VISUAL CHARACTER OF THE BLUE RIDGE PARKWAY

Visual Character of the Blue Ridge Parkway

Virginia and North Carolina

United States Department of the Interior
National Park Service

CONTENTS

I am convinced, as I know you are, that ensuring the protection of the Blue Ridge Parkway into the 21st century will take our collective energy working together for widespread public support and action . . . to preserve America's favorite drive and add to the quality of life. I leave you with the challenge to join with others to explore new ways to ensure that places like . . . the Blue Ridge Parkway are passed to future generations to enjoy, to explore, to learn of nature and a way of life that has meant so much to each of us.

– Superintendent of the Blue Ridge Parkway Gary Everhardt, 1995

Introduction

Purpose of this Document

This document is intended as a basis for understanding those aspects of road and building design that give the Blue Ridge Parkway its distinctive character. It is intended that this publication will become a useful tool for those landscape architects, engineers, and architects building within and along the parkway corridor. Likewise, it is important that new design and construction issues be more clearly understood by all park administrators, concessioners, agencies, developers, and citizens who will be planning and building within the park or within the viewshed of the parkway corridor.

Background

The concept of a parkway was first introduced during the mid-19th century when Americans were beginning to reevaluate their attitudes and their relationship with their surrounding environments. The industrial age and urban population growth had brought both prosperity and a desire for recreational opportunities. "The pleasure drive became the favorite sport of the newly rich industrialist. To make carriage roads for pleasure driving on their large country estates they hired a new kind of designer, the landscape architect" (Warshaw 1991). Creators and advocates of these recreational amenities included landscape architects Olmsted, Vaux, Cleveland, and Eliot. The ability and foresight of these designers and their predecessor carried the idea of a parkway from a linear carriage ride in the city to the curvilinear automobile drive through the countryside. These pioneers saw not only the social and recreational value of these travel ways but also the opportunity to protect natural and scenic resources and connect broad open spaces or parks together. Parkways evolved from the traditional boulevard or tree-lined avenue common to many cities as an approach to a public space such as a park or plaza. In many cases, these roads connected public spaces by linking city parks and open spaces by way of a parklike street or boulevard, in essence, creating linear parks within the city's urban fabric. The first parkways were proposed as a "series of ways designed with express reference to the pleasure with which they may be used for walking, riding, and driving of carriages, for rest, recreation, refreshment, and social intercourse" (Fein 1967). It was not long before parkways became highly valued recreational amenities that could be used by all social classes.

It was the invention and availability of the automobile that extended parkways from the urban environment to the suburbs and eventually the countryside. Americans had a newfound source of independence with the automobile. Whole expanses of the countryside were now accessible to the public, and they were taking to the road to explore, investigate, and drive for pleasure. The adaptation of the traditional parkway to the automobile forever changed the design of parkways. The speed of the automobile required new criteria in the design of roadways and treatment of adjacent landscapes. Parkway designers now had to consider factors such as maneuverability of the vehicle, speed of travel, and safety while maintaining one of the original principles of parkway design — the visual experience. Travel speed transformed the visual experience into a series of views depicting a changing landscape. The view ahead of the vehicle became of greater importance than the view to the side. "Designed to be driven at modest speed permitting full enjoyment of the scenery, [a parkway's] purpose is recreational. . . . Compared to early highways, parkways used superior alignment standards. Many used easement [or spiral] curves to make the drive easier and more pleasant for the driver as well as the viewer" (Buxton and Beatty 1986). The automobile changed not only how parkways were designed but also where they would be located and what their role would be.

The shift away from the urban concept of linear travel ways between parks to a curvilinear travel experience through the countryside opened up a whole new context for the parkway designer to explore. Parkways no longer had to be constructed as a linking element between city parks and suburbs. They now could become destinations unto themselves, taking on a regional role. The modern era of parkways is said to have begun with the Bronx River Parkway in New York. Norman Newton notes that after its completion the " term now denoted a strip of land dedicated to recreation and the movement of pleasure vehicles. . . . The parkway was *not* itself a road, it *contained* a roadway" (Newton 1971). This shift from what once was primarily a road that had a park to primarily a park that has a road is the difference that defines America's modern parkways. The difference is the concern and response to the existing natural conditions and resources of the park. The road becomes a second level of priority and responds to these conditions. One of the best examples of harmony between a road and its context is the Blue Ridge Parkway. The design of this well-traveled ribbon of road was well thought out and carefully constructed to preserve and restore the natural features of the Appalachian Mountains and the unique way of life that had developed there. This parkway links regions by presenting a visual story of natural history and social values that can be experienced in a recreational manner.

Bad flying weather over the Great Smoky Mountains today forced a party of road and park officials to return to Washington without completing a flight to study proposed routes for the Shenandoah-Great Smoky scenic highway.

– AP News Report, April 12, 1934

Roads in America

The first transportation corridors or roads used in America were the rivers and trails along them used by Native Americans. These Indian paths and waterways connected points of trade and villages or led to hunting grounds. They were often defined by the ease of passage between points and conformed to the geography, geology, topography, and other such features. European settlement and the need for transportation brought many changes to the landscape. However, these routes of travel stayed the same for many years. Some traces of these early routes still exist, occupying modern roads such as U.S. 60, U.S. 58, and Interstate 64 as they pass through the Blue Ridge Mountain Gaps. Another early road type was the post road, or mailman's route. These travelways were functional in nature, connecting homesteads to each other for the conveyance of written communication. Some evidence of these routes still exist. U.S. 1, for example, which follows the East Coast, is still referred to as "the old post road", and old U.S. 17 along the Carolina Coast is still called "King's Highway." Many routes have been altered and exist today as turnpikes and toll roads. Paved roads first existed in cities where materials such as cobbles and oyster shells were used to create a firm surface for wagons. The paved highway, as it is known today, is a product of the 20th century and conforms to the parameters of high-speed automobile travel. The age of parkways fell between the age of the old postal route and the paved highway. It was a response to the then "new" recreational value of the automobile within a natural or scenic environment. Today's modern parkway responds to the context in which it is located. Parkways typically have wider rights-of-way, consistent site details, grade separation at intersections, and thoughtfully designed bridges, tunnels, and walls. But most of all, the American parkway derives its distinctive quality from its alignment within the landscape and how it reveals the story of the region to travelers.

A national parkway is a federally owned, elongated park featuring a road designed for pleasant motoring plus enjoyment of cultural/historic, natural, scenic and recreational features of national significance. Access from adjoining properties is limited, and commercial traffic is not permitted. A national parkway has sufficient merit and character to make it a national attraction and not merely a means of travel from one place to another. National parkways are authorized by special acts of Congress for administration by the National Park Service pursuant to the Organic Act of August 25, 1916, as amended and supplemented.

– *Blue Ridge Parkway Corridor Management Plan, Phase I*, 1996

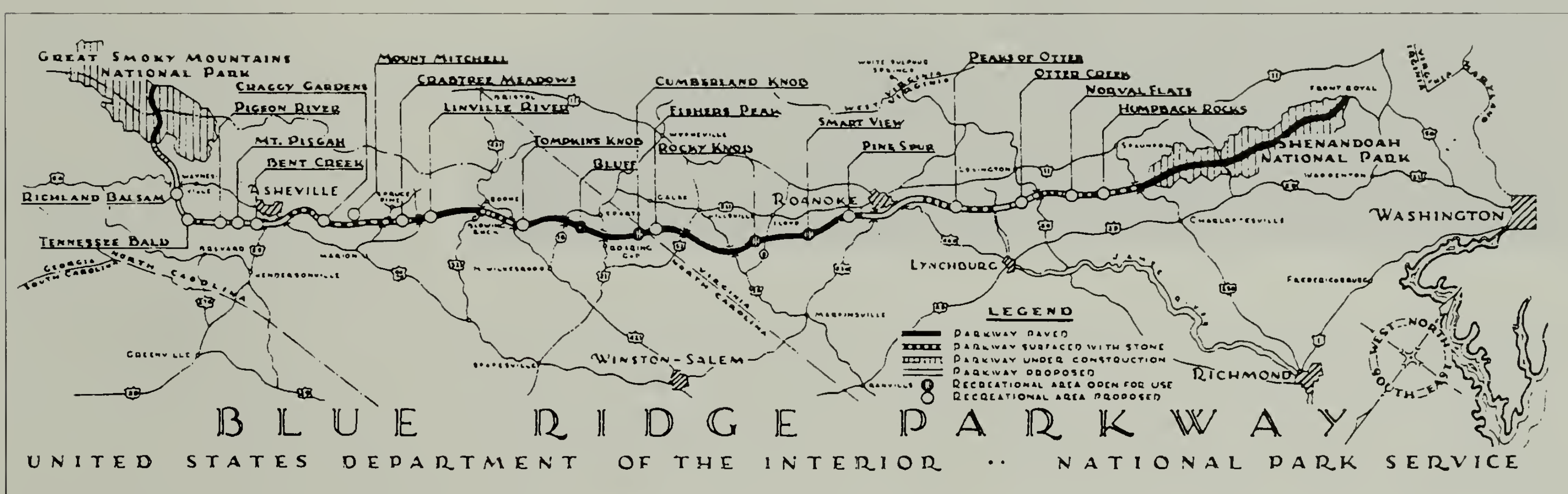
I love to see it lap the miles and lick the valleys up, and chase itself around a pile of mountains, and then stop, docile and omnipotent, at its own stable door.

– Emily Dickenson

Historical Overview

As the scene shifted from urban to rural America, parkway designers and planners were faced with an entirely new series of challenges. Although many of the successful components of parkway design were better understood, they had never been applied beyond the city scale. The evolution of parkway design in America during the 1930s and 1940s culminated with the initiation of the parkway into the rural environment, which would establish an entirely new vernacular and context for parkway design. The Blue Ridge Parkway was one of the first of these "rural parkways" to be conceived. Its original purpose was simply to link two national parks — the Shenandoah in Virginia to the north and the Great Smoky Mountains in Tennessee and North Carolina to the south — a distance of over 469 miles. The new roadway was seen by many as an economic stimulus to the struggling southern Appalachia region and economy. Legislators were less concerned about the route and its scenic qualities because America was still in the midst of the Great Depression. The parkway was initiated as a means of alleviating unemployment and promoting tourism.

Construction of the Blue Ridge Parkway began in 1935. For most of its length it follows the Blue Ridge of the southern Appalachian Mountains in Virginia and North Carolina. The lowest point on the parkway is near the northern end, in Virginia, beside the James River, where the elevation is 649' above sea level. The highest point is more toward the southern end, in North Carolina, at Richland Balsam at an elevation of 6,053' above sea level. The final section of the parkway, at Grandfather Mountain, was not completed until 1987. The story of the Blue Ridge Parkway is awe-inspiring. Beginning with the inception of design work done during the early 1930s through its construction and final completion, the parkway was blessed with the contributions of many talented individuals. The purpose of this document is not so much to identify those individuals as to capture the legacy they have left us through the following words and sketches so that the philosophy and principles upon which this great American parkway was founded may be passed on.



Phases of construction as of 1942

You ask my appraisal of the natural beauty and human interest of these eastern mountains to which we became so attached. The grandeur derived, of course from the six days of the Lord's creation and the human interest from the overlay of history in the pioneer days—a persistent culture isolated in the crowded East. Some would wish for the pristine beauty of these tree-clad mountains unspoiled—but this is idle—there has been imposition of man on nature and this was the condition we had to work with in developing the Parkway—logging, soil erosion, forest fire. Rudyard Kipling wrote in "Brazilian Nights"; Once you tamper with nature, you had better keep it up.

– Stanley Abbott, 1958

Parkway Location

. . . and then we accept another responsibility when we make the determination to let people into the park or preserve in order that they "may enjoy." Then we do indeed commit ourselves to design. Good design implies restraint, which is creative of itself. We should not minimize the art we practice. We thought positively: Now we are coming in here amidst this natural beauty. We had better design and build thoughtfully, sensitively, creatively. We had better not have dull, insensitive people doing it. It requires sensitivity to design even such a comparatively minor detail as a sign and a signpost, as you usher men and women into the presence of the natural gods, as at the foot of Old Faithful.

– Stanley Abbott, 1958

The Resource Corridor

The first step in the design of any parkway is to define its corridor and evaluate the resources within it. The basic ingredient of a parkway is its roadway and how it relates to and maximizes the resource opportunities found along its way. As stated by Stanley Abbott in a report to Congress for the Mississippi Parkway, The "essence of a parkway concept is to provide a parklike corridor which insulates the motor road from uncontrolled development along the roadside" (1951). In this capacity, when a proposed corridor is being studied and evaluated, the following factors should be considered when determining its location:

- Take advantage of the cultural, historic, and scenic resources along the corridor.
- Allow for the smooth transition between new construction and existing conditions.
- Protect the viewsheds and vistas visible from the corridor.
- Provide adequate buffers along the corridor where uncontrolled development may occur.
- Provide enough park width to enable a sufficient right-of-way width to accommodate the motor road and still allow for scenic diversity and beautification.
- Reflect the parkway's purpose and theme.

On the Blue Ridge Parkway this combination of factors proved to be highly successful in determining its ultimate location. However, this was not always the case. When design of the parkway began, early site reconnaissance revealed that the proposed 200-250' right-of-way would be insufficient, especially in the more rugged terrain. When the idea of the parkway was first conceived, a right-of-way 250' wide was recommended. This width had been successful on many of the more urban parkways, such as in Westchester County, New York. In addition, they utilized scenic easements in which adjacent landowners would agree to refrain from certain practices that would create an undesirable view for the traveler. Unfortunately, this standard did not account for the mountainous terrain the corridor was to traverse.

In February 1935 a new proposal was presented that allowed for an approximate right-of-way width of 825', with an additional 400' in scenic easement. The state of North Carolina, eager to be cooperative to ensure a route through its boundaries, agreed quickly and even increased the fee-simple figures for calculating the right-of-way. Virginia, on the other hand, offered a compromise whereby it would acquire a 200' right-of-way with 400' of scenic easements on either side. Some Virginia farmers, however, were often reluctant to restrict the uses on their land and opted to sell outright. A sliding formula, based on the following three land classifications, was developed for determining right-of-way widths:

- Woodlands - 800'
- Poor Farmland - 600'
- Good Farmland - 400'

These property acquisitions allowed for the roadway to have some flexibility in its actual placement. The varied width was necessary to economically accommodate abutting properties, fields, and fences. In addition, this flexibility gave the designers "maximum control of the scenic picture with a reasonable taking" (Evison 1958).

The photograph on page 17 was taken at Upper Linville Falls, milepost (MP) 316.5. Represented from left to right: John Sieker, USFS; Elbert Cox, NPS; W. H. Fischer, USFS; Harlan P. Kelsey, Stanley W. Abbott, NPS; Conrad L. Wirth, NPS; Carl G. Krueger, USFS; J. H. Stone, Clinton G. Johnson, USFS.

As we traveled through the mountains on general reconnaissance, favorite places came into our thinking and we might say to ourselves or out loud, 'We ought to control this,' or 'A gem.' Then we were guided, too, by some sense of need for rhythm or pattern – or a jewel on the string of beads occurring every so often, so there was a comprehensive plan, but not a rigid one. Our theory was a major park every sixty miles, and in between two lesser day-use areas, as against night-use or larger, more rounded development.

– Stanley Abbott

A hard-bitten old mountain man, sure of his early calculations, allowed as how 'I seen them durned ingineers a comin' – a draggin' them chains and they drugged off half my land.'

