneer with an ashlar pattern, thus diminishing the naturalistic appearance of the walls. Unlike the current steel-backed timber quardrail, the timber quardrail erected during the initial NPS design of the road was constructed of peeled locust logs left in a natural, rounded form. The supports of the guardrail were constructed of the same material. Maple dowels joined the logs and hid any holes. In comparison, the replacement timber quardrail consists of square-edged cut timber planks set on square timber posts. While the metal backing is not necessarily evident from the road, prominent metal rivets that attach the timber to the metal backing are visible. The result is an aesthetic that is much less naturalistic than the timber guardrail design established by the NPS between 1933 and 1942. In several instances, timber guardrail has been attached to or abuts historic masonry guard wall. This occurrence alters the naturalistic appearance of the masonry guard wall and adds a new design element to the walls. In addition, the taller guard walls and additional timber guard rails obstruct view and vistas along Newfound Gap road, which are significant elements of the road design.

Although additional masonry guard walls, timber guardrails, and pull offs have been introduced to Newfound Gap Road since its initial construction, the overall naturalistic design of the road and its features are still apparent. As a whole, the integrity of design is intact.

# Setting

"Setting is the physical environment of a historic property" (NRHP 1997:44). The natural setting of Newfound Gap Road remains relatively unchanged since its construction. The visual landscape associated with the road remains intact and surrounding topography and vegetation have not changed significantly. The relationship between the surrounding landscape and the road has been retained and Newfound Gap Road continues to be used primarily as a scenic thoroughfare. Therefore, Newfound Gap Road maintains its integrity of setting.

# **Materials/Species Composition**

"Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property" (NRHP 1997:44). Although the road itself has been resurfaced several times since its construction, the materials of the road features, such as bridges, culverts, pull outs, and masonry guard walls have not been substantially modified. The majority of the structures later built along the roadway, such as guard walls, culverts, and pull offs, were primarily constructed with materials that are in keeping with the original structures.

The masonry guard walls added in the 1980s and the 2000s, although constructed of granite ashlar with a concrete core instead of local stone, consist of similar materials and appearance as the historic walls. These structures are the minority and still convey stone construction. Thus, modern structures do not fully diminish the integrity of materials. Steel backed timber guardrail, while not in keeping with the historic timber guardrail design, still convey timber construction. Thus, the modern structures do not fully diminish the integrity of materials.

Species composition consists of dominant native and introduced plant and animal species. During the NPS realignment of Newfound Gap Road, NPS preserved existing vegetation and planted appropriate species to maintain the natural habitat as well as eliminate construction scars. The emphasis on naturalization is still apparent today when traveling along Newfound Gap Road, thus the integrity of materials is intact.

# Workmanship

"Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory" (NRHP 1997:44). The workmanship of the original stone masonry structures, such as bridges, tunnels, culverts, guard walls, and retaining walls, successfully illustrate the standard construction methods of the National Park Service during the New Deal era. Although damage has occurred to many of these structures, the quality of and emphasis on the workmanship is still apparent. The masonry guard walls constructed after the period of significance (1933-1943), do not convey the same level of workmanship as the original walls due to overall uniformity of the stones and coursing. However, these more recent additions are less prevalent than the original structures. Thus, the integrity of workmanship is clearly expressed in the cultural landscape of Newfound Gap Road.

#### Feeling

"Feeling is a property's expression of the aesthetic or historic sense of a particular period of time" (NRHP 1997:44). Newfound Gap Road remains as a scenic thoroughfare through GRSM made to provide the visitor with an intimate and picturesque experience with the landscape without necessarily exiting their automobile. The road alignment and features remain and reflect the naturalistic design practices of the NPS during the New Deal era. Thus, Newfound Gap Road retains integrity of feeling.

#### Association

"Association is the direct link between an important historic event or person and a historic property" (NRHP 1997:44). The alignment of Newfound Gap Road and the majority of its associated features are directly associated with the development of National Parks and the NPS

design philosophy during the New Deal era. The intact structures and landscape fully convey the objective of the road as a picturesque thoroughfare, which reflects the scenic quality of the natural environment of GRSM. Therefore, Newfound Gap Road demonstrates integrity of association.

#### Conclusion

The National Register Bulletin *How to Apply the National Register Criteria for Evaluation*, states that in order to be listed on the NRHP, "a property must not only be shown to be significant under the National Register criteria, but it must also have integrity. Integrity is defined as, "the ability of a property to convey its significance." The National Register recognizes seven aspects that in various combinations define a property's integrity. These aspects include: location, design, setting, materials, workmanship, feeling, and association. In order to retain sufficient integrity, a property must possess several, and usually most, of the aspects (NRHP 1997:44).

Although additions and alterations to Newfound Gap Road have occurred since the period of significance, such as the addition of new masonry guard wall and parking areas, the majority or the original NPS road and landscape features are extant. Newfound Gap Road retains its original configuration and its natural setting and plant and animal species. The historic bridges, culverts, tunnels, and masonry walls convey the feeling of the naturalistic NPS design philosophy and further express its association as a New Deal-era designed landscape within a period of national park expansion. Thus, Newfound Gap Road retains sufficient integrity to convey its significance as a New Deal-era National Park cultural landscape.

Although alterations and additions to date have been relatively few and the Newfound Gap Road retains sufficient integrity as a cultural landscape, there is a cumulative impact of alterations and additions to the integrity of the cultural landscape that should be taken into consideration when planning future road rehabilitation activities.

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### LIST OF PREPARERS

#### THE LOUIS BERGER GROUP, INC.

Charles LeeDecker, RPA, Principal Archeologist. M.A. Anthropology, 1978; B.A. Anthropology, 1970. Responsible for coordination of cultural resource team members and analysis of topography and ethnographic/historic land use patterns.

Martha H. Bowers, Principal Architectural Historian. M.A. United States History, 1975; B.A. History, 1970. Responsible for general quality review and quality control.