– Stanley Abbott

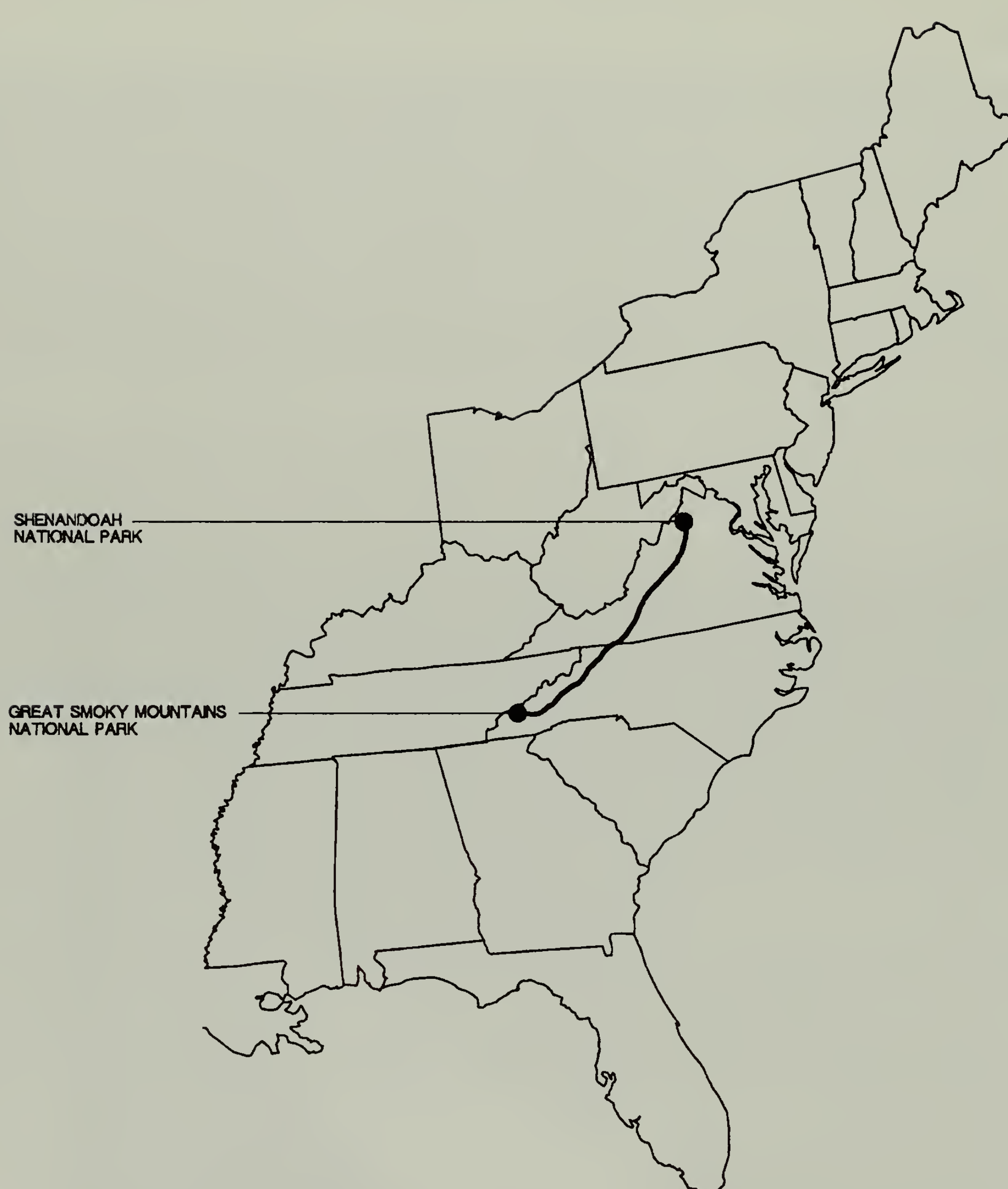
The Route

"[The line of the Blue Ridge Parkway] follows the Blue Ridge [Mountains] for 355 of its 469 miles. In the remaining 114 miles, it crosses some of the highest and most rugged mountains in the Southern Appalachian, including the Black Mountain, Great Craggies, Pisgah Ridge, Great Balsam, and Plott Balsam ranges. The parkway starts at the southern end of Skyline Drive at Rockfish Gap (elevation 1,900') in Virginia. For the first 100 miles, it runs close to the crest of the Blue Ridge, which is a prominent range of mountains between the Piedmont and the Great Valley. The average elevation of the first sections of the road is over 2,500' above sea level, but there are wide variations. At milepost 63.8, the parkway crosses the gorge of the James River, descending to its lowest point — 649'. It then climbs steeply to Apple Orchard Mountain, reaching its highest elevation in Virginia — 3,950' — at milepost 76.7. The next sections take the parkway around the city of Roanoke. In these sections, as it crosses the Roanoke Basin, the road lies at about 1,500' above sea level. For the rest of its course in Virginia, the parkway follows the eastern rim of the Blue Ridge Plateau. This rolling plateau is a settled area of rural hamlets and mountain farms. In the next sections, the average elevation of the road is just over 2,500' with relatively few variations. At points such as Smart View and Rocky Knob, however, there are spectacular views to the east across the Piedmont foothills.

Crossing into North Carolina at milepost 216.9, the parkway continues southwest along the Blue Ridge, running over and around the mountains from gap to gap. The average elevation in this area rises to 3,350'. South of Blowing Rock, the parkway crosses Grandfather Mountain, a rugged peak spectacular in its isolation. At Ridge Junction (milepost 355), the Blue Ridge is intersected by the Black Mountains. There, the parkway turns west, crosses the Black Mountains south of Mount Mitchell, and heads for the Great Craggies. In these mountains, the elevation of the road reaches 5,676' above sea level although the average elevation is 4,650'. Beyond the Craggies, the parkway descends over 3,000' to the valley of the French Broad River, crossing it at milepost 393.5. The road skirts the southeastern side of the city of Asheville and passes through the Biltmore Estate. The average elevation in the sections around Asheville is 2,230'. This is the second lowland stretch of the parkway, higher than, though similar to, the sections around Roanoke. In the final sections, the parkway winds in an arc through extremely rugged terrain. Southwest of Asheville, the road climbs steadily to Mount Pisgah. At Beech Gap (milepost 423.2), the parkway reaches its most southerly point and turns northwest into the Great Balsam Mountains. At Richland Balsam (milepost 431.4), the road reaches its highest elevation of 6,043' above sea level. The road then follows a winding route through the Plott Balsams before descending through the Cherokee Indian Reservation to its terminus at the Oconaluftee River in the Great Smoky Mountains National Park.

Most of this route was located by the engineers of the Bureau of Public Roads and the landscape architects of the National Park Service between 1934 and 1935. There were, however, some problem sections in which the exact route was not determined until later. The route through the Cherokee Indian Reservation was the subject of a long dispute that was not resolved until 1940. In 1941, difficulties remained along Otter Creek, around Roanoke, near Blowing Rock, on Grandfather Mountain, near Asheville, and approaching Balsam Gap. In these areas, alternative locations, which represented minor but important variations, were still being evaluated. After the war, some relatively minor changes in location were made, for example, on the Moses H. Cone estate near Blowing Rock; the road was relocated behind the Manor House. The last section to be finished was on Grandfather Mountain. The original proposal to follow the line of an existing road — the Yonahlossee Trail — was considered unsatisfactory and a higher location was considered. This was opposed by the landowner, and the state of North Carolina was not prepared to exercise its option of eminent domain. An agreement reached in 1968 allowed the construction of the road along a mid-level line and involved bridging around, rather than tunneling through, the steep mountain slopes."

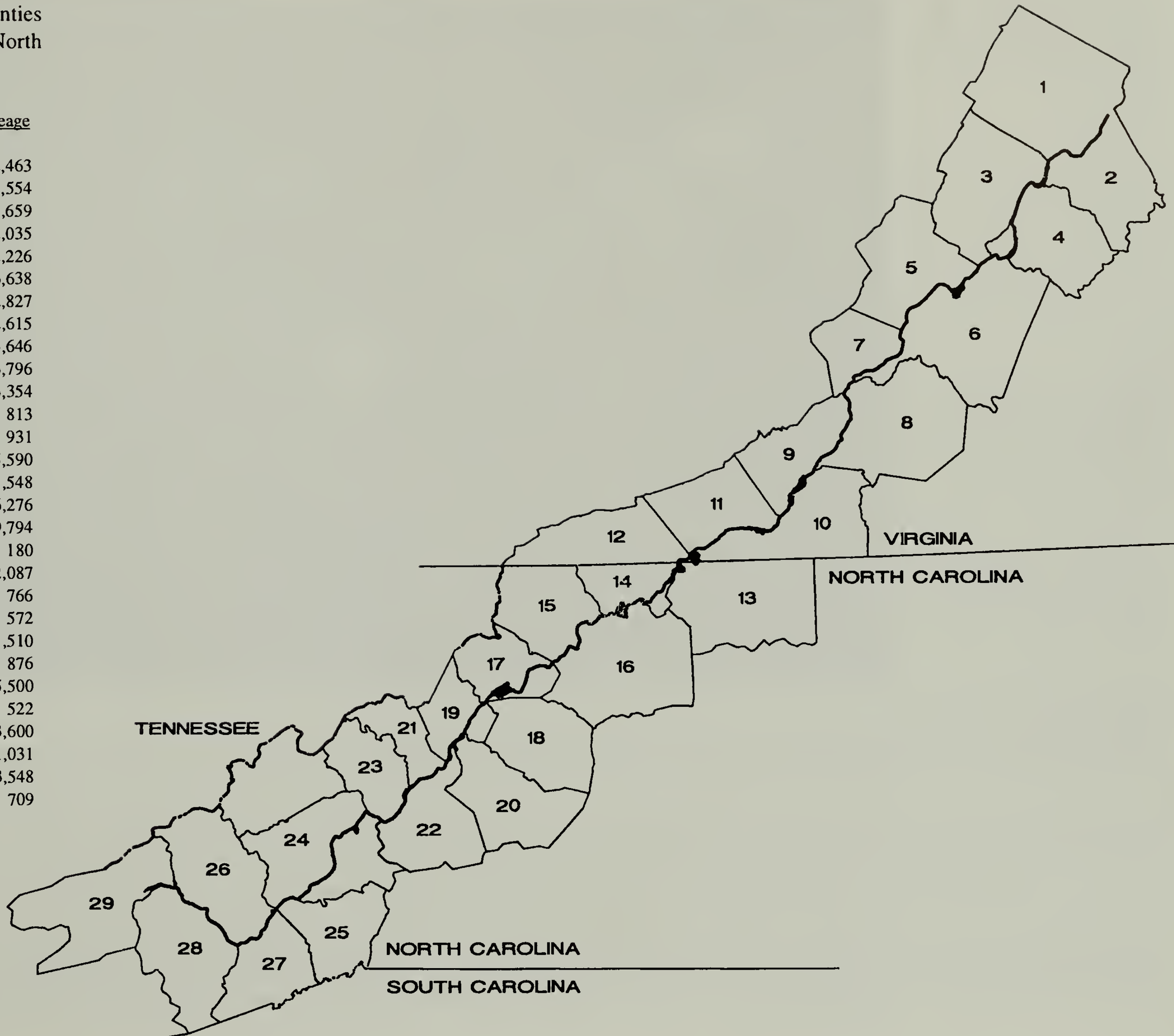
– *The Blue Ridge Parkway Historic Resource Study (Draft),* 1992



The Blue Ridge Parkway in relation
to the Eastern United States

The Blue Ridge Parkway passes through 29 counties in Virginia and North Carolina.

No	County	Acreage
1	Augusta	2,463
2	Nelson	1,554
3	Rockbridge	1,659
4	Amherst	2,035
5	Botetourt	2,226
6	Bedford	6,638
7	Roanoke	2,827
8	Franklin	2,615
9	Floyd	3,646
10	Patrick	3,796
11	Carroll	3,354
12	Grayson	813
13	Surry	931
14	Alleghany	5,590
15	Ashe	1,548
16	Wilkes	6,276
17	Watauga	9,794
18	Caldwell	180
19	Avery	2,087
20	Burke	766
21	Mitchell	572
22	McDowell	1,510
23	Yancey	876
24	Buncombe	5,500
25	Henderson	522
26	Haywood	3,600
27	Transylvania	1,031
28	Jackson	3,548
29	Swain	709



This view looking south along the parkway construction near Rakes Mill Pond was taken in July 1936.

Geology, Soils, and Subsurface Conditions. The suitability of a particular site for construction is dependent on surface and subsurface soil or ground conditions. Most of the terrain along the parkway corridor slopes, sometimes steeply. In many places, the depth of topsoil can be very thin and just barely able to support vegetation. In other areas, there may be deep deposits of topsoil. Some underlying strata may contain rock, shrink-swell clay, springs, groundwater, voids or caverns, and other conditions that will impact the design of building foundations, road sections, and underground utilities. In some cases, it can be expected that some geological conditions will dictate that no construction be undertaken. It is important that a site designer understand all geological conditions and build the most environmentally beneficial yet cost-effective type of construction. Positive noneroding drainage systems, sustainable building foundations, and stable, low-maintenance roads are desirable. Professional and environmentally sensitive subsurface explorations and evaluations should be conducted by soil engineers prior to any final design for structures or roads. Complete site information is essential for the proper master planning of a site.

Site Constraints. The most influential factor in parkway design is the sensitive analysis of the corridor to identify the natural and man-made constraints within the area. This is especially true in the design of a roadway because the existing conditions become control points and, to a large extent, determine the location and design of the route. These constraints include not only physical characteristics such as terrain, vegetation, and drainage, but also the psychological and man-made influences. These may encompass such elements as visual and scenic values. Once control points have been established, the designers can best deal with the constraints and locate the route and centerline of the parkway accordingly.

Terrain — Perhaps the most influential element in deciding the location of a roadway is terrain. It can either provide an insurmountable barrier or it can be used to the advantage. Where the terrain and roadway become totally compatible is the primary objective of any parkway. This occurs when the roadway *lies lightly on the landscape* (NPS 1984) and flows gently with the landform, avoiding unsuitable sites such as wetlands, potential slide areas, and unsuitable soils while exposing the traveler to attractive landforms, vegetation, and cultural sites.

Vegetation — Much of what makes a parkway a pleasurable driving experience is the existing vegetation, which provides textures, colors, and shapes that cannot be replicated by man (other than by replanting) and takes years to reach the stature of a mature forest. The principal vegetation rules are as follows: identify and preserve existing values, establish quick and effective erosion-control plantings, and emphasize hardy and native plant materials, especially in rural environments.

Drainage — Another important and vital component in the successful completion of a parkway is drainage. The design must strive to control the flow of water while preserving the natural drainage patterns and wetlands. The ultimate goal is to design control mechanisms that are sensitive to the landscape and avoid high maintenance costs and severe landform alterations that can have damaging effects on ecosystems.

Soils — A physical constraint that is not always apparent to the casual observer is reliable data about the soils and geology of the corridor. This data can provide invaluable insight to areas that should be avoided or soil conditions that, if not addressed, can result in irrecoverable damage to the environment and require expensive cleanup and mitigation repairs.

Parkway Design

A parkway like Blue Ridge has but one reason for existence, which is to please by revealing the charm and interest of the native American countryside. To accomplish that end requires the finest exercise of the several planning arts. Your composition is one of fields and fences, lakes and streams, and hills and valleys; and your problem is that of placing your roadway in such a position as best to reveal them. It is as if you were going with your camera through the countryside you wanted to photograph to greatest advantage — how long would you look for a spot from which to take your picture. So, the all-important factor was: Where is the road to be located? And you determine upon your location by these very large compositional considerations, balanced by other considerations, lesser but important, such as the opportunity for intimate glimpses into the deep woods and into the flora of those woods. This affords contrast to the heroic panorama — a stretch here along the crest, there on mountainside, along a valley stream, through the woods, along the edge of a meadow, passing a mountain farmstead. There were the ingredients of variety and charm.

Then, having selected a route for the road, you get into the business of designing a road that fits the topography as sympathetically as it can be fit — the engineer, the landscape architect, the architect working together.

That takes a — well, it's almost a form of sculpture. It takes a third-dimensional mind and insight into what is the main contour of this particular land form, whether one broad curve or, sometimes — since nature doesn't always deplore a straight line — there are places where the road wanted to straighten out for a while because the conformation of the land straightened out; or there had been a straight cut farm field against a straight edge of woods.

Cuts and fills make roadways. Machine-made cuts and fills in rugged parts of the Blue Ridge could cover a six-story building. This is big geometrics and often one doesn't appreciate the scale, be it because of rugged nature of the mountain terrain and the designed restoration of conditions alongside the machined roadway. Shoulders and slopes are topsoiled, seeded, and planted to cover the scar of construction; to afford a visual transition to the softer textures of grassy fields and pastures or blended into the rougher texture of the woodlands.

– Stanley Abbott, 1958

Parkway Design Principles

As the process of designing the Blue Ridge Parkway began to unfold, the designers realized the importance and the need for establishing some broad design parameters that would help them in their decision making and the selection of a route. Led by Stanley Abbott, they established several principles, which began to define a theme and provide a context for designing the parkway. These principles, outlined in an article by Douglas Swaim entitled "Stanley Abbott and the Design of the Blue Ridge Parkway" for the book *Blue Ridge Parkway: Agent of Transition,* are applicable to all parkways.