Patti Kuhn, Architectural Historian. M.A. Historic Preservation, 2004, B.F.A Architectural History, 2000. Responsible for historic structure and cultural landscape analysis.

Kristie Baynard, Architectural Historian. M.S. Historic Preservation, 2000; B.A. Historic Preservation, 1996. Responsible for historic structure and cultural landscape analysis.

Erin Kimsey, Landscape Architect. B.L.A., Bachelor of Landscape Architecture, 2004. Responsible for landscape identification and analysis.

### LIST OF CONTRIBUTORS

#### **NATIONAL PARK SERVICE**

Treff Alexander, Denver Service Center, Project Specialist/Landscape Architect

Jeri DeYoung, Denver Service Center, Cultural Resource Specialist

Nancy Finley, Great Smoky Mountains National Park, Chief, Resource Management and Science

Dianne Flaugh, Cultural Resource Program Manager, Great Smoky Mountains National Park.

Tracy Stakely, Southeast Regional Office, Lead - Cultural Landscapes Program

Mike Tomkosky, Denver Service Center, Project Manager

Patrick Walsh, Project Manager/Cultural Resource Specialist, Denver Service Center.

Imelda Wegwerth, Great Smoky Mountains National Park, Landscape Architect

Steven Wright, Southeast Regional Office, Environmental Protection Specialist

### **ACRONYMS AND ABBREVIATIONS**

BPR Bureau of Public Roads
CCC Civilian Conservation Corps
CLA Cultural Landscape Assessment
ECW Emergency Conservation Work

GRSM Great Smoky Mountains National Park HAER Historic American Engineering Record

LCS List of Classified Structures
LEM Local Experienced Men
NPS National Park Service

NRHP National Register of Historic Places

### **APPENDIX A**

### INVENTORY OF SURVEYED LANDSCAPE FEATURES

The Inventory of Surveyed Resources lists landscape feature in order as they appear along Newfound Gap Road from current milepost 0 to 14.5. Several resources recorded during the survey were later removed from the inventory because they were determined not to be significant landscape features. Thus, a small number of gaps occur in the inventory. The inventory contains the following information:

#### Survey Number

Number given to each surveyed landscape feature in the field.

#### Structure Number

Identification number given to landscape feature that were recorded in the 2000 Wall Inspection Report.

#### Structure Type

General description of each landscape feature.

#### Contributing/Non-Contributing

Contributing or non-contributing status of each landscape feature. The status is listed as unknown if the feature's construction date has not been determined.

#### Notes

Additional information about each landscape feature.

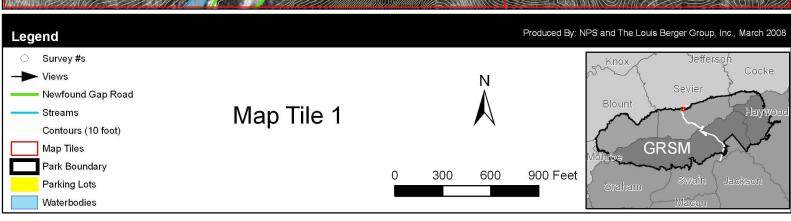
# **APPENDIX B**

# **MAPS**

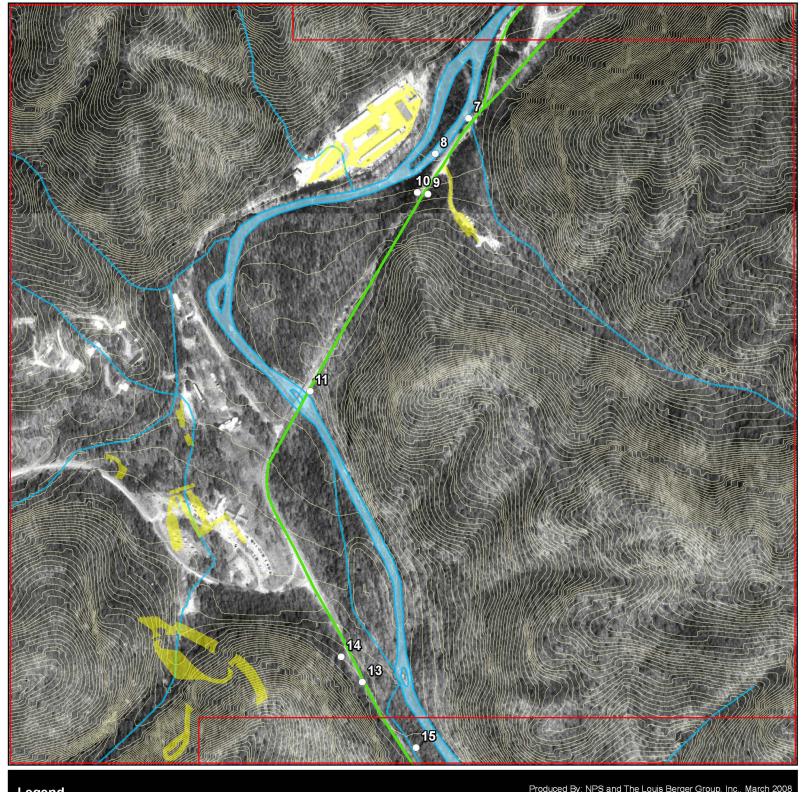
Waypoints are numbers given to each resource recorded by GPS. These numbers corresponded with the survey numbers listed in Appendix A.