- "The roadway would travel though a broad, and protected right-of-way that would allow for preservation and restoration of an unspoiled roadside landscape."

- "In its design the parkway and its structures will be characterized by simplicity and informality in order that they may harmonize with the natural environment."

- "All elements of the parkway relate to each other" to provide a complete and unified experience.

- "Variety is the spice of the parkway."

- The roadway should accommodate "ease and safety of travel."

- "To reveal the charm and interest of the native American countryside."

- "Preserve and protect the man-made roadside landscape."

- "The parkway was a linear park and within its boundaries there was a need to provide the traveler with opportunities to experience the scenic qualities of the parkway through overlooks, waysides, picnic areas, or lodging."

Design Themes for the Blue Ridge Parkway

By mid-year in 1934, the designers of the Blue Ridge Parkway had assembled in the Roanoke area of Virginia. At that time, the country was in the midst of the Great Depression, and there was an effort to alleviate unemployment in the region. Although many proposed routes were considered for the parkway's alignment, it soon became clear that the general layout of the parkway route would be a fairly direct linkage along the Blue Ridge Mountains connecting Shenandoah National Park in Virginia to the Great Smoky Mountains in North Carolina, over a distance of 469 miles. To accomplish the design and construction route, the parkway's landscape architects and engineers realized the importance and need for establishing some design parameters that would help them in their decision making. Accordingly, they established several principles, which define the themes and provide a context for the parkway's design. At the time, they could not forecast the major war that would begin in only a few years and that the parkway would not be completed until 52 years later, in 1987. Throughout the life of the design and construction of the parkway, the first designers and those who have followed have honored the original unifying design themes:

- The parkway would pass through a wide right-of-way averaging about 100 acres per mile. The broad width would allow for the restoration and preservation of the roadside landscape. There would also be scenic controls in certain areas.

- All structures, such as bridges, tunnels, and park buildings, signs, and site details would be characterized by a rustic simplicity so that the parkway would harmonize with the natural and cultural environments.

- All design elements would relate to each other in a way that provides the "complete road."

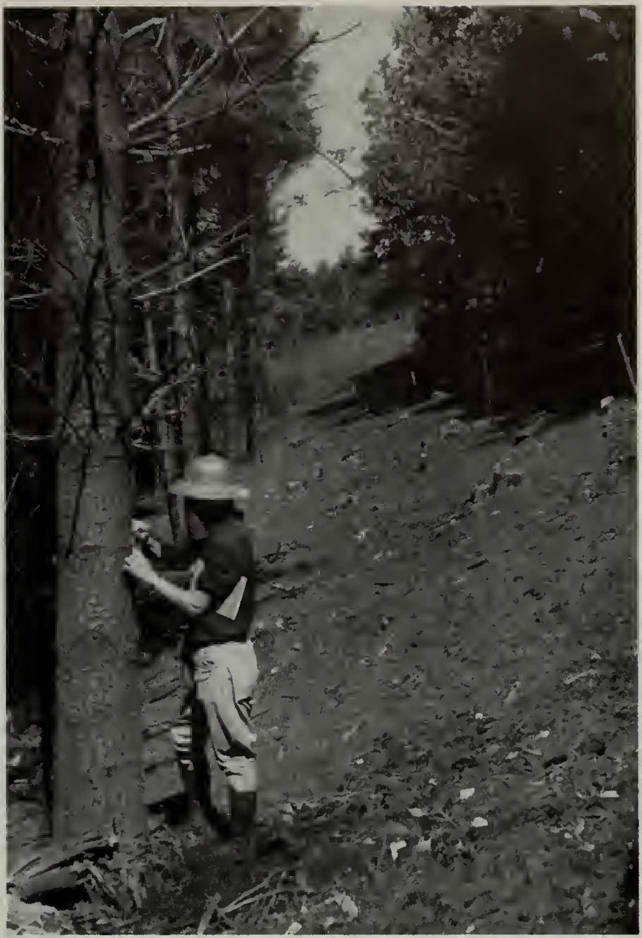
- At intervals, the linear parkway right-of-way would bulge like the "beads on a string, the rare gems in the necklace." Most of these areas would be recreational parks, but some would be for scenic protection (NPS 1992).

The detailed locating procedure was to reconnoiter the country over a considerable distance – 30 to 100 miles or more – and establish major controls, generally gaps, and form the rework down to lesser control points and then finally establish a tentative flagged location on the ground which would satisfy alignment and grade standards. This was then reviewed by both landscape architects and engineers, and if approved, the State would be authorized to proceed with their topographic surveys which covered a trip two to several hundred feet wide following the flagged line.

– E. Abbuehl, 1948

We and the engineers together just drilled and drilled, all of us, on the business of following a mountain stream for while, then climbing up on the slope of a hill pasture then dipping down into the open bottom land and back into the woodlands.

– Stanley Abbott, 1958



The Parkway Right-of-Way. When design of the parkway began, early site reconnaissance revealed that the proposed 200' to 250' right-of-way would be insufficient, especially in the more rugged terrain. When the idea of the parkway was first conceived, a right-of-way of 250' was recommended. This width had been successful on many of the more urban parkways, such as in Westchester County, New York. In addition, they utilized scenic easements in which adjacent landowners would agree to refrain from certain practices that would create an undesirable view for travelers. Unfortunately, this standard did not account for the mountainous terrain the corridor was to transverse or appreciate that "the foreground of a view of miles in extent could be scarcely covered with a right-of-way taking so limited" (NPS 1992). In many places, the right-of-way exceeds 1,000', in others it is more narrow. Basically, the goal was to achieve an average right-of-way of 100 acres per mile. The Blue Ridge Parkway was the longest road in America at the time, and it had the most far-reaching concept for right-of-way acquisition of any road ever planned.

In the 1930s, much of the land along the parkway's route was in poor condition from excess timbering operations and poor farming practices (top photo). New slope stabilization was undertaken as part of the parkway's construction. The photograph to the right was taken in 1941 in the vicinity of milepost 237 near Bluff Park (now Doughton Park). The slope was carefully graded, mulched, and then staked. In places where there was severe erosion, intricate drainage control structures were constructed (photo opposite page).

Reclamation. *Over the period of depression years in which the parkway has been two-thirds built, four CCC and four WPA projects averaging 150 men each were assigned the parkway. These emergency agencies accomplished the worthwhile projects. Much of the work might otherwise never have been realized for the jobs were of a nature hardly suited to contract forms, and funds for handling by the force account system were not procurable . . . Major construction of the parkway by contract has necessarily shown the marks of large scale road building in the modern manner. While better controlled than usual, the great earth moving machines have left a rough trail across the mountain, a wayside ravelled with many threads to be caught up. It has been in this reknitting, in the healing over, and finishing that the emergency programs have made a mountain highway a mountain parkway. Without such a follow up much would be lost in the parkway's beauty, and much that makes it practical as well.*

– Resident Landscape Architect's Report, June 30, 1943
(Quoted in *The Blue Ridge Parkway Historic Resource Study (Draft)*, 1992

Preservation of Farmlands

When the parkway designers arrived on the scene for the first time during the mid-1930s, they quickly observed the problems of poor farming practices and soil erosion. Of the overgrazed pastures and muddied streams, agronomist D. W. Levandowsky noted that "the results of soil abuse are plainly seen when harvest time comes and there is not much to harvest. The few cattle that one sees do not promise a good price at the market. The farms are in a run-down state." Accordingly, as the designs of the parkway were developed, they included construction details that would correct many of these problems. New drainage and water runoff improvements, fertilizing and liming, seeding and mulching, and the planting of trees and shrubs were undertaken as the parkway progressed. In many instances, the newly acquired parkway land was leased back to the neighboring farmer, who could farm the land with a degree of environmental control that preserved the visual assets seen from the parkway. This also ensured good soil stabilizing agricultural practices. By the postwar period there were almost 5,000 acres of parkway land in agricultural use.

The photograph to the right, taken on October 11, 1937, shows the parkway under construction. The haystacks as you see them in the field have disappeared from the parkway scene. The photograph on the opposite page, taken in 1942 by E. Abbuehl, shows a typical farm setting. It also demonstrates the variety of fences used by the farmer, each of which had a special purpose.

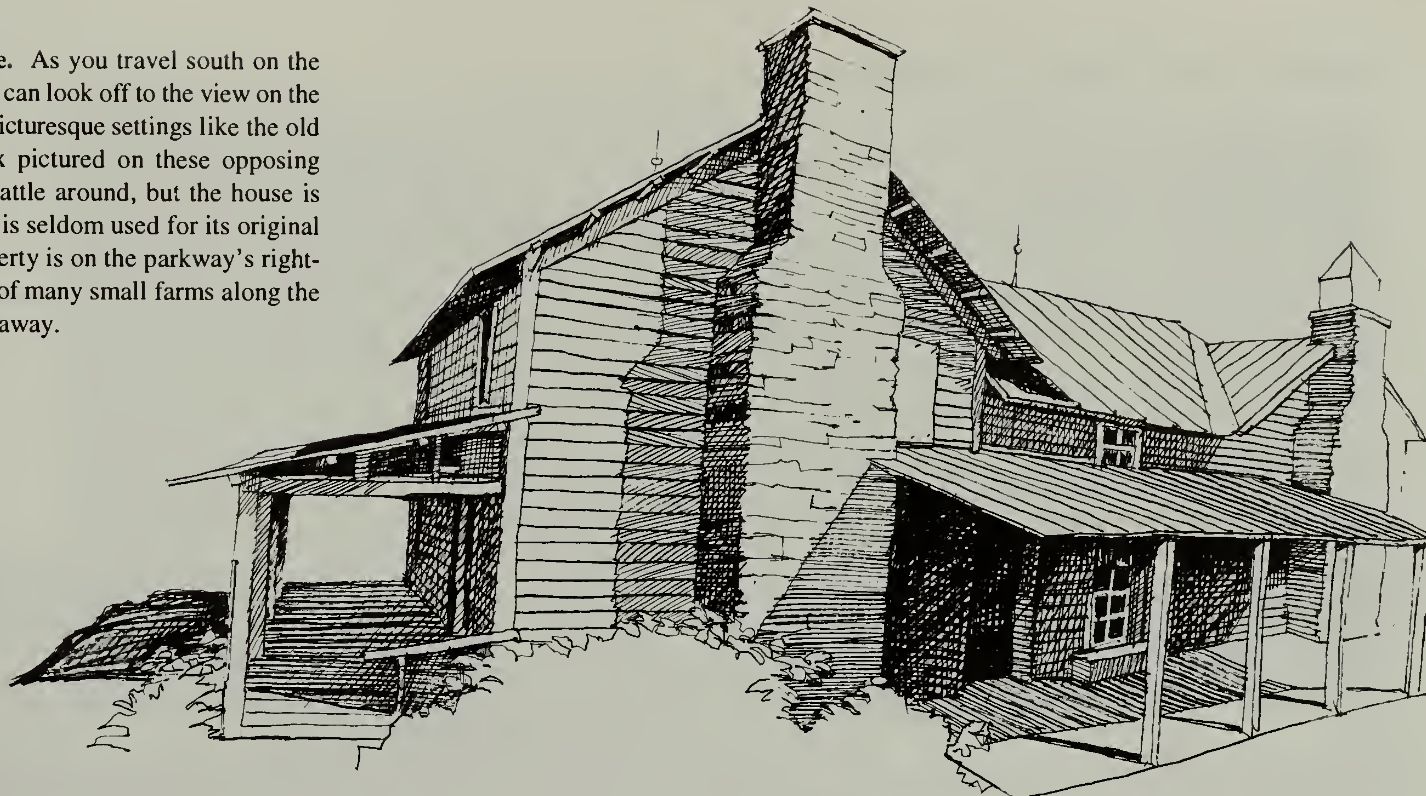
The Farms Have Changed. Over the years, there has been a gradual change in the farming techniques in Virginia and in North Carolina. It was an important aspect of American culture that the designers of the parkway recognized and sought to preserve. Agriculture has changed. The oxen yoke can be found at an antique store at Fancy Gap. Even the old tractors became artifacts of the fast-moving world. The task ahead for parkway planners and for the citizens who live in the region is to determine what cultural landscape aspects of our countryside can and should be preserved.

In December 1937, [the resident landscape architect] sent a message to the hundreds of neighbors along the parkway route. It read: 'Not all people realize that the farmlands of the Blue Ridge add much to the scenery. In our opinion, the long stretches of grain, the fruit orchards and the green pastures of the sheep and cows are part of the picture which we all want to preserve.' [This] message set the tone for a cooperative program that not only became popular with local people, but ultimately preserved a declining rural scene and a vanishing culture. More than 5,000 acres, ranging from simple garden plots to vast meadows, became incorporated in the strategy of making the mountain farm the centerpiece of an effort to capture and preserve the pastoral character of the region.

– Granville B. Liles, 1989

When the metal roof curls back from the next strong wind, the moisture will soon take its toll on the old barn structure.

The Fading Farmscape. As you travel south on the parkway in Virginia, you can look off to the view on the right or the left and see picturesque settings like the old Bowman Farm complex pictured on these opposing pages. There may be cattle around, but the house is empty now, and the barn is seldom used for its original purpose. This farm property is on the parkway's right-of-way line. This is one of many small farms along the parkway that are fading away.



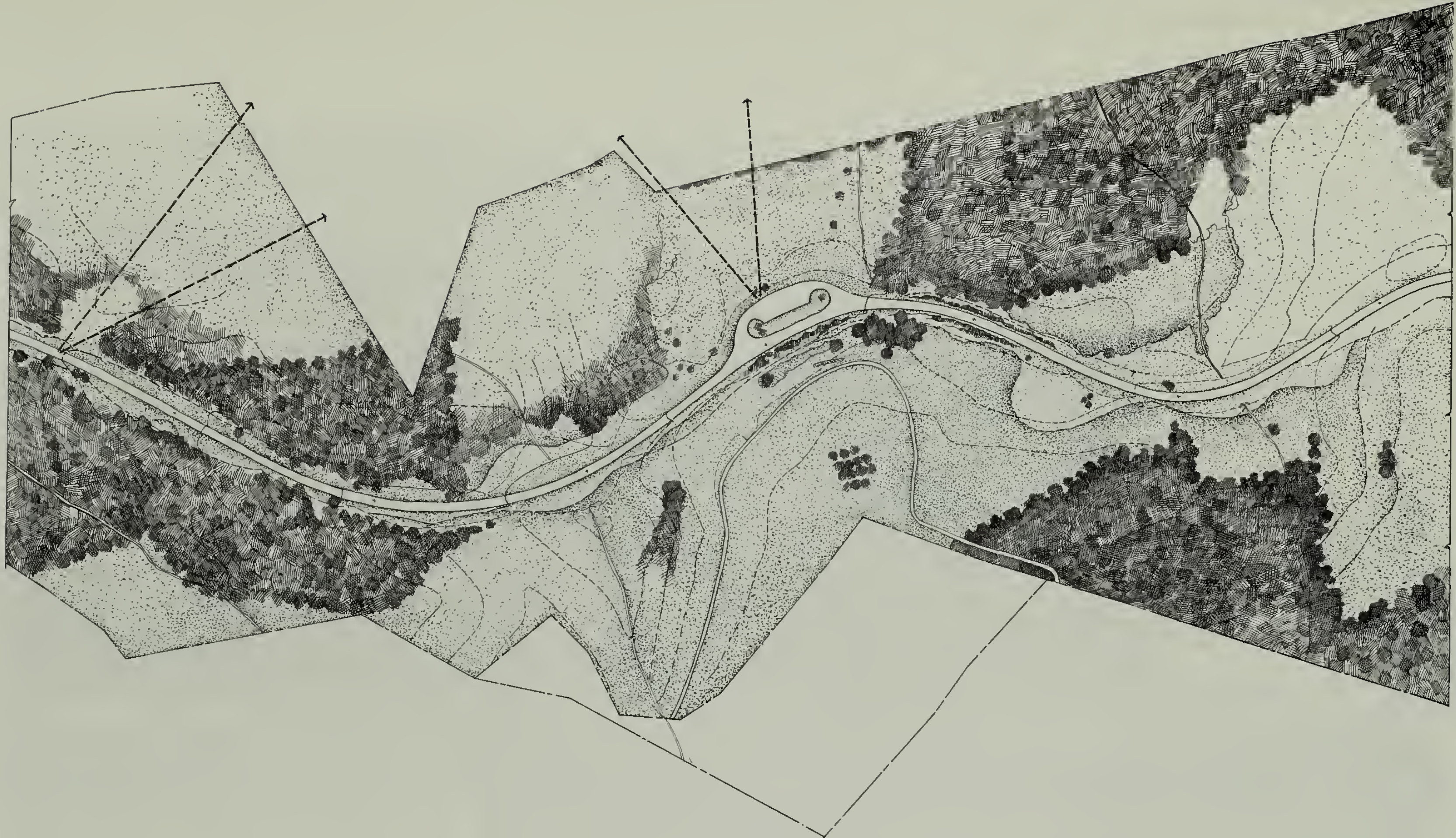
Retaining Farmlands by Innovative Techniques

Retention of the farm picture will be provided for (1) a minimum amount of parkway land maintenance by the Federal agency, (2) the share-cropping of hay in parkway meadows, (3) the leasing of parkway land to the neighboring farmer or former owners. This office has desired to limit the number of leases to a minimum until the landscape development program has been completed in order that by means of that program fire hazard reduction, erosion control and other reclamation measure may first be undertaken. The leasing program has, however, been initiated with some success during the past year. The wide interest shown by the farmer in this program has demonstrated, in our opinion, its value to the parkway in two important phases; (1) It will maintain the open character of the country where this is desirable without any considerable maintenance cost to the Federal Government and (2) it will build up the friendly feeling of the farmer toward the parkway. This program will doubtless expand rapidly as parkway sections are finally completed and as additional lands are acquired.