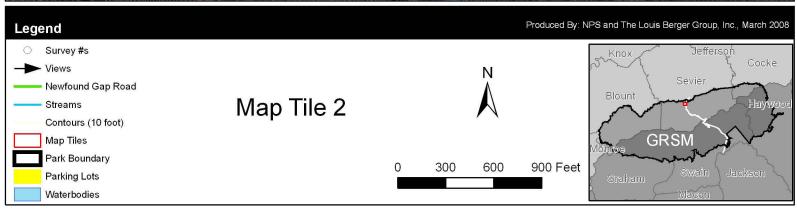




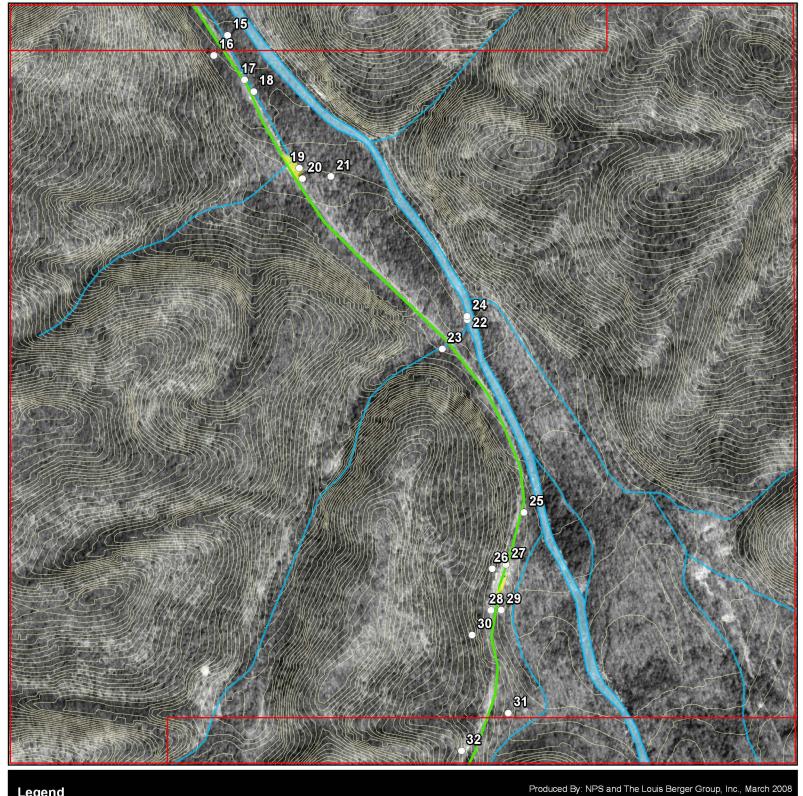


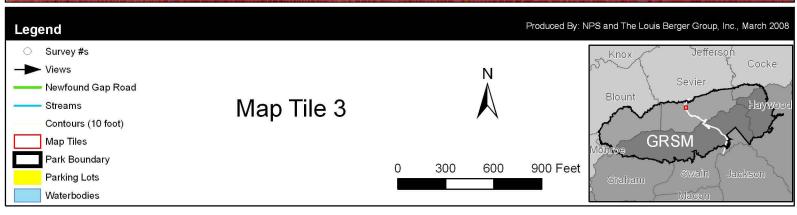




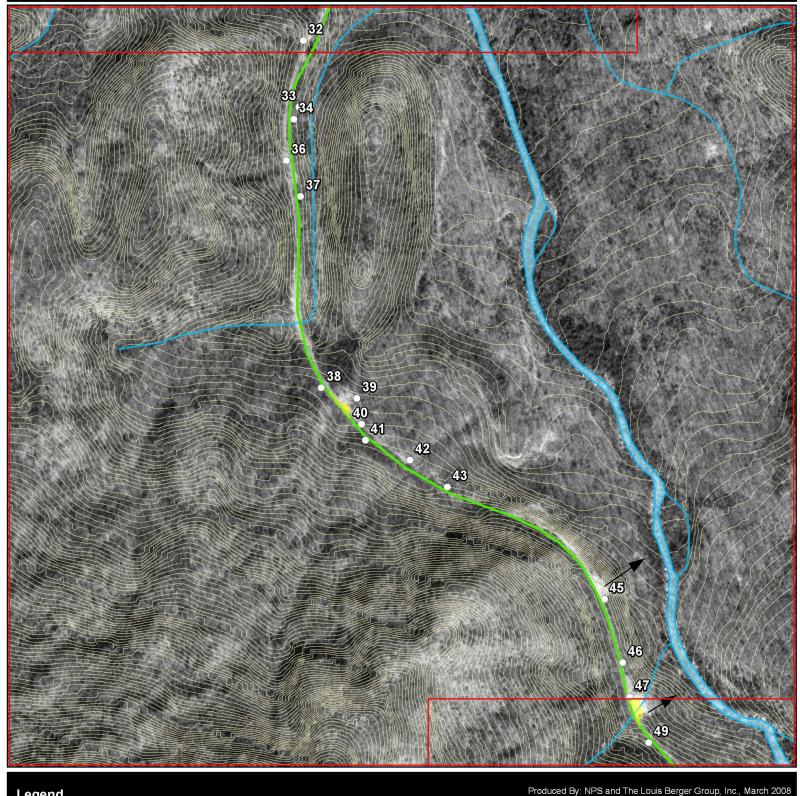


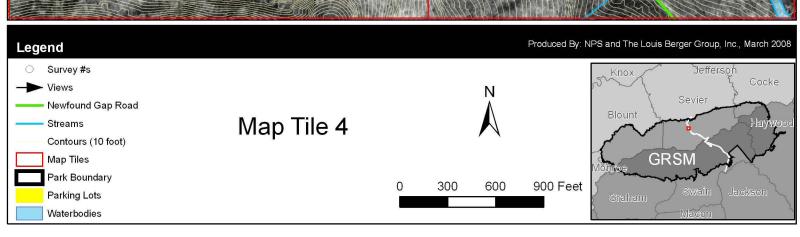








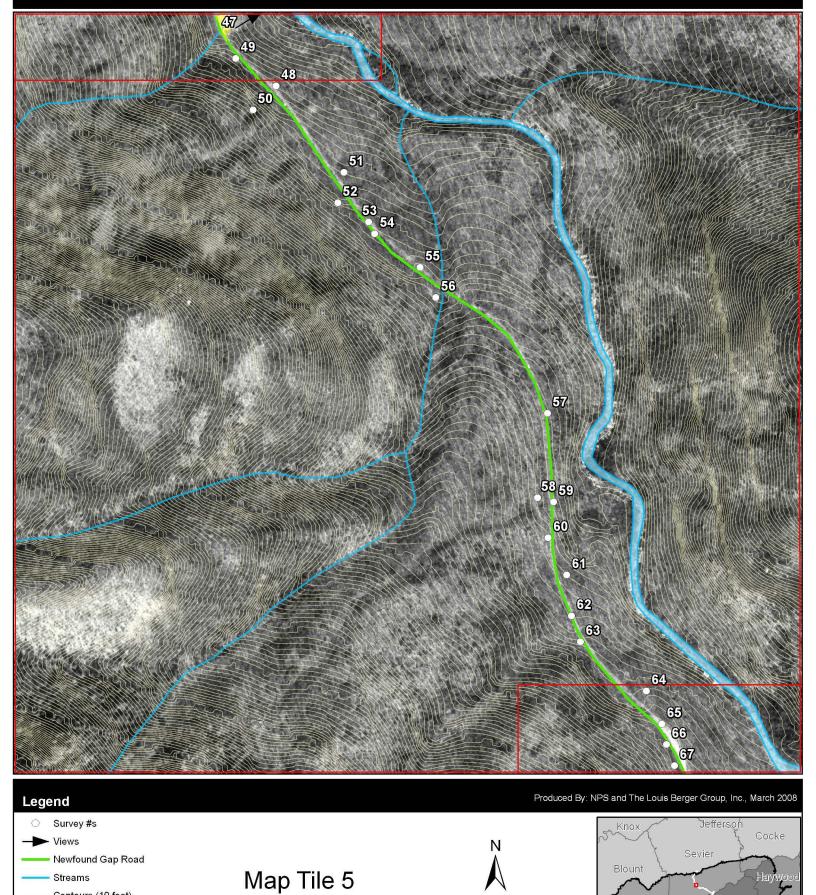




Contours (10 foot) Map Tiles Park Boundary

Parking Lots Waterbodies



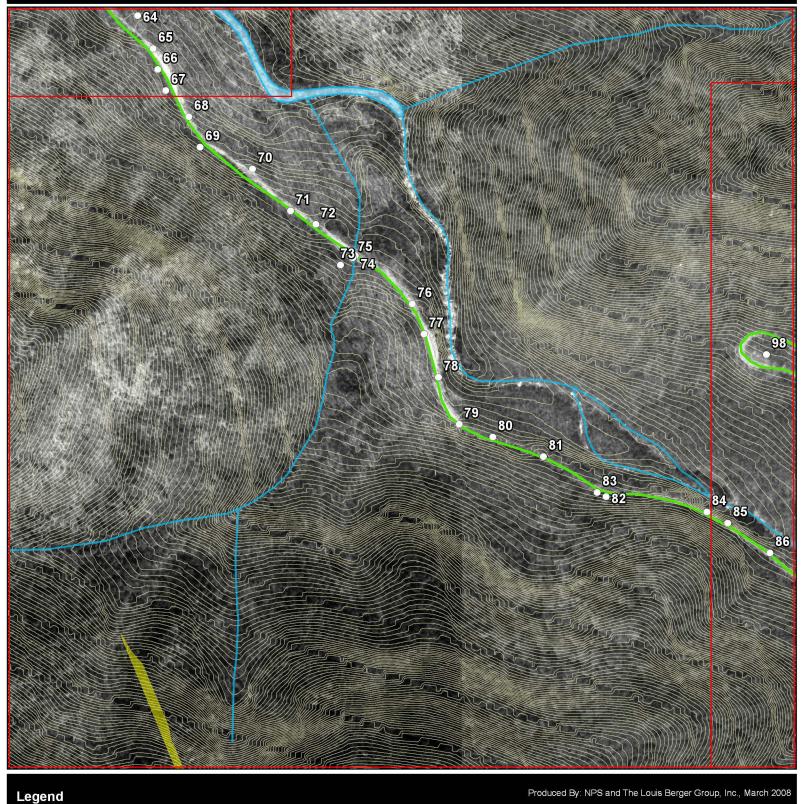


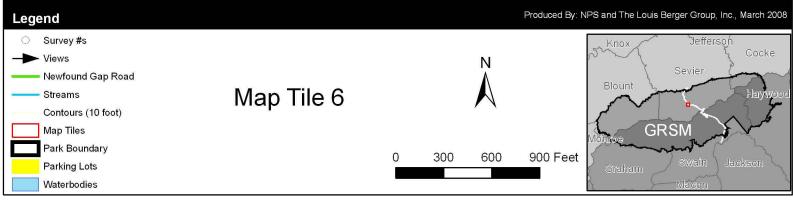
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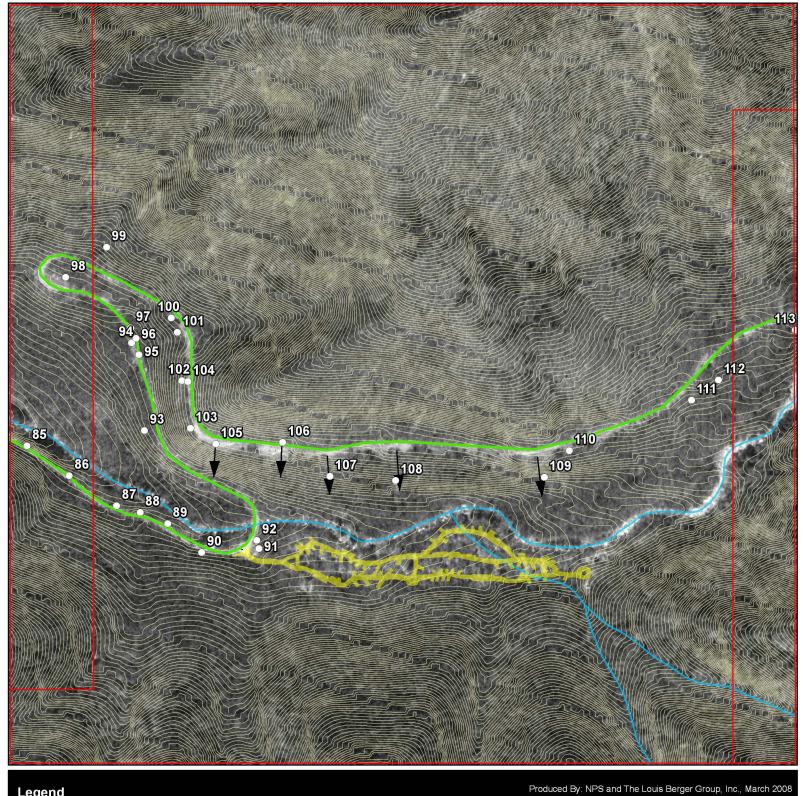
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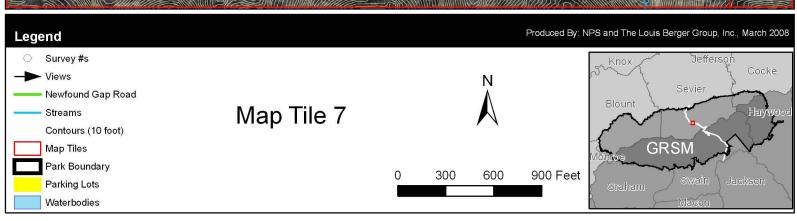