– Stanley Abbott, 1938

Site Plan of the Appalachian Farm. The farm illustrated above is a working farm as of 1996. The two photographs on the next page are of the same farm. The top photograph was taken in the early 1940s and shows the parkway in the background already constructed on the far right. Today there are fences along this section of the parkway and the draft horse is gone. The drawing illustrates all of the existing buildings that are part of the farm complex. Each structure had a function and related to the landscape with practicality. For example, the barn related to the pastures. The placement of each building was based on simple reason. The warm sun, the cold winter wind, the shape of the land, and basic logic determined the site plan of the Appalachian farm. The hills behind were a shield against the coldness of the winter wind. The triple gabled house in the center background of the top photograph has disappeared, but its stone-walled cemetery still survives next to the parkway.

The draft horse was necessary to farm survival. The horse would help till the land, pull the wagon, and could be saddled for riding. Today many breeds have come close to extinction. The American Cream draft horse, for example, actually dwindled down to 10 survivors before breeding interest brought the breed back to a world population of nearly 100 by 1996.



It is one of the things that give the parkway character as you drive along . . . this freedom from the impression of a boundary line. It is a marriage to the country, to the farm or the woodland. The countryside becomes the handmaiden of the road.

– Stanley Abbott, 1958

In designing alignment, it was noted that the engineers have a tendency to regard the line as a series of tangents, connected by curves no longer than necessary. This tends to result in a hard line with abrupt curves. The landscape architect would rather consider a parkway alignment as one continuous, flowing curve — after designing it as such [by spline or freehand] it may be tied down by fitting to it short tangents and long circular or spiraled curves.

– H. E. van Gelder

Tailoring the Road to the Landscape

A parkway is simply a road, or is it? Often confusing to many people, a parkway actually, by its definition, is a linear park with a roadway crossing through it. Thus, the road is just one component of an overall design often encompassing thousands of acres and hundreds of miles. Although the road is a key component in the overall design, the type and variety of the landscape and how the roadway unveils itself to the traveler is perhaps the greatest challenge in designing a parkway. Your "composition is one of fields and fences, lakes and streams, and hills and valleys; and your problem is that of placing your roadway in such a position as best to reveal them" (Evison 1958).

The first step in the design of any scenic roadway is the identification of the elements, whether of historic, cultural, or high scenic value, that the roadway attempts to link. In the case of the Blue Ridge Parkway, the designers realized the importance of maintaining scenic variety along the route. They appreciated the value of preserving the rural landscape in Virginia and the spectacular scenery of the high mountains in North Carolina. To maintain this scenic variety the parkway was established as a destination in its own right, rather than a mere vehicular link between two national parks. This concept was of vital importance in the development of a parkway through a rugged environment and traditional culture.

In selecting the location and design of a parkway, special efforts must be made to protect the inherent and visual qualities of the existing landscapes while offering reasonable access to them. Basically, there are four distinct landscapes that parkway roads may transverse once or several times during its length. These landscapes are defined as follows:

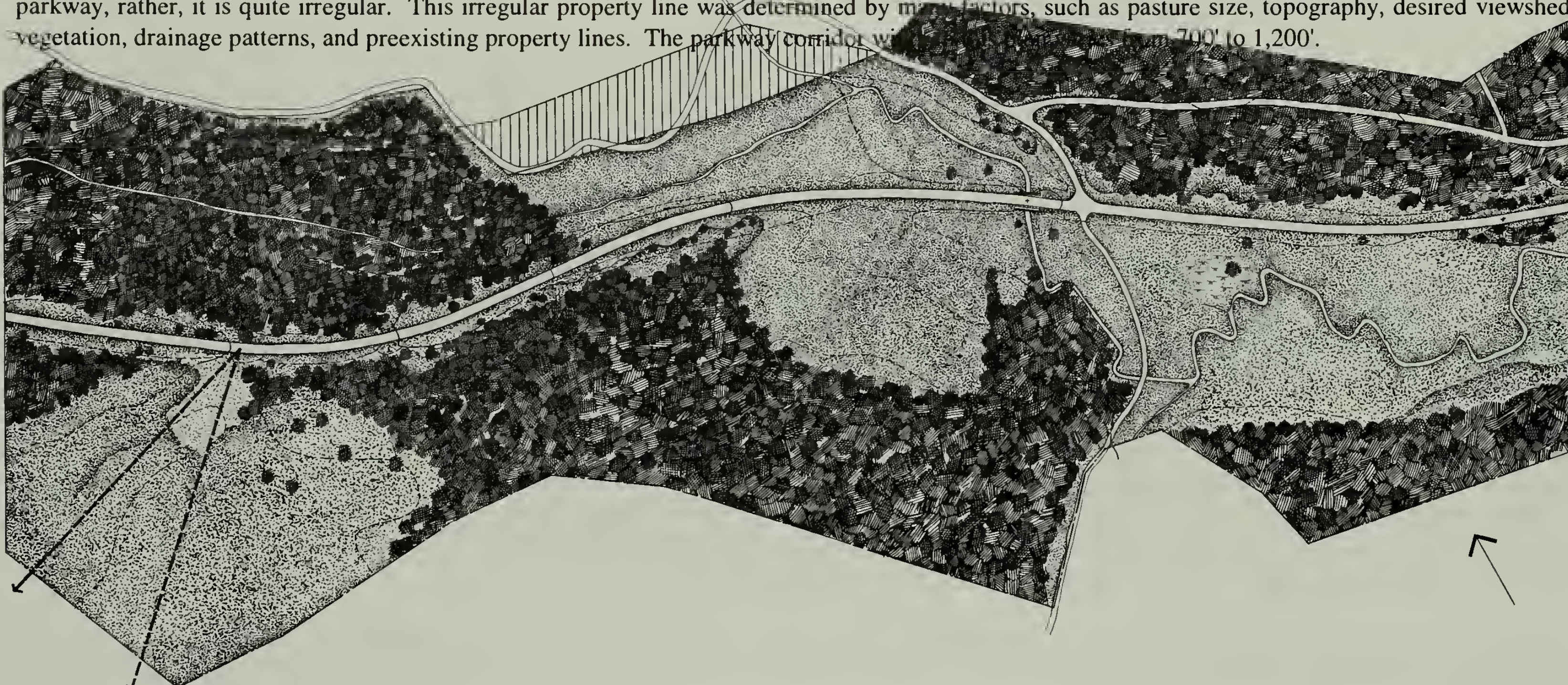
Rural and natural landscapes emphasize preservation of native vegetation and respect for natural landforms.

Pastoral landscapes reflect the qualities and adjacent human development in their design theme, such as the farm and agricultural land uses.

Cultural landscapes reflect the historic character of a specific site or area. The designer must be sensitive in the selection of appropriate materials to ensure that the cultural landscape is not overwhelmed by out-of-scale and out-of-character improvements.

Urban landscapes reflect roads that are usually built to the highest standards and are constantly overburdened by high traffic volumes and congestion. In this environment the parkway is under constant pressure to be upgraded or expanded, which could compromise the basic intent of the facility. In this scenario the designers must emphasize the real purpose of such roads, and why they exist, to resist such improvements.

Typical Parkway Plan. This site, which is approximately 3,360' in length, depicts a typical section of the Blue Ridge Parkway. The information shown on this plan represents data known by park staff as "PLUMs" or Planning and Land Use Maps. Plans similar to this one and to the plan on the page 38 provide a continuing reference for the park's resident landscape architects and maintenance staff. These maps not only represent existing conditions, but they also show the original designer's intent. It is this detailed understanding of the adjacent and distant landscapes and their subtle management that contributes greatly to the parkway's beauty. Although the parkway corridor is generally described as having a 1,000' right-of-way, the actual property line is not parallel to the parkway, rather, it is quite irregular. This irregular property line was determined by many factors, such as pasture size, topography, desired viewshed, vegetation, drainage patterns, and preexisting property lines. The parkway corridor wi[illegible] 700' to 1,200'.



The term [parkway] now denoted a strip of land dedicated to recreation and the movement of pleasure vehicles. The parkway was not itself a road, it contained a roadway. The strip of land was not just a highway with uniform grassy borders; it was of significantly varying width, depending on immediate topographic and cultural conditions. The roadway itself differed in that it was meant for comfortable driving in pleasant surroundings, not merely getting from one place to another as fast as possible.

– N. Newton, 1971

Cultural and Natural Resources. Perhaps the most important consideration in the location and design of a parkway is the preservation of the cultural and natural resources within the corridor while allowing reasonable access to them. It is these resources that establish the visual compositions of farmland, fields, pastures, meadows, forests, and other scenery, which give a parkway its sequential variation and theme. Without these resources, the parkway would be just another road. The success or failure of a parkway hinges on the designer's ability to first recognize and determine the resources' importance and then design a roadway that visually arranges the composition of these resources while minimizing disturbance to the systems, whether natural or man-made. Archeological sites, historic sites, indigenous structures of visual and architectural significance, special views, wetlands, streams, and rivers are all some of the resources that require special design consideration. However, sometimes the most precious and unique sites are not the most visible and obvious. It takes a keen eye of an astute designer to recognize those subtleties that offer the special charm and diversity to a parkway.

Rhythm. The ultimate parkway road seeks to provide a certain rhythm in its design so that its geometry is consistent, its curvature balanced, and its alignment predictable to the driver. It is this combination that creates its free-flowing, ribbonlike appearance, and pleasurable driving experience. A road design with an established rhythm facilitates driver expectancy and safety. The basic elements that control rhythm are the road's horizontal and vertical curvature. All of these components need to be considered as one and should occur simultaneously in the design. Curves should be long and graceful, allowing for ease of driving and experiencing the landscape, rather than tight and short, requiring more concentration by the driver. Also important is the establishment of a uniform design speed. Long sections of roadways with high speed interrupted by short, tight sections requiring deceleration should be avoided. Other important elements contributing to a road's rhythm are its roadside development areas and its landscape, which provides variety and interest. The spacing of roadside development areas, such as overlooks, turnouts, and rest areas, should complement the road's rhythm while meeting safety concerns and good sight distances.

Geometric Design

The basic components of roadway geometry are the curves (both horizontal and vertical), the tangents, grades, and the roadway cross section. As previously mentioned, the use of spiral curves is predominant in the design of roads within parkways. Together these elements are designed to locate the roadway within the parkway corridor.

All roadway locations are determined by fixed points, or controls, which establish a linkage between two places. Within parkway and scenic corridors, it is also necessary to select secondary controls or points. This secondary control represents such elements as unique viewsheds, cultural and historic landscapes, or other scenic interests. The goal of the designer is to place the roadway in a location where the traveler may experience these varying landscapes and attain views of other landscape features while maintaining a flowing alignment that complements the terrain and unveils its unique scenery.

In addition, the design of the roadway must be balanced, with its alignment designed to maintain a uniform design speed. The roadway must be easy for drivers to negotiate and travel, because their primary objective is to observe and enjoy the landscape through which they are passing.

The geometry of a roadway within a parkway should be sensitive to and reflective of its natural terrain. Abrupt grade changes, or the creation of unnatural slopes and grades, should be avoided. Often the alignment will need to be compromised, not in terms of safety, but in adjustments to its geometry, to minimize its impact upon the landscape.

A characteristic that makes the parkway unique in comparison to the majority of other parkways and roadways is its lack of edge striping. This has been a conscious aesthetic design decision to visually blend or meld the roadway into the landscape rather than accentuate the edges and make the roadway appear to be a separate element within the parkway corridor. The intent was to design the roadway to be in harmony with the surrounding natural environment.

. . .I would like to interject some important tenets verbalized by Ed Abbuehl to me during his tenure as Residential Landscape Architect. He stated that the most important decision stages in Parkway planning were, first, location; second, line-and-grade. Everything else he remarked was correctable. . . . the most important elements to the mortorist are the alignment he sees and must follow and the grade he must travel. You can't change those once the road is built.

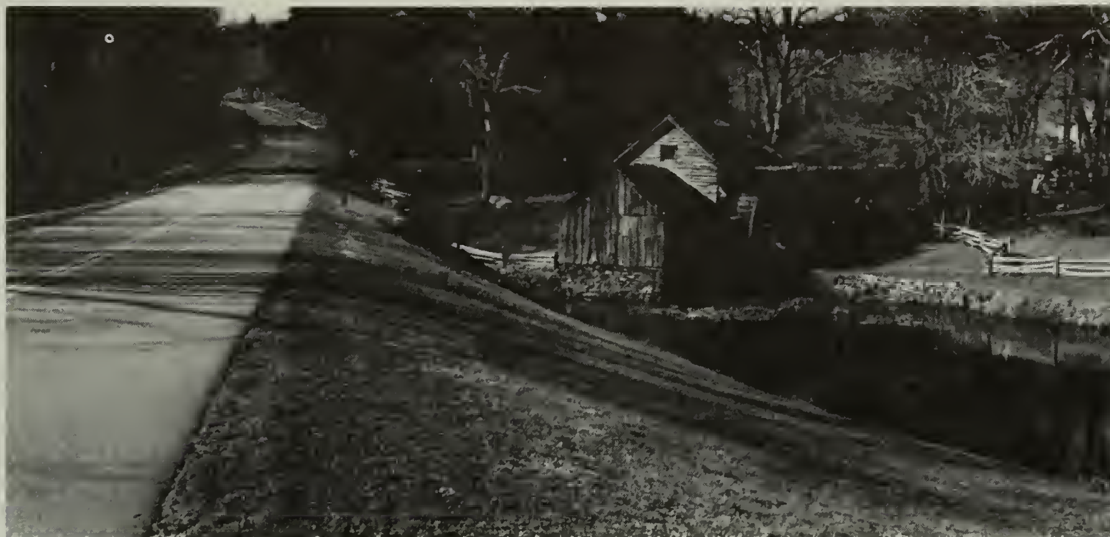
– George W. Wickstead, 1996

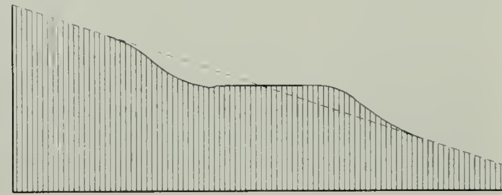
Curvilinear Alignment. The alignment of a road within a parkway is one of the most important elements in its success or failure. The objective of a roadway within a parkway is to produce a smoothly flowing, continuously flowing rhythm without abrupt changes in alignment from curve to tangent. In order to achieve this, spiral curves are used in the alignment. Spirals are curves of changing radii. They provide a smooth and very gradual transition from the curve to the tangent. Without spiral curves, the conventional method of road design is more pronounced, creating a zigzag movement, which is not compatible within a parkway setting. In mountainous terrain, the use of spiral in an alignment gives the roadway an appearance of a flowing ribbon upon the landscape. Tangents should be used as short transitions only when necessary to lead the driver's eye toward a straight-ahead spectacular view or for safety reasons. When one comes to an attractive view along a parkway, the designers can take advantage by utilizing and displaying the views via a downgrade or sweeping horizontal alignment to frame and present the view to the motorist. To achieve this ribbonlike quality, the continuous curvilinear alignment has to be carefully integrated with the vertical alignment. Although the parkway encompasses an area much greater than its roadbed, the road itself is its most critical component in establishing composition of the landscape and mechanism for which its beauty is unveiled to visitors.

A Federal Highway Administration landscape architect, Wilbur Simonson, is credited with introducing a new concept of horizontal and vertical alignment on Mount Vernon Memorial Highway. Under this concept, which is now referred to as curvilinear alignment, the roadway is characterized by long, sweeping curves connected by short tangents that tend to replicate the natural flow of ground contours. More recently, state-of-the-art park road design has replaced the tangents altogether with transitional spirals. Similarly, the vertical alignment should flow smoothly without abrupt changes.

The key factor in curvilinear design is the careful coordination of horizontal and vertical alignments. This is based on the theory that there is a definite correlation between the horizontal and vertical, even though they tend to be designed separately. Optimally, a horizontal curve is matched with a vertical curve. Horizontal and vertical curves on the same road should feel and appear uniform in the degree to which they change direction.

A beautiful parkway is designed by integrating the aesthetics of landscape architecture with the technical requirements of highway engineering
– J. W. Bright





Streamlined Cross Section in Developed Areas. The concept of the streamlined cross section is not just for the open road portions of the parkway. The streamlined design is also important around buildings, intersections, and at grade separations. The streamlined design of the contours at Mabry Mill at milepost 176.2 is evident in the photograph above. The long shadows across the parkway and down the slope reveal the subtlety of the grading.

The top illustration depicts a typical parkway streamlined cross section. The tops and bottoms are more rounded, as well as being blended in with the uphill and downhill grades. The bottom illustration depicts a typical state highway cross section. The slope transitions are not natural looking and appear more abrupt on the landscape.

Another bit of borrowed technology adopted to insure better ground fit was the so-called 'streamlined cross-section.' This was achieved by laying cut slopes back and extending fill slopes. But more important than simply flattening the slope was the concept of variable slope, that is, the deeper the cut or fill, the steeper the slope and, conversely, the shallower the cut or fill, the flatter the slope. This was to avoid the usual cookie-cutter, template effect which still characterizes so many of our state highways. A detailed, but extremely important element of this streamline cross-section is edge rounding, that is, rounding the edges created by the intersection of man-made ground planes and natural ones. Shoulder edges are rounded into rounded ditches or flattened back slopes. The Blue Ridge Parkway pushed the streamlined cross-section concept outward to conceive the 'day-lighted' cut. Artificial berms left on the downslope side of a shallow full-cut section were removed to naturalize the road's appearance. In addition, these daylighted cuts provided vistas, parking areas, and borrow material to balance earthwork.

– J. W. Bright, 1986

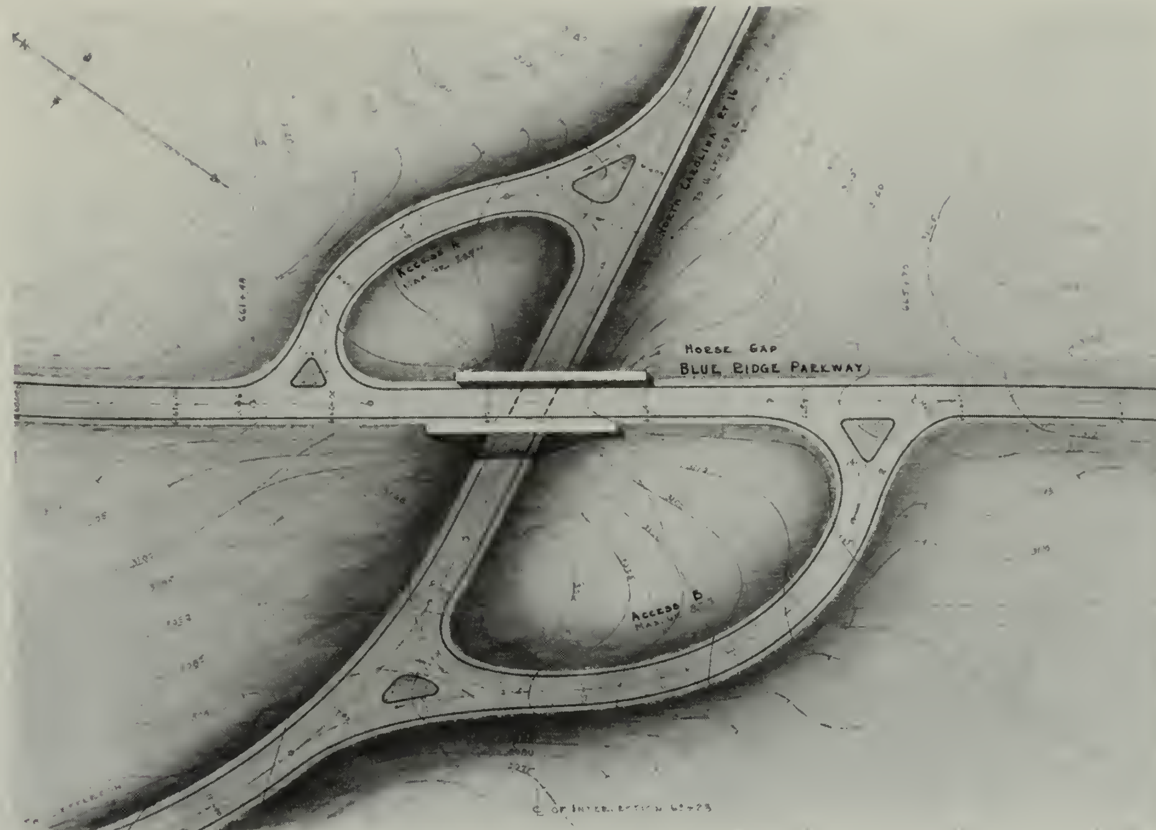
Streamlined Cross Section. Early on in the design of parkways, landscape architects became concerned with the appearance of the roadway. In an attempt to best fit the roadway to the landscape the concept of the streamlined cross section was introduced. Basically, the concept emphasizes the blending of new road construction with the existing topography. This was accomplished through several effective but subtle means. Gradients on slopes were varied, and shallow cuts were "daylighted" to provide overlooks and views. Deep cuts and high fills were steepened, and modest cut and fills were flattened. Where intersecting ground planes met, the slopes were rounded to give a more natural appearance. In addition, ditches were shallow and rounded, rather than V-shaped, to integrate them into the landscape. This also facilitated ease of maintenance with mowing, regeneration of slopes, and erosion control. The end result was a roadway cross section that appeared more natural — where it was virtually impossible to tell where the new construction ended and the existing landscape began.

Grade Separation at Fancy Gap. The aerial photograph above shows the Blue Ridge Parkway over U.S. 52 at milepost 199.4 in Virginia. The area just outside the park boundaries at the extreme top and bottom of the photograph has private commercial enterprises, such as motels and gas stations, that help to serve parkway visitors.

Future Road Widenings. The intersections along the parkway's route have begun to see more adjacent development. If such development is done sensitively, it can be compatible with Blue Ridge Parkway design values. Another major threat to the character of these interchanges is the widening of the state highways that pass through the gaps. Those new widenings may impact the established grade separation and the stone-faced bridges.

It is easy now to look back and see what should have been done, but 25 years ago the planner had to sell his ideas to the people at the top. How many people could foresee from the beginning that a road with a vehicle count of two or three ox sleds and half a dozen trucks a day might one day become an access to a subdivision or a roadside motel? This gradually became apparent, and after July, 1938, private crossings of the parkway road were prohibited, a milestone though late. With this advance came extension of the principle of grade separation for major public roads to the more-important secondary roads.

– E. Abbuehl



Grade Separation with Two Ramps at Horse Gap. The Blue Ridge Parkway over NC 16 at milepost 261.2 illustrates a typical grade separation and interchange with two ramps. The bridge and intersection were constructed in 1938. The bridge structural length is 55'. The bridge roadway width is 20', and the bridge deck width is 33' 9". The bridge rail height is 2' 4". The clear span is 38 ½' with a minimum vertical clearance of 14 ½'. The drawing above illustrates the landscape architect's graceful grading design. The contours are well spaced and give the finished grade an even, natural flow that makes the paved road surfaces part of the landform. All contours flow without sharp edges or abrupt angles, even though the state road passes under the parkway at a skew. This skew in the road alignment is accommodated by the architecture of the bridge. The whole design effect is an intersection that fits naturally on the ground. This skillful blending of landscape architecture and bridge engineering is one of the very important aspects of the parkway's design.

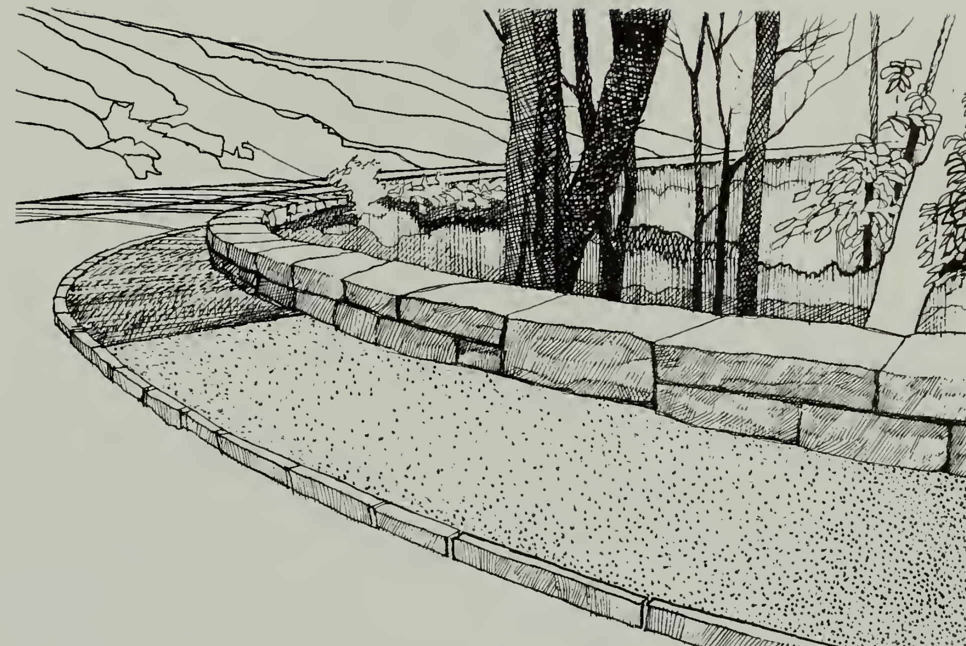
Grade Separation with One Exit Ramp. The photographs on the opposing pages are of the Blue Ridge Parkway intersection with VA 8 at Tuggle Gap at milepost 165.3. The photograph on the left shows the parkway's curvilinear alignment as it passes over the state route. The two-way parkway ramp functions as an exit ramp on the north side of the bridge. The smaller light road is a farm access or collection road that typically parallels the parkway in agricultural areas. The narrow white lines that flank each side of the ramp are paved stone drainage ditches.

Possible Future Impacts. This junction, located in rural Floyd County, Virginia, may be subject to development pressures. The farmland just south of the junction (photograph below) is outside the National Park Service boundary. It is desirable that such lands be preserved in their agricultural state. If that is not possible, then it is important that new development exemplify the design sensibility demonstrated in the past, where developed roads have been built within the park.

Blue Ridge Parkway Over VA 8 at MP 165.3. This stone-faced concrete structure (above) was completed in 1954 and consists of one 40' span. Its total length is 149' with a 43' wide bridge deck. The parkway width is 22' 2" and is constructed of asphalt.

Stone-faced concrete bridge structures are an important part of the scene when located near a historic structure like Mabry Mill at milepost 176.2. Note that the parkway shoulder is grass even as it passes over the bridge.

Overlooks



. . . the wayside parks along the Blue Ridge. These are not a mere additive. They were a most important part of the formula for the conservation along the parkway. They are like beads on a string; the rare gems in the necklace.

– Stanley Abbott, 1958

This photograph of a one-lane overlook was taken by Edward H. Abbuehl, a parkway landscape architect, on October 14, 1937. That was a little over two years after the parkway construction had begun. This one-way overlook or parkway widening at Mount Jefferson, milepost 266.9, was one of the first overlooks to be constructed along the parkway. Some of the most spectacular points of view had the narrowest places for constructing overlooks. Accordingly, the skill of the landscape architect was utilized to design the 275 overlooks. All details that make the overlooks and parking areas unique would follow in the 60 years since the parkway construction was began in 1935. The stone walls, signs, landscaping, gunboard interpretive signs, fences, rails, pathways, and trails all combine to give each area its own character and history.

A Viewing Platform

The Blue Ridge Parkway was called a viewing platform by its designers. The parkway rises from the lowest elevations at the major rivers and soars close to the highest elevations of Virginia and North Carolina. The parkway offers spectacular as well as quiet views. Overlooks have been placed where there are special points of interest. One may be at a high elevation overlooking a distant valley while another is near a wooded, upland stream. The 275 overlooks along the route represent the variety of the parkway. Selection of an overlook site was determined by the point of interest, the shape of the ground, sight distance, and the safety of access. Each site is different and required a unique layout to satisfy the overlook's position along the parkway's adjacent topography. Where space allows, overlooks are separated from the parkway by side grass islands. In narrow spots, there may be only a simple stone pavement separating the overlook from the parkway. In the narrowest places, the overlook is simply an extra turnout lane with a painted stripe separating it from the travel lane.

Overlooks by their very nature vary because of their location — each offers a different perspective of the rolling terrain and valleys in the distance. Overlooks along the parkway were carefully planned so that the parking areas were off to one side of the road and were often separated from it by a grassy buffer. Site details of these overlook areas are consistent with the rustic architectural style of the parkway. The heavy appearance of stonemasonry used in curbs, drop inlets, steps, parapet walls, and drinking fountains define these areas, while the consistency of material and style unifies the vernacular theme of the region.

A good oil painting or a musical work can't have its dead areas, its neglected detail. They may be abstracted and broadly done on purpose, but they cannot be careless. All elements must compose, so as to please. The only reason for the Blue Ridge Parkway is to please the viewer and so its chief concerns are beauty and interest.

– Stanley Abbott, 1958

Boone's Trace at MP 285.1. Boone's Trace is a one-lane turnoff on the parkway. The parking turnoff or widening is simply adjacent to the parkway. The fenceline, the historic marker, the stone curbing, and the pastoral landscape are the details that give this overlook its character. The marker reads "Daniel Boone's Trail, from North Carolina to Kentucky." This overlook is just about 7 miles north of Boone, North Carolina.

The overlook above is typical of a parking area separated by a grass island that has no stone curbing on the island. Stone curbing is generally used where traffic control, drainage patterns, and maintenance issues require curbs. There is, however, a curb on the parking edge of the overlook.

Curbs as Edges. Most overlooks and parking areas of the Blue Ridge Parkway have stone curbs. The three photographs on this page are all from the same overlook at Rocky Knob at milepost 168.7. Here, the granite curbing not only defines the edge of the pavement but provides an edge for a different type of landscape. In the bottom photograph, one can see how the stone curb tapers down to be flush with the grade where it meets the parkway.

Curbs Define Space for Landscape. The parking area curbing represented in the three photographs on this page are at "The Saddle" parking area overlook at milepost 168.0. Rocky Knob is visible in the bottom photograph. The granite curbs define grass areas, walkways, and pavement edges. The curbs also allow for the maintenance of landscape zones and provide a simple logic as to how ground materials begin and end. The curbs also help to continue the rustic character of the parkway design theme.

Parkway Overlook Site Plans. The photographs on these opposing pages represent the variety of overlooks and parking areas along the parkway. Each area has been specifically designed to fit its own site restraints and opportunities. The photograph in the upper left shows "The Saddle" parking area overlook located at milepost 168. This parking area is at an elevation of 3,380', just below Rocky Knob. It was one of the first parking overlooks to be constructed in Virginia in the 1930s. The trail leads to the Rocky Knob shelter and to the mountaintop.