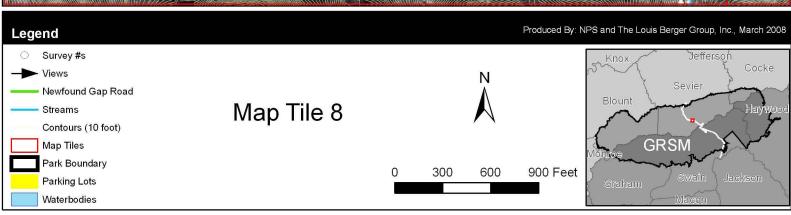




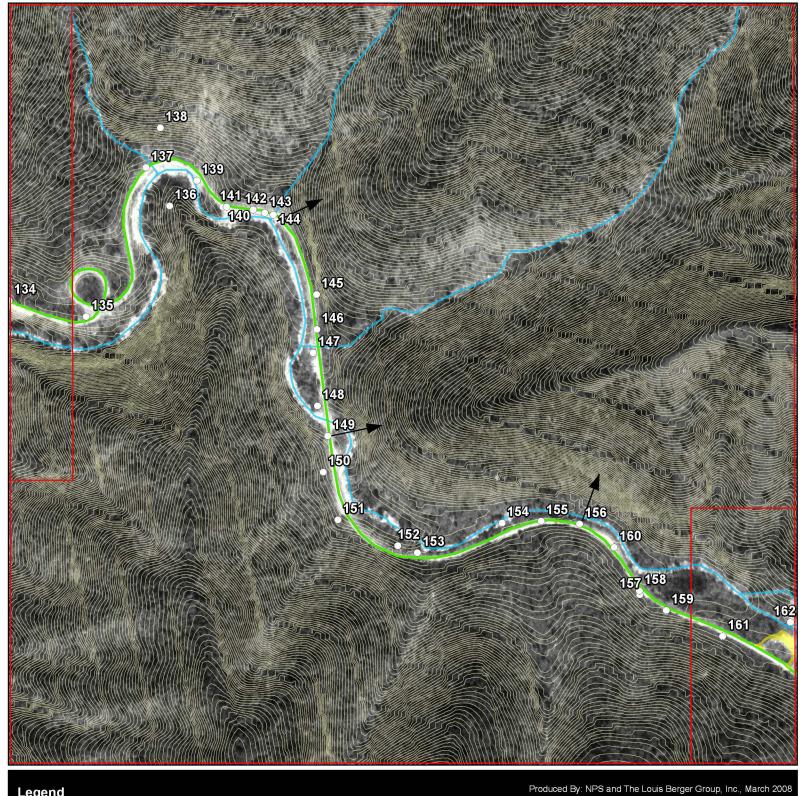


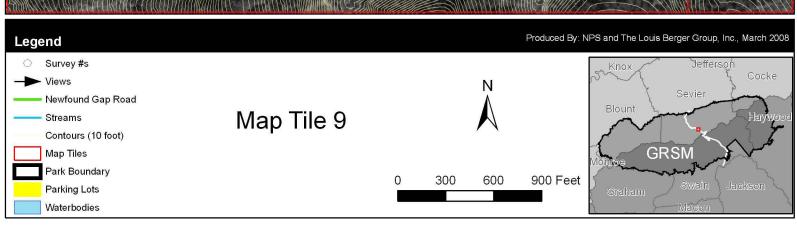




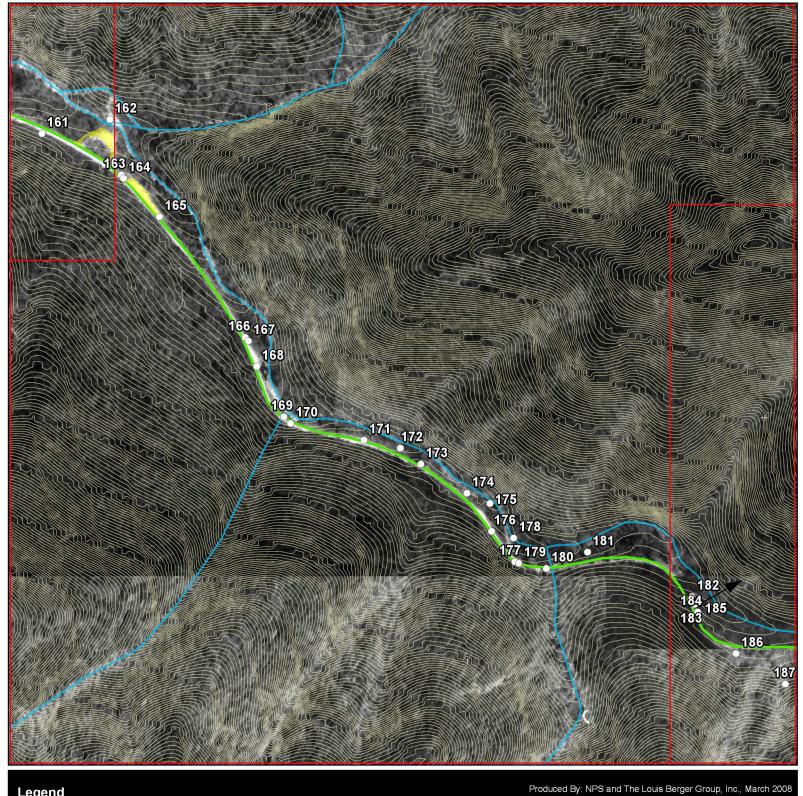


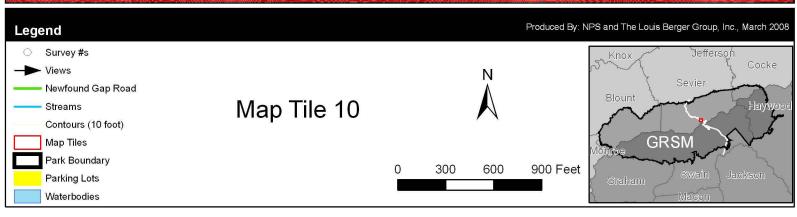




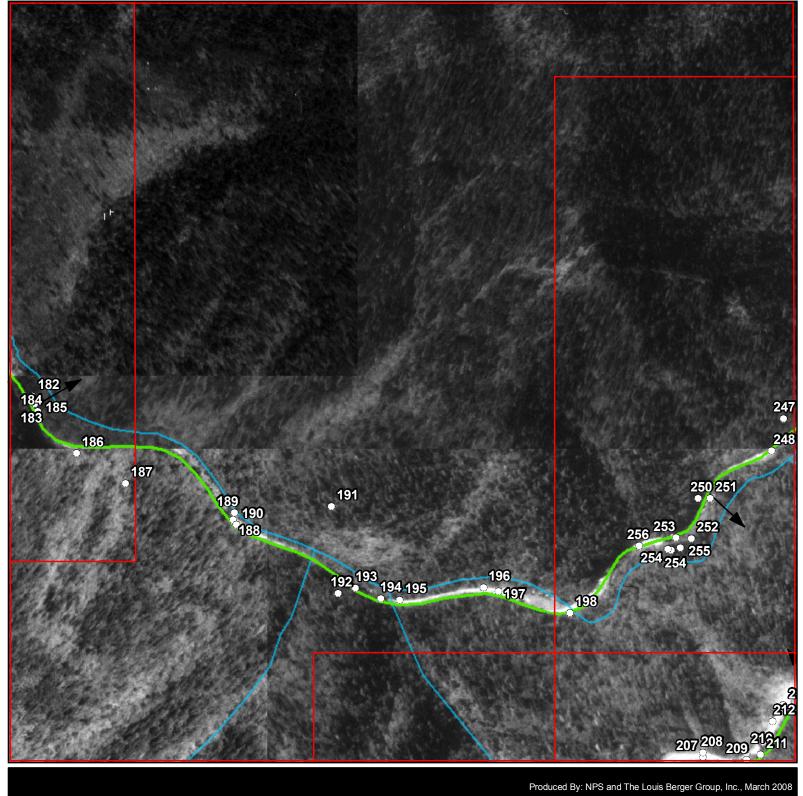


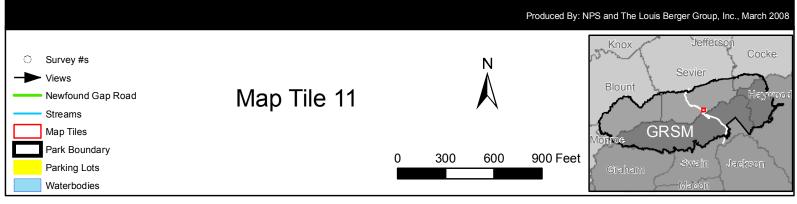




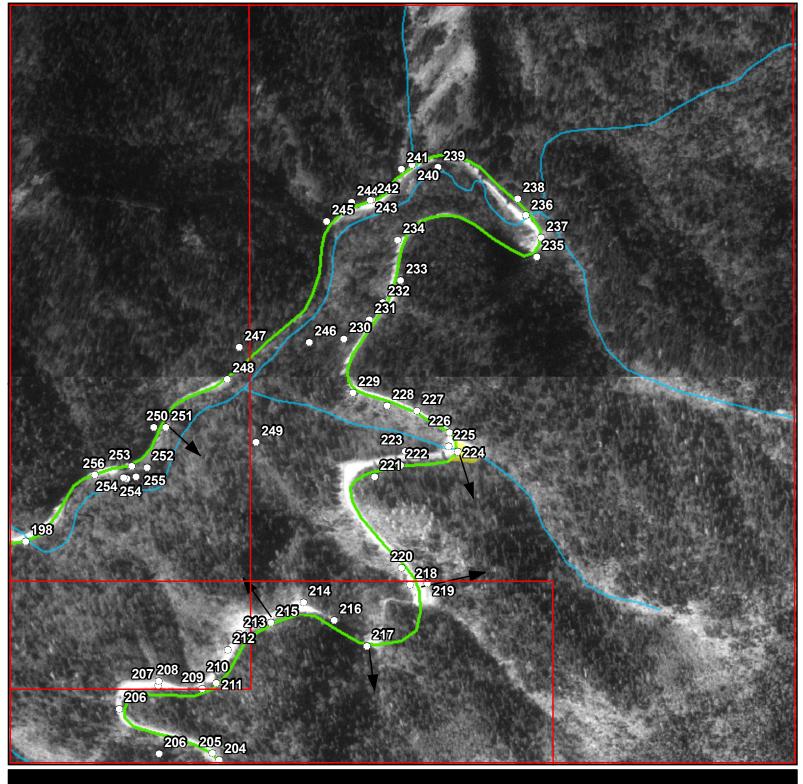


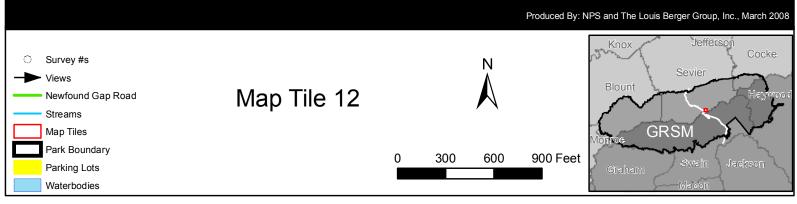




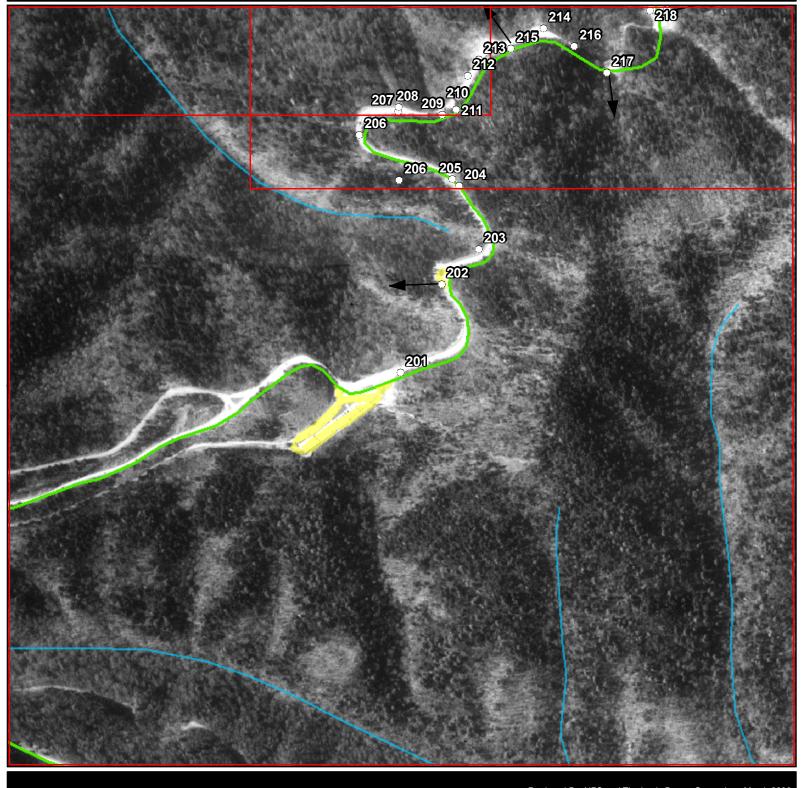


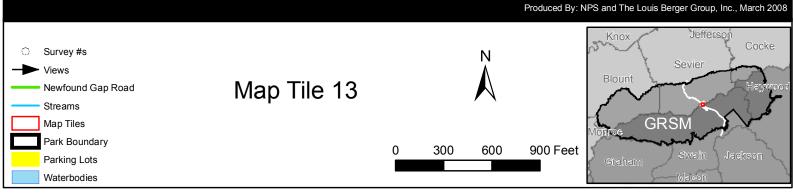












# **APPENDIX C**

# **CORRESPONDENCE**

Note: This appendix contains SHPO correspondence concerning the National Register eligibility of the Great Smoky Mountains National Park. The 1998 draft Historic Resource Study that is referenced in the correspondence (Blythe 1998) is not reproduced here, but it is included with the digital deliverables for this report.



## North Carolina Department of Cultural Resources

James B. Hunt Jr., Governor Betty Ray McCain, Secretary

MAILING ADDRESS 4617 Mail Service Center Raleigh, NC 27699-4617 Division of Archives and History Jeffrey J. Crow, Director

> LOCATION 507 North Blount Street Raleigh, NC State Courier 53-31-31

July 30, 1999

Kirk A. Cordell Chief, Cultural Resource Stewardship National Park Service Southeast Regional Office 100 Alabama Street SW Atlanta, Georgia 30303

Dear Mr. Cordell:

Thank you for the opportunity to review and comment on the draft National Register of Historic Places nomination for a Park Development Historic District within the Great Smoky Mountains National Park. As administrator of the office that oversees the National Register of Historic Places program in North Carolina, I have been asked by Dr. Crow to respond.

We concur strongly with the assessment that the early development areas of the Great Smoky Mountains National Park are eligible for listing in the National Register. The detailed report will be a valuable addition to our information on this property. Clay Griffith, Preservation Specialist in our Western Office in Asheville, reviewed the draft nomination and provided the attached comments.

We are pleased to have this nomination and commend the effort to recognize the important historic resources of this popular national park.