Some Overlook Names

Iron Mine Hollow
Pine Spur
Mahogany Rock
The Lump
Raven Roost
Thunder Hill
Cold Prong
Stack Rock
Flat Rock
Bear Den
Table Rock
Deer Lick Gap
Licklog Ridge
Tanbark Ridge
Devils Courthouse
Ballhoot Scar
Rough Butt

The parkway celebrates the culture and the legend of the mountains.

Overlook Ahead Sign. Each of the 275 overlooks has a sign advising the traveler of an overlook ahead. This not only allows visitors to plan for safe vehicular movements, but it sets a level of expectancy and rhythm that is a part of the parkway experience. A subtle but interesting feature of these signs is that the image is customized to show visitors which side of the roadway the overlook ahead is located.

Grandfather Mountain Parking Overlook Sign. Overlook signs can be found at almost every overlook parking area. These signs define the place of interest and give visitors a frame of reference and the elevation. They are usually 70" wide by 19½" high with a 1¾" thickness. The 6" x 6" posts are held in place 13½" from the edge of the sign. The routed letters measure 3¼" in height. The sign has been stained to produce a weathered gray look; the lettering is white.

In locating the parkway the effort has been to provide a scenic motorway devoted in an almost complete sense to recreation. It will be a road-type which will invite leisurely driving and frequent stops for a period of hours or of days by the vacationer. It is unquestionably desirable, therefore, to set aside certain worthwhile areas at which the motorist may stop. . . . Like beads on a string; the rare gems in the necklace.

– Resident Landscape Architect

Grandfather Mountain Parking Overlook at MP 306.2. This overlook is typical of scenic overlooks on the parkway. It has an overlook sign, a waste can, and stone curbing at the parking edge. It is separated from the parkway by a 20" wide grass strip. The pavement width measured at the center of the parking area is 28½'. There is good sight distance leading to and from the parking overlook.

The Promontories of the Parkway

Except for a very few places, the Blue Ridge Parkway does not rise to the top of every mountain along its 469-mile route. However, the parkway does come close to points of access that allow park visitors to achieve the crest of a nearby mountaintop. The photograph on the opposing page looks south along the crest of the Blue Ridge as seen from Sharp Top Mountain, one of the Peaks of Otter. The rustic shelter built before National Park Service acquisition is tucked into native stone outcroppings just below the mountaintop. The building, however, is not visible from the valley floor. A few yards away, the trail ascends to the mountaintop by way of a rustic stone stairway. The parkway provides vehicular access to the trailheads that allow pedestrian connections to numerous spectacular promontories in Virginia and North Carolina.

BRIDGES

I guess half the people in Alleghany County have my mother's recipe for spaghetti.

– Edward Rizoti Jr.

The Stonemasons. Most of the original stone-faced bridges constructed on the parkway were built by Italian and Spanish stonemasons, many of whom could not speak English. Italian families with names like Giobbi, Redollfi, and Rovere worked out of the Alleghany County area. Edward Rizoti Sr. was from the Alps of Northern Italy, an area known for its skilled stonemasons. He had apprenticeships in Germany and Austria before arriving at New York's Ellis Island in 1902. The Rizoti family had moved to Sparta, North Carolina, by 1935, and Edward was soon working beside the Troitinos, a family from the Galacia region in Northwest Spain, on some of the first masonry work on the parkway.

Every rock has a set dimension and must fit perfectly. Most of the rocks are wider on the upper sides, which holds them in place. One key rock, which is the keystone, is laid last in the middle to hold the other rocks in place.

– Frank Troitino

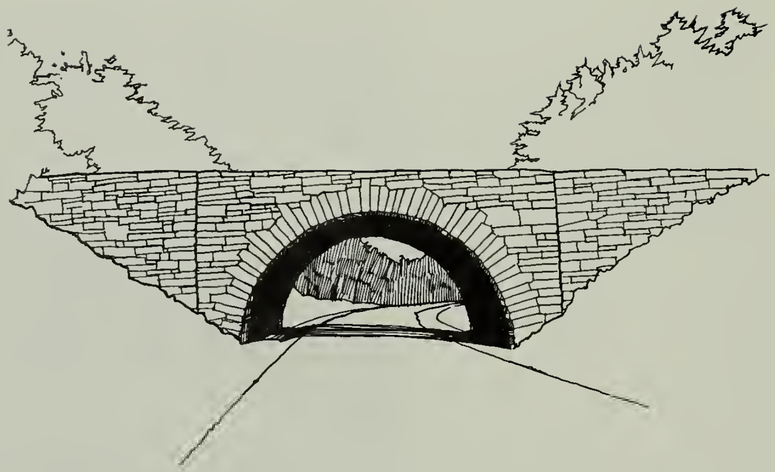
Types of Bridge Structures

Bridges are an important element of the parkway. They function to cross streams and ravines as well as to separate other intersecting roads. Bridges are not only the largest structures along the parkway, but they also have an important visual impact on the motorist who must go through or over them. Recognizing their visual prominence, the early parkway designers sought to give them special design attention. Consequently, the approximately 170 bridges firmly establish a major design theme in the overall character of the parkway. There are basically four types of bridge structures that have been built along the parkway's route: reinforced concrete arched bridges faced with rusticated stone; reinforced concrete slab bridges that are sometimes faced or trimmed in stone; long-span steel girder bridges with steel or concrete rails, and occasionally, stone trim; and reinforced concrete bridges. The Linn Cove viaduct is a special bridge that was built of precast concrete segments held together by post tensioning.

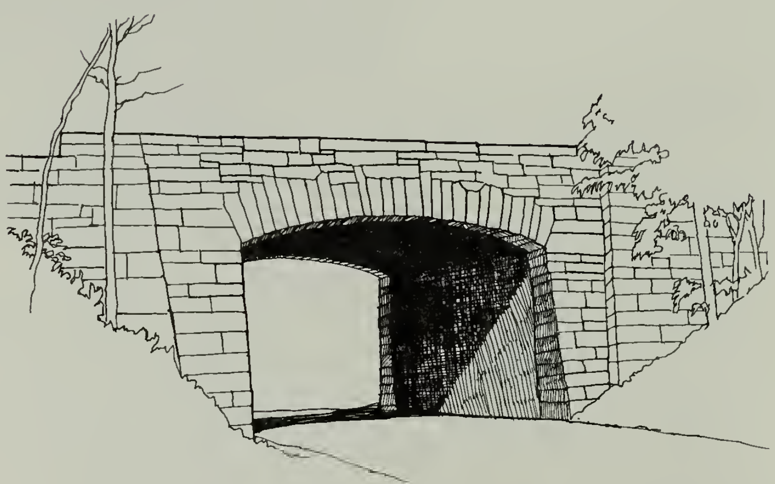
The stone arched bridges are constructed of poured reinforced concrete and have an applied heavy stone masonry facade. This type of arched bridge, which contributes greatly to the character of the parkway, was first employed along New York's Westchester County parkways (1920s) and in some national parks in the West. The photograph above illustrates the construction technique used in building a typical stone bridge. This bridge carries the Blue Ridge Parkway over a state road. (Note the elaborate wood form work that is necessary for the construction of the archway.) The arch is formed by radial stones that are first laid out and worked on the ground. (Note the battered angle of the abutment wall.) It was the stone mason who gave each of these bridges its own special character.

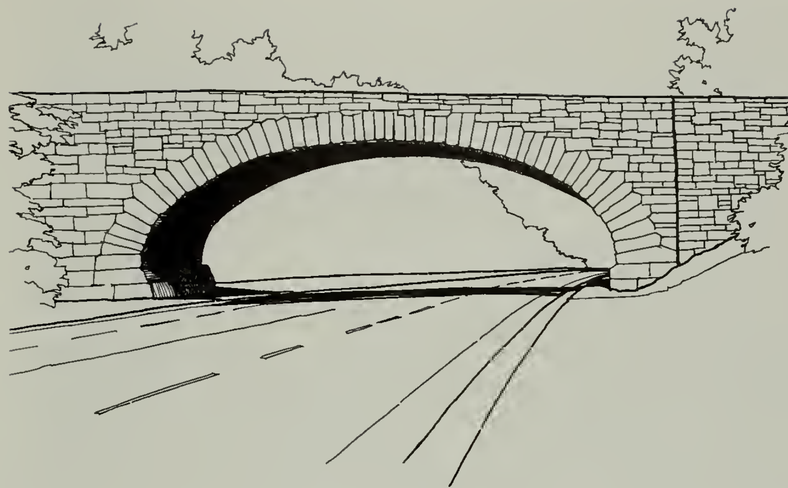
Bridges over Roads

Blue Ridge Parkway over VA 666 at MP 188.4. This single-span bridge, built in 1962, is an example of a stone-faced bridge over a state primary road. The bridge is constructed of reinforced concrete with a thick stone veneer. The bridge illustrated here has a pure circular or Roman arch. Several styles of arch designs have been employed along the parkway. This bridge has a 43' span with a 13' 11" vertical clearance and a bridge deck width of 34'. It is very important to base the design of arch bridges on the latest FHWA and NPS clearance requirements. Designs should always allow for the additional pavement thickness.

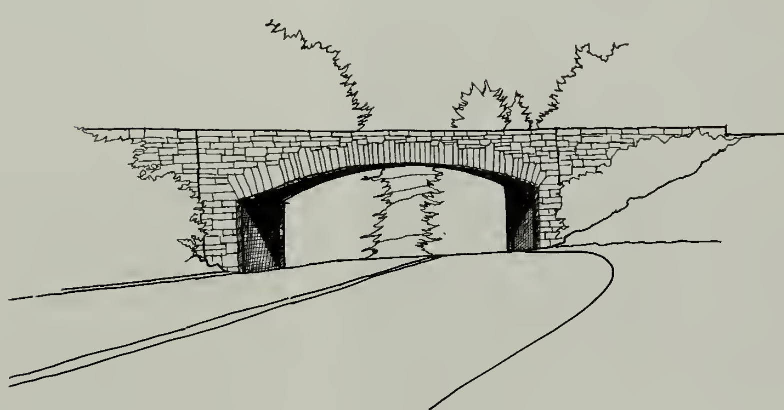


Blue Ridge Parkway over VA 605 at MP 37.4. This single-span bridge, built in 1950, is a good example of a stone-faced bridge over a secondary road. The bridge is constructed of reinforced concrete with a thick stone veneer. The gray concrete surface is visible on the inside of the bridge span. This sketch illustrates the tapered character of the stone wall surrounding the arch. Also note that the bridge abutment wall has an even more pronounced taper than the arched portion of the stone veneer. This bridge has a 28' span and a vertical clearance of 14' 11". The bridge deck width is 34' 8". The bridge guardwall height is 2'.





Blue Ridge Parkway over U.S. 70 at MP 382.4. This single-span bridge, built in 1964, is an example of the parkway crossing a four-lane undivided state highway. An elliptical arch was used to allow for more vertical clearance above the roadway. The arch rests on a stone base that extends under the bridge. The underside finish above the stone base is gray concrete. This bridge has a span of 64' and a vertical clearance of 15' 7". The bridge guardwall height is 2' 4" and the bridge deck width is 36' 5". The bridge designers' selection of arch type requires consideration of vertical and horizontal clearances as well as aesthetic concerns of scale, massing, proportion, and thoughtful design.



Blue Ridge Parkway over U.S. 421 at MP 276.4. This single-span bridge, built in 1960, is an example of a segmental arched stone-faced bridge over a major state route. The bridge is constructed of reinforced concrete and has a thick stone veneer. This bridge is at Deep Gap. Roads at gaps are often curving as they pass under the parkway, with the parkway alignment typically curving on the higher ground above. This bridge has a span of 78' and a clearance over the outside edge of the pavement of 13' 8". The bridge deck width is 32' and has a guardwall height of 2'. As the state highways are improved in the future, they could have impacts on existing bridges such as this one.

The masonry arch bridge offers variety by reason of the many arch profiles, stone colors and textures, and masonry building techniques that can be employed. The proportion between length of arch stones and span of arch is an always important consideration. An arch that appears inadequate to support the bridge is a major aesthetic blunder, even though the roadway is actually carried by a concrete construction for which the stone wall is merely a surfacing.

– Albert H. Good, 1938

In no park structure more than bridges is it of such importance to steer clear of common errors in masonry. Shapeless stones laid up in the manner of mosaic are abhorrent in the extreme. In bridges particularly there is merit in horizontal coursing, breaking of vertical joints, variety in size of stones — all the principles productive of sound construction and pleasing appearance in any use of masonry. The curve, the arch, the size of the pier, the height of the masonry above the crown of the arch are all of great importance to the success of the masonry bridge.

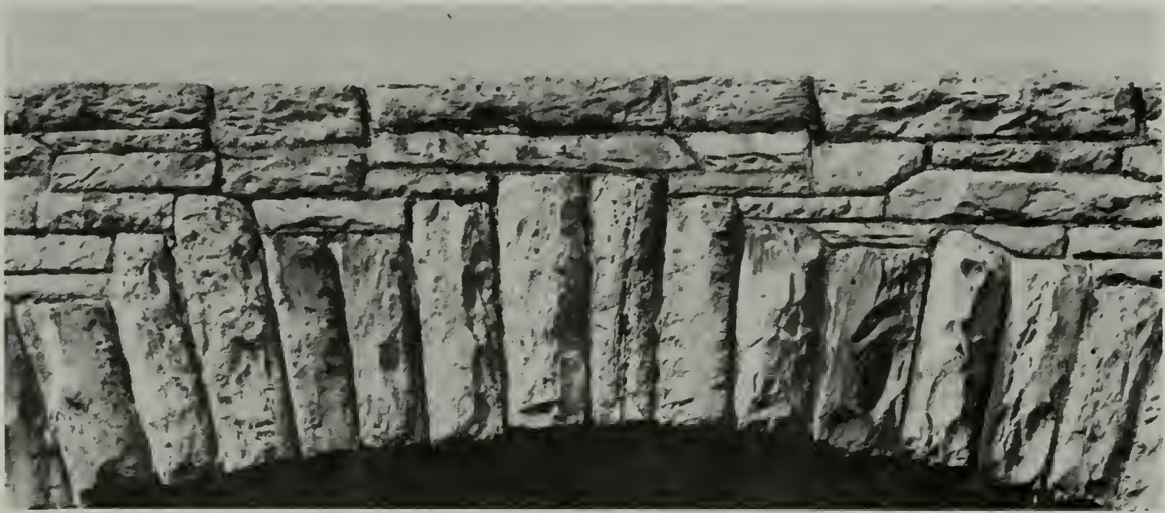
– Albert H. Good, 1938

Blue Ridge Parkway over NC 80 at MP 344.4. This bridge, pictured on this and the opposing page, was built in 1942 and has a clear span of 139'. It is unique because it carries the curvilinear alignment of the parkway. The early photographs reveal the parkway and its transition into the retaining walls on either side of the gap. The poured-in-place concrete arch has a thick stone veneer. The bridge deck width is 37' 4" and the bridge rail height is 2' 3". (Note that both the state road and the parkway are curving as they intersect, a condition that frequently occurs at mountain gaps.)


The photograph above was taken just after the Linville River Bridge was finished in 1940. It is the largest stone-faced bridge ever constructed on the parkway and bears witness to the heroic work of the stonemasons. Today, the beauty of this bridge can be seen by taking the foot trail a short distance down from the Linville River parking area at milepost 316.5. The photograph on the bottom left, taken in July 1996, is the view from the trail near the river.

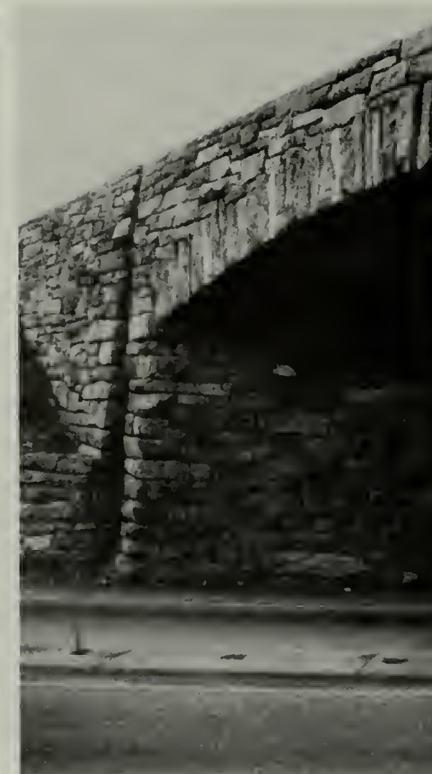
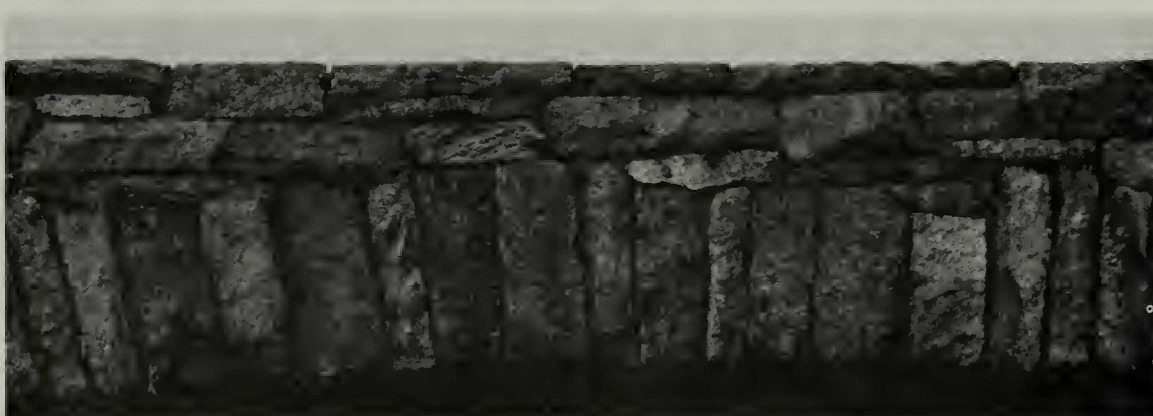
Blue Ridge Parkway over the Linville River at MP 316.5. This three-arch bridge constructed of concrete in 1940 has three spans 103' long. The total structure length is 309'. A rail with stone veneer measuring 2' 9" high blends with the stone of the structure, adding to the overall mass. The bridge deck is 39' 7" wide with an asphalt road width of 25' 11". The character of each bridge depends, in part, on the type of stone used in masonry. Stone was carefully selected from within the locality whenever possible. For example, the stone for the three-arch bridge over the Linville River came from a quarry 12 miles away on Grandfather Mountain. This bridge is unique in that the stonework is carried across the interior of each arch so that the concrete structure is invisible. Thomas Vint, the chief architect in the National Park Service, had an aversion to "nude concrete" and was anxious to see the stonework carried through the arches. However, the design was very expensive to construct, so on most other bridges the concrete structure is exposed beneath the arches. Exposed concrete was usually stained brown and was sometimes bush-hammered.

The wall at the top of the bridge is capped with a full-width stone, and the grass shoulder is carefully graded downward around the end of the wall so that the grades always have a soft and even transition. The stonework at the center of the arch is shown in the photograph below. The mason has coordinated each ring stone with the horizontal coursing above. The wall coping is larger than the horizontal stone courses below the cap.



This stone bridge near Blowing Rock, North Carolina, is in a beautiful setting. The photograph on the left reveals the graceful slopes and road alignments that give the bridge a place in the landscape as an access road passes under the parkway. The slight superelevation and the curving alignment of the underpassing road contribute to the image that has been created by the skillful hand of the landscape architect and the engineer working as a team.

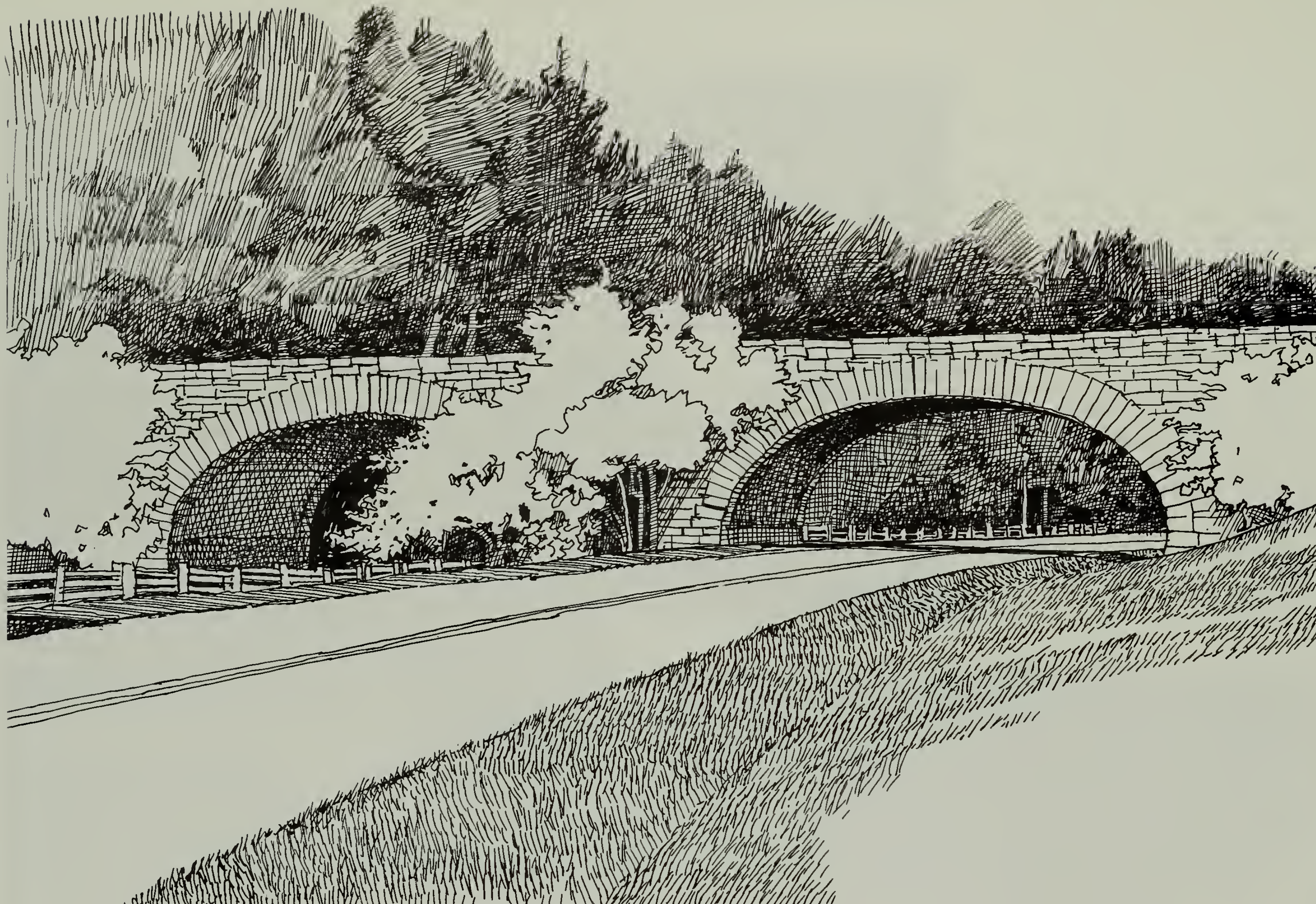
Blue Ridge Parkway over Shulls Mill Road at MP 294.62. Constructed of concrete in 1957, this bridge crosses over Shulls Mill Road for a total structure length of 42'. The bridge deck is 30' wide. The parkway road width carried over the bridge is 21' and the stone wall is 2' high. From Shulls Mill Road, the guardwall on the parkway above is part of the bridge. It is important that stones be from the region so that they appear to be as much a part of the landscape as possible. Many small local quarries have closed, so it has become more difficult to find matching stone.

Blue Ridge Parkway over U.S. 250 at Rockfish Gap. This bridge near Afton, Virginia, has a span of 78' 2" and a bridge deck width of 38' 6". This single-span bridge, built in 1941, is an example of a segmental, arched, stone-faced bridge over a major four-lane state route. The bridge's arched span is constructed of reinforced concrete, and the bridge sides are faced with a thick stone veneer. The interior walls of the underside of the bridge are faced with stone because they are more visible due to the state route passing under the parkway on a skewed alignment. The interior walls of other parkway bridges that are perpendicular to underpassing roads are finished in concrete. In this bridge, the splayed angle of the approach walls can also be seen. Also note that the keystone is not pronounced in the center of the arch where the arch type is flatter with less apparent thickness.

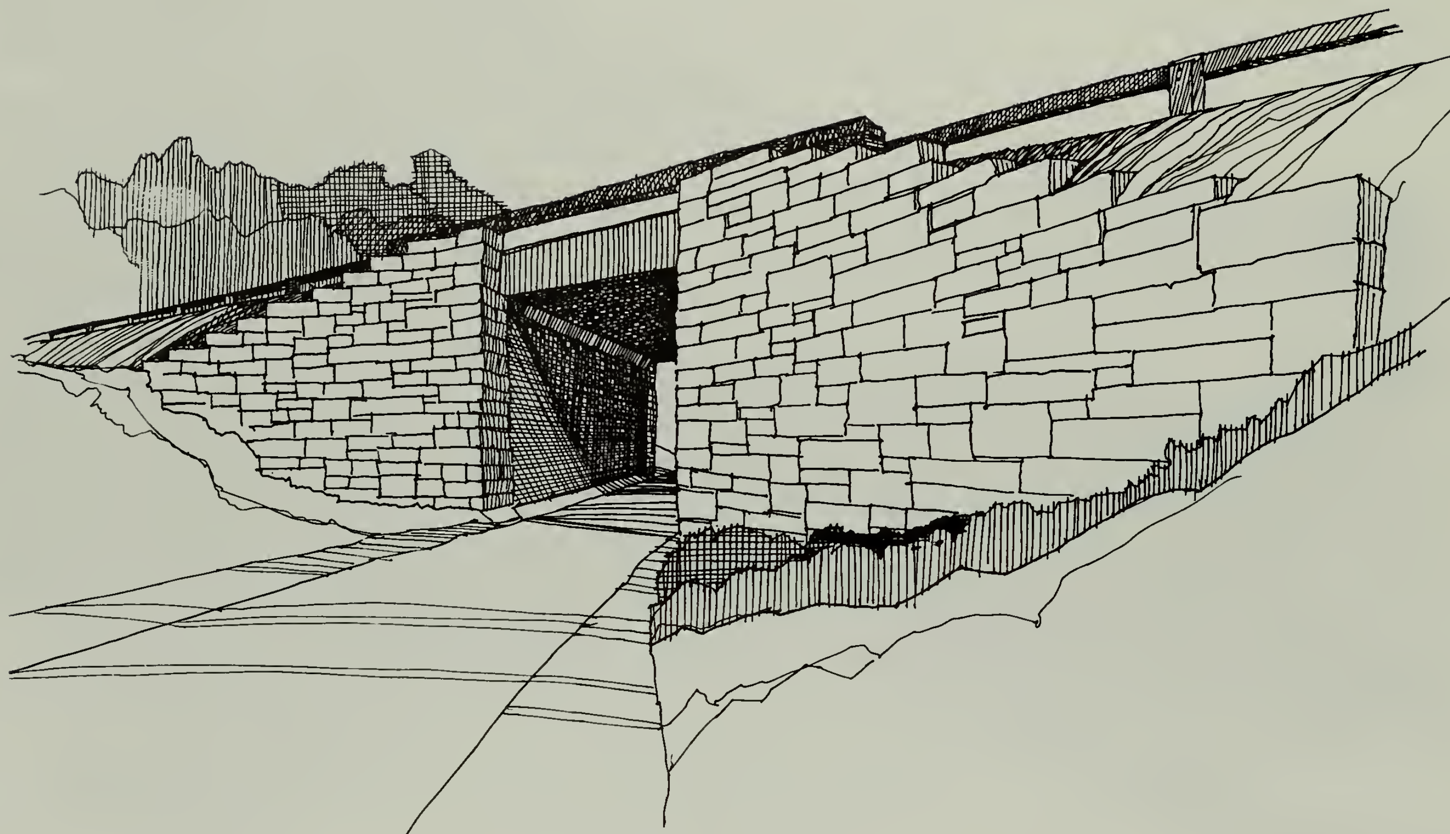
Blue Ridge Parkway over U.S. 70. This stone bridge in Asheville, North Carolina, at milepost 382.4, is an example of an elliptical arch. The photograph on the left shows the rusticated quality of the stonework and the base detail that gives the arch a visual terminus.

The photograph on the right shows the four-lane width and the narrow clearance between the curb and the bridge. This bridge over U.S. 70 was built in 1964. If this bridge were built today, the new FHWA road design standards would require more vertical and horizontal clearance, as well as guiderails protecting against impact on the bridge abutment.



VA 89 over the Blue Ridge Parkway and Chestnut Creek at MP 215.8. This is the only double-span, stone-faced bridge to pass over the parkway. Built in 1951, the bridge was constructed of reinforced concrete and faced with a thick stone veneer. Both elliptical arches are equal spans of 65' each. The bridge's vertical clearance over Chestnut Creek is 35' 11", and the bridge deck width is 27'. There is a stone base below the springline of both arches. The underside of the arches is exposed gray concrete. (Note that the parkway is slightly superelevated as the curvilinear alignment passes under the bridge.) The subtle drainage swale on the right and the rail fence on the left reinforce the visual effect of the graceful curve. Naturalistic landscaping at the central bridge supports and softens the bridge abutments, completing the scene.

NC 181 over the Blue Ridge Parkway at MP 312.1. This bridge, built in 1959, has a structural span of 80'. The parkway is on a slight skew as it passes over the state road, accounting in part for the wide span. The arch design is elliptical and has a vertical clearance over the road pavement of 14' 5". The bridge rail height is 1' 6". This bridge is a reinforced concrete structure, which can be seen under the arch. The outside facade of the bridge is constructed of heavy stone veneer. The stone thickness at the base is 3'.



Blue Ridge Parkway over County Road at MP 237.2. This bridge, built in 1937, was designed to accommodate a simple rural farm road. The bridge is basically a reinforced concrete box having a span of only 12' and a vertical clearance of 11' 1". The bridge deck width is 33 ½'.
The abutment walls, which are made of stone, curve and step down to retain the adjacent grade. The 2' high stone guardrail on top of the bridge transits into a standard parkway wood guardrail on either side. A similar bridge constructed today would have to conform to up-to-date standards for vertical and horizontal clearance. Bridge character is also determined by the vertical distance between the parkway's finished elevation and the finished elevation of the roadway passing beneath. That relationship will define possible arch configurations or whether it is even possible to have a stone arch.

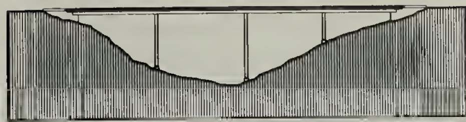
Blue Ridge Parkway over Interstate 77 at MP 200.7. This four-span bridge, built in 1974, carries the parkway over I-77 in Virginia. The total structure is 335' with four spans of 87' each. The bridge deck width is 34' with a vertical clearance of 31' 4". The bridge rail height is 3' 9". This bridge design is typical of most interstate bridges built in America in recent years. However, one specific feature about this bridge is that its curving alignment controls the visual experience of the parkway motorist and produces an overall effect of subordinating the otherwise overwhelming intrusion of the interstate highway below.

Although the parkway crosses the interstate highway system at four places (I-64, I-77, I-40, and I-26), it does not have any interchanges at those locations. Major visitor access to the parkway is from primary state highway routes that cross at mountain gaps where transportation routes had already been well established before parkway construction. Because the transportation systems are continually upgraded in both Virginia and North Carolina, and because the major east-west routes crossing the parkway expand from two to four or more lanes, there will be a need to redesign or reconstruct some of the beautiful stone-faced bridges that now accommodate only the older two-lane roads. In design for future state route expansions, it is critical to understand that the visual success of the parkway bridges is achieved by the gracefulness of the arched shapes, the scale and proportion of the abutment and rails, and the layout of the road alignments that compose the bridge crossing. In most parkway bridges, the parkway continues to curve out of sight as it passes through the bridge. The integrity of the parkway's visual character is dependent on the distinctive nature of the bridge designs, especially where it is not possible to build stone-faced bridges. The Blue Ridge Parkway is among the premier roads in America, and new engineering projects should make every effort to honor the parkway's integrity.