Sincerely

'David Brook

Deputy State Historic Preservation Officer

Attachment

cc: Superintendent, Great Smoky Mountains National Park

Herbert Harper, Deputy SHPO, Tennessee



## North Carolina Department of Cultural Resources

James B. Hunt Jr., Governor Betty Ray McCain, Secretary

Division of Archives and History Jeffrey J. Crow, Director

July 30, 1999

**MEMORANDUM** 

THROUGH: Claudia Brown

FROM: Clay Griffith Way Sufficient

SUBJECT: Draft Nomination Draft Nomination for Park Development Historic District in Great

Smoky Mountains National Park, Swain Co. (NC) and Sevier Co.

(TN)

Thank you for forwarding the draft National Register nomination for a Park Development Historic District within Great Smoky Mountains National Park. The nomination is thorough and well documented, and it provides substantial, detailed information regarding the development and construction of the park's early buildings and structures. After reviewing the draft, I have several comments concerning the nomination that are enumerated below.

- The location of the historic district is given only as Gatlinburg vicinity, Sevier County, Tennessee, which likely reflects the location of the park headquarters. Approximately one-third of the length of the historic district (including five of the twelve primary resource areas) is located in Swain County, North Carolina, and the form should include this information.
- Further justification of the period of significance (1933-1942) is needed. 2. Despite the fact that the park was dedicated formally in 1940, the period of significance ends with the interruption of World War II. Work in the park resumed following the war, and a number of projects begun before the war were completed in the post-war years. I suggest extending the period of significance to the late 1940s or early 1950s.
- 3. Architecture should be added as an area of significance and Charles I. Barber should be added as an architect/builder on the nomination form. In addition to the extensive landscape design component of the district, several prominent buildings are central to the district. The headquarters building and Oconaluftee Ranger Station represent an evolving expression of the NPS rustic style from that of the western parks to an aesthetic appropriate for eastern parks. Barber served as consulting architect for both the headquarters building and ranger station. For these reasons I suggest adding these two items.



- 4. Section 7, the description of resources, should include a notation as to the state where the resource is located. This could be abbreviated as either NC or TN and included following the resource name.
- 5. In the last paragraph of Sect. 7, page 3, an incomplete date is given for the Horse Trail Underpass.
- 6. Although the stated period of significance is 1933-1942 for the district, a number of structures identified as contributing are listed with dates outside the period of significance (Sect. 7, pages 4-6). These resources include structures dating from the late 1940s and early 1950s. This disparity would be corrected by making the change suggested in item 2 above. If that change is not made, the post-1942 resources should be classified as non-contributing.
- 7. In the third sentence of the description of the Mt. Cammerer Fire Tower (Sect. 7, page 10, par. 4) change "fires" to "fire."
- 8. Could the district be expanded to include destination sites within the park? The evaluation of eligibility, beginning on Sect. 8, page 33, lists "four aspects of eligibility": spatial organization, circulation, vegetation, and structures. Under "Circulation," the nomination states that the "motor road circulation system provided access to campgrounds, trailheads, exhibits of pioneer structures, and other points of interest..." (sect. 8, page 34, par. 2). In the next paragraph, the nomination goes on to state that "all the developed areas constructed between 1933 and 1942 were adjacent to one of the three major roads," which "provided the means for visitors to experience the natural wonders and cultural artifacts of the new park...." This suggests that there are possibly other sites that were developed as destinations within the park during the period of significance and adjacent to the major roads that could be included in this district.
- 9. The integrity evaluation of the Newfound Gap Road (Sect. 8, page 37, par. 1) should be restated to maintain consistency. The last sentence currently implies that the 10-mile section of the road built in the early 1960s is a separate resource that contributes to the district. The last sentence should be changed to state that the 1960s section of the road, which was constructed using the pre-1942 NPS design approach, does not detract from the overall integrity of the resource.
- 10. Double-check that the all alphabet organizations (WPA, CCC, etc.) are introduced by name and subsequently referred to by their acronym.

H32 (SERO CRS)

Dr. Jeffrey Crow State Historic Preservation Officer Division of Archives and History 109 East Jones Street Raleigh, NC 27601-2807

Dear Dr. Crow:

Enclosed for your review and comment is a draft National Register of Historic Places nomination for a Park Development Historic District within Great Smoky Mountains National Park. We would appreciate receiving your comments by July 30, 1999. After addressing any comments from you and the Tennessee State Historic Preservation Officer, we will present a revised nomination to both states for signature, before forwarding the nomination to our Federal Preservation Officer for approval. Please contact Robert Blythe at 404-562-3117 if you have any questions concerning the nomination.

Sincerely,

ASI KIRK A. CORDELL

Kirk A. Cordell Chief, Cultural Resource Stewardship, SERO

Enclosure

cc:

Superintendent, Great Smoky Mountains National Park, w/o enc.

**RWBlythe** 

GRSM disk: A:\ncltr

6/15/99

H32 (SERO CRS)

Ollie Keller State Historic Preservation Officer Department of Environment and Conservation 401 Church Street, L & C Tower 21<sup>st</sup> Floor Nashville, TN 37243-0435

Dear Mr. Keller:

Enclosed for your review and comment is a draft National Register of Historic Places nomination for a Park Development Historic District within Great Smoky Mountains National Park. We would appreciate receiving your comments by July 30, 1999. After addressing any comments from you and the North Carolina State Historic Preservation Officer, we will present a revised nomination to both states for signature, before forwarding the nomination to our Federal Preservation Officer for approval. Please contact Robert Blythe at 404-562-3117 if you have any questions concerning the nomination.

Sincerely,

S/ KIRK A CORDELL

Kirk A. Cordell Chief, Cultural Resource Stewardship, SERO

Enclosure

cc:

Superintendent, Great Smoky Mountains National Park, w/o enc.

RWBlythe GRSM disk: A:\tnltr 6/15/99