Blue Ridge Parkway over Carriage Trail at MP 294. This bridge is an example of a carriage trail passing under the parkway. This bridge, built in 1960, is a 12' span, reinforced concrete box culvert with a thick rusticated stone veneer. The bridge has a 12' vertical clearance in the center of the arch. The vertical clearance at the lowest part of the arch is 9' 4". The bridge deck width is 29' 4", which allows space for the shoulder and the guardrail to pass over the bridge gracefully. The original guardrail here is 1' 9" high. These early wood rails eventually will be upgraded to the new guardrail standard. The carriage trail under the bridge is part of the Moses H. Cone Memorial Park.

Bridges over Creeks, Rivers, and Natural Features

Blue Ridge Parkway over Yadkin River at MP 291.8. This bridge, constructed in 1955, carries the access ramp between NC 321 and the parkway. It has one span that is 20' in length and is constructed of concrete with stone veneer, which is common to bridges along the parkway. The bridge deck is 37' 4" wide with an asphalt road width of 30'.

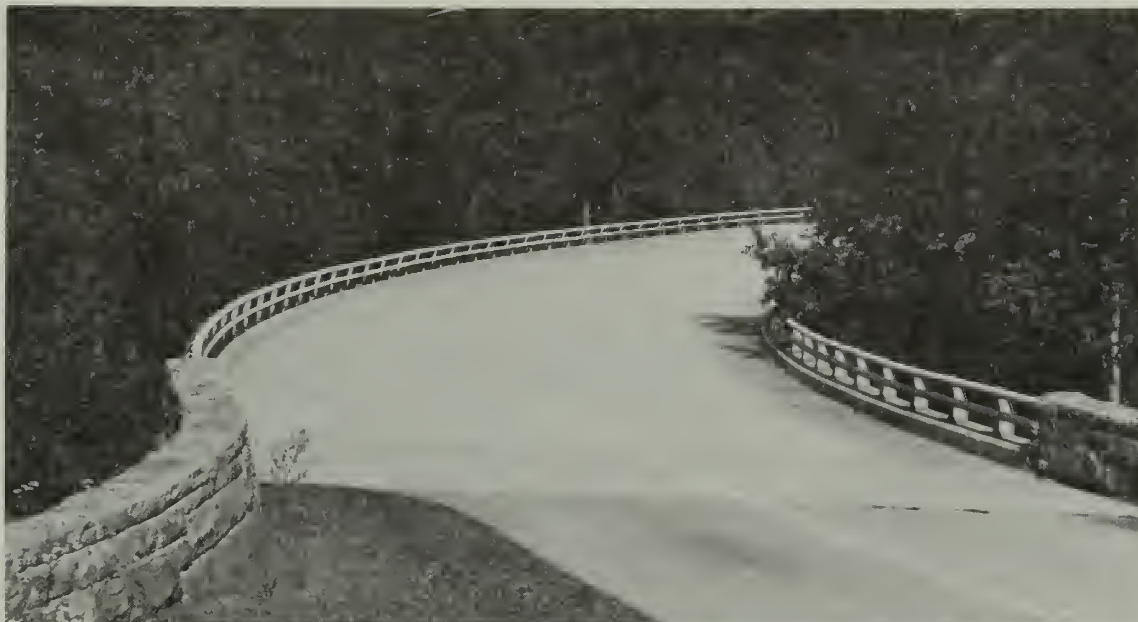


Blue Ridge Parkway over Round Meadow Creek at MP 179.3. This parkway bridge, built in 1939, is a steel girder bridge with reinforced concrete deck and piers. This is an example of a major in-line bridge over a deep ravine. The bridge has four equal spans of 111' each for a total bridge span of 444'. The vertical clearance over the creek is 110'. The bridge design has minimal impact on the ravine environment. There are a number of steel span bridges along the parkway, and they are all in-line. This bridge has exposed concrete abutments and parapet walls; most bridges of this type, however, have the preferred stone abutments and parapet walls.

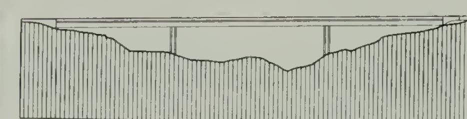
Six steel girder viaducts were built between 1937 and 1942 to carry the parkway road over large ravines. Again, variety was deliberately introduced into the designs. One viaduct is carried on arched stone pier while the others are on various types of concrete or steel piers. Most of these bridges have stone-faced abutments, but one has exposed concrete abutments. Three of the bridges have stone-faced parapet walls, which effectively hide the underlying structures from passing motorists. The others have concrete or pipe railing.
– *Blue Ridge Parkway Historic Resource Study (Draft),* 1992

Blue Ridge Parkway over the French Broad River/NC 191 at MP 393.33. Constructed of concrete in 1967, this 925' bridge has nine piers supporting the structure between two abutments. The 33.8' deck is also constructed of pre-stressed concrete. Ten, 100' spans carry parkway travelers over NC 191 and the scenic French Broad River. An aluminum safety rail is mounted on the edge of the bridge for a total rail height of 2' 8". The parkway surface material is concrete and has a width of 28'.

James River Bridge. This bridge carries the Blue Ridge Parkway over the James River and Kanawha Canal, the CSX Railroad, and VA 510 at milepost 63.4. There is a pedestrian bridge suspended from the James River bridge that connects the NPS visitor center to the historic canal lock exhibit on the south bank of the river. There are nine equally spaced concrete bridge spans that are 100' apart. The spans at the abutments on each shore are 72' 6". The total bridge length is 1,045'. Steel girder bridges were used often along the parkway where span length, vertical clearance, and cost were considerations. Most of the steel girder bridges are in-line bridges; accordingly, they rarely cross over the parkway to avoid views of the bridge from the parkway itself.



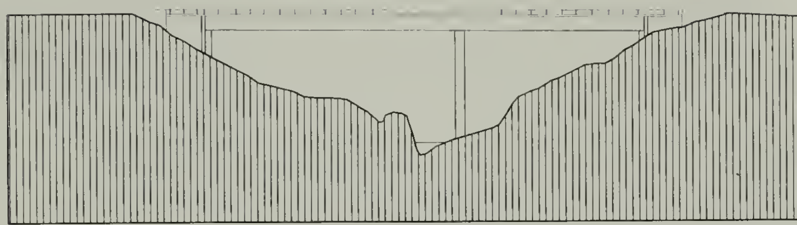
Blue Ridge Parkway over Wilson Creek at MP 303.4. This bridge, which was completed in 1987, is an example of a reinforced concrete structural span bridge with concrete piers. This bridge passes over a delicate rock ravine that contains Wilson Creek. The 383' bridge length was necessary to avoid large cut-and-fill sections that would have permanently scarred this ancient mountainside. The simple pier design and placement and the bridge's graceful curving alignment honor the topographical shape of the mountain.



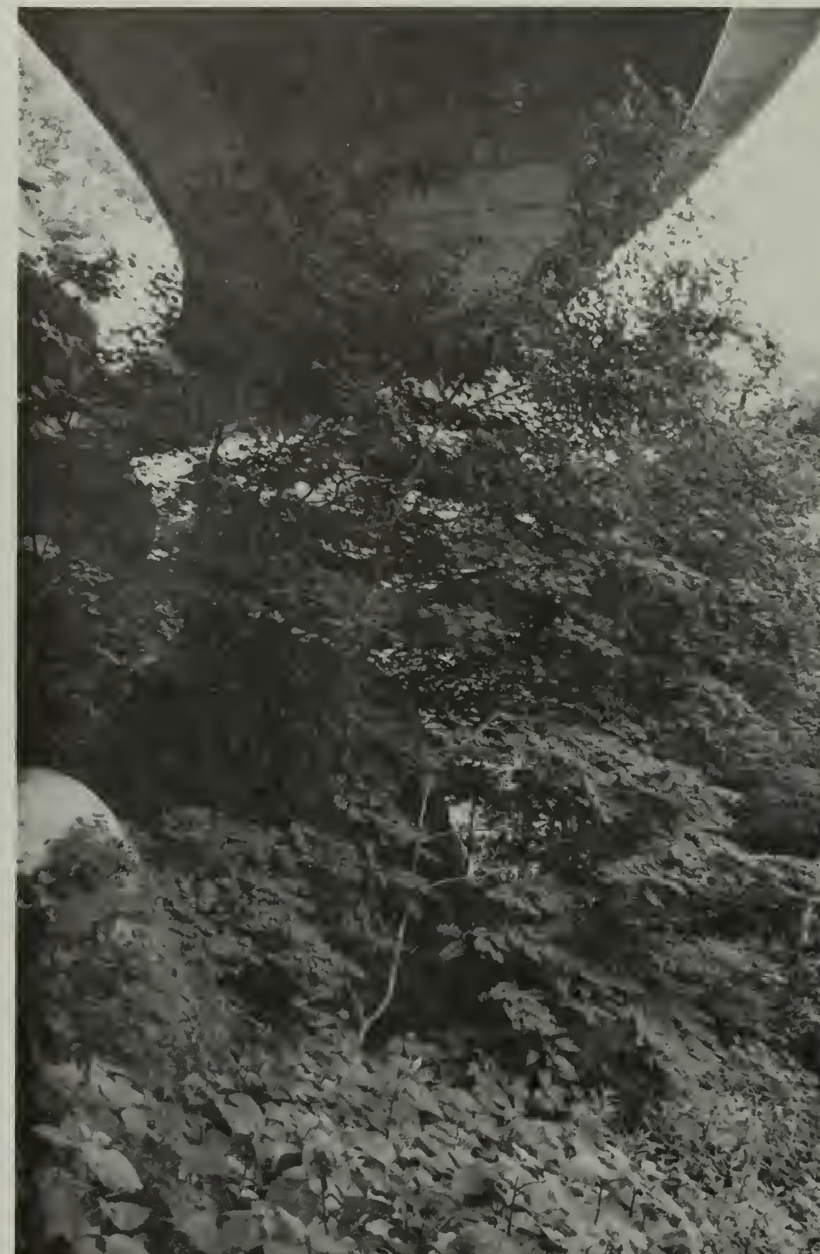
The Wilson Creek Bridge has three spans of 115', 150', and 115' for a total length of 380'. The concrete piers are 32' and 36' high. The bridge roadway width is 34' 4", and the bridge width with deck is 38 ½'. The bridge rail height is 3' 1".

The bridge structure allows the sunlight to sustain plant growth on the ground beneath the bridge. The stone guardwalls turn back into the slope so that hazards are minimized. The asphalt paved gutter design has been coordinated with the masonry wall.

Blue Ridge Parkway over Stack Rock Creek at MP 304.5. This bridge was constructed in 1974. The curvilinear alignment is an important design characteristic of the parkway. This bridge is curved and becomes an integral part of the parkway's curvilinear alignment road design. This bridge is one of several carefully designed bridges that allow the parkway to pass on the side of Grandfather Mountain with minimal impact to the steep rocky slopes. Note that this design successfully integrates all of the details of the bridge as it makes landfall. The transition of the metal bridge rail into the stone guardwall and coordination with the drainage systems are always design challenges for successful bridge design. This bridge integrates the traditional use of stone with contemporary bridge construction.

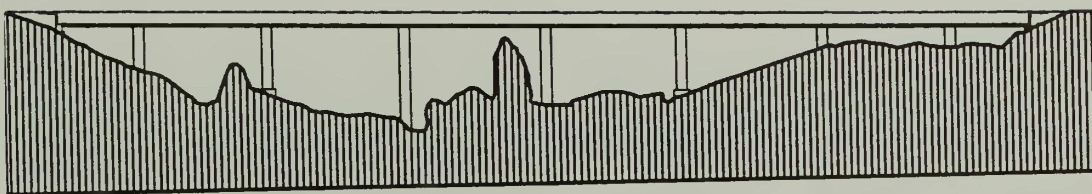


This 283' long bridge over Stack Rock Creek has spans of 140' and 100' with one 62' high concrete pier where the spans join. The careful placement of the bridge pier and the bridge abutments were important engineering design considerations. The bridge roadway width is 34', and the bridge width with deck is 37 ½ '. The bridge rail height is 2' 11". This is a steel girder bridge with a concrete deck that cantilevers out to support the roadway above. The thin concrete edge over the darker recessed steel girder allows the bridge to have the appearance of gloating over the landscape.

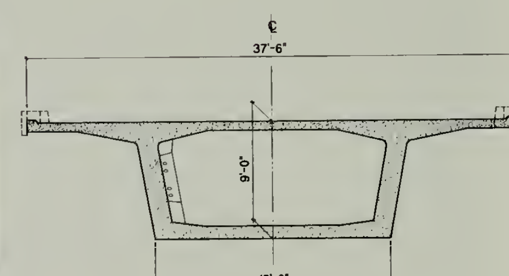



The Linn Cove Viaduct

The Linn Cove viaduct at milepost 304 was the final section of the Blue Ridge Parkway to be constructed. This S-shaped elevated bridge structure passes delicately over the rugged slopes of Grandfather Mountain near Linville, North Carolina. Here, the Blue Ridge Parkway could have carved its way on grade and into the mountainside. The National Park Service, however, preserved the unique and beautiful environment of the ancient mountain slope by developing an engineering solution that could be built with minimal impact. The resulting design was a precast, segmental, concrete viaduct skirting just above the sensitive mountain slope for a distance of 1, 234'. The bridge was constructed entirely of concrete with precast, segmental, concrete spans of 180'. The precast sections were cantilevered to mid-span, and at that point a temporary steel support allowed the cantilevering of the viaduct structure to continue to a pier location, where a derrick placed the precast sections of the pier. The piers were placed on small drilled-in-place piles. The structure is designed in an S-shaped alignment with two complete curve reversals, which have a short radius of 250'. The bridge deck is superelevated 10% on the curves. There are 153 precast concrete segments in the superstructure. All but one of those segments have curved shapes. Quality control of the precast concrete and the technologies of post tensioning were all carefully designed and executed. The result is a contemporary and beautifully engineered elevated bridge that honors the tradition of excellence in design.



The sketch profile and the photograph of the model of the Linn Cove viaduct reveal the unique engineering effort that was undertaken to preserve the character of the beautiful mountainside. Innovative design techniques were employed in building the 1,243' long precast, prestressed, segmental concrete bridge that had an objective of causing minimal impact to the ancient mountain environment. The project, which was opened to traffic in 1987, continued the themes of engineering design excellence and visual quality that were first established by the Blue Ridge Parkway design pioneers in 1935.



Future Considerations

This bridge carries the parkway over Hardy Road, VA 634, in Roanoke County, Virginia. When the bridge was constructed in 1962, the road that passed through the narrow opening was a rural road that headed east toward Bedford County. Today this is a heavily traveled route that connects the urban area of Roanoke with the recreational area of Smith Mountain Lake. In recent years, development in this area has been increasing. Consequently, there have been planning efforts to improve the road. Undoubtedly, a widening of Hardy Road will require a wider bridge for the parkway crossing. As the years pass, it is important that the new engineering details respect the design principles that make the parkway so special.

Blue Ridge Parkway over U.S. 221 MP 305.01. Bridge designers should be aware that not all of the bridges that carry the parkway are stone-faced arch designs. There are many bridges that are steel girder structures with some stone detail. The bridge over NC 221 is a steel girder bridge with a span of 107'. It was built in 1969 and has stone veneer abutments. Site conditions, such as the amount of vertical separation, may determine whether an arch bridge or steel girder bridge is more appropriate. In all cases it is important to design bridges that respect the aesthetic philosophy of the parkway.

Recommendations for Bridge Construction

- Preserve the stone-faced bridge theme in new construction along the parkway to the greatest possible extent.

- Visit local stone quarries to ascertain the availability of size, color, and texture. Continue to use stone that matches the native stone of the area or that is already established in that zone of the parkway. Coordinate stone selection with other stone walls, culverts, and bridges in the nearby parkway corridor.

- Consult with well-established stonemasons and the Blue Ridge Parkway archives as to methods of stonemasonry erection. The success of the executed stonework will depend on the designer's understanding of the stonemasonry technology with regard to joint type, mortars, expansion conditions, and stone pattern layout.

- Continue to consult early in the process with the planning offices of both North Carolina and Virginia about their long-range transportation plans that have an impact on the parkway corridor and on the viewsheds of adjacent lands.

- Develop an understanding of what bridge shapes, abutment details, and arch styles are appropriate for the site being considered.

- Establish the required vertical clearances, the amount of grade separation, and the bridge span before determining the type of bridge arch to be used.

- Consider the use of special bridge structures to span sensitive and important environments. Note the successful preservation of the Grandfather Mountain environment by the special design of the Linn Cove viaduct.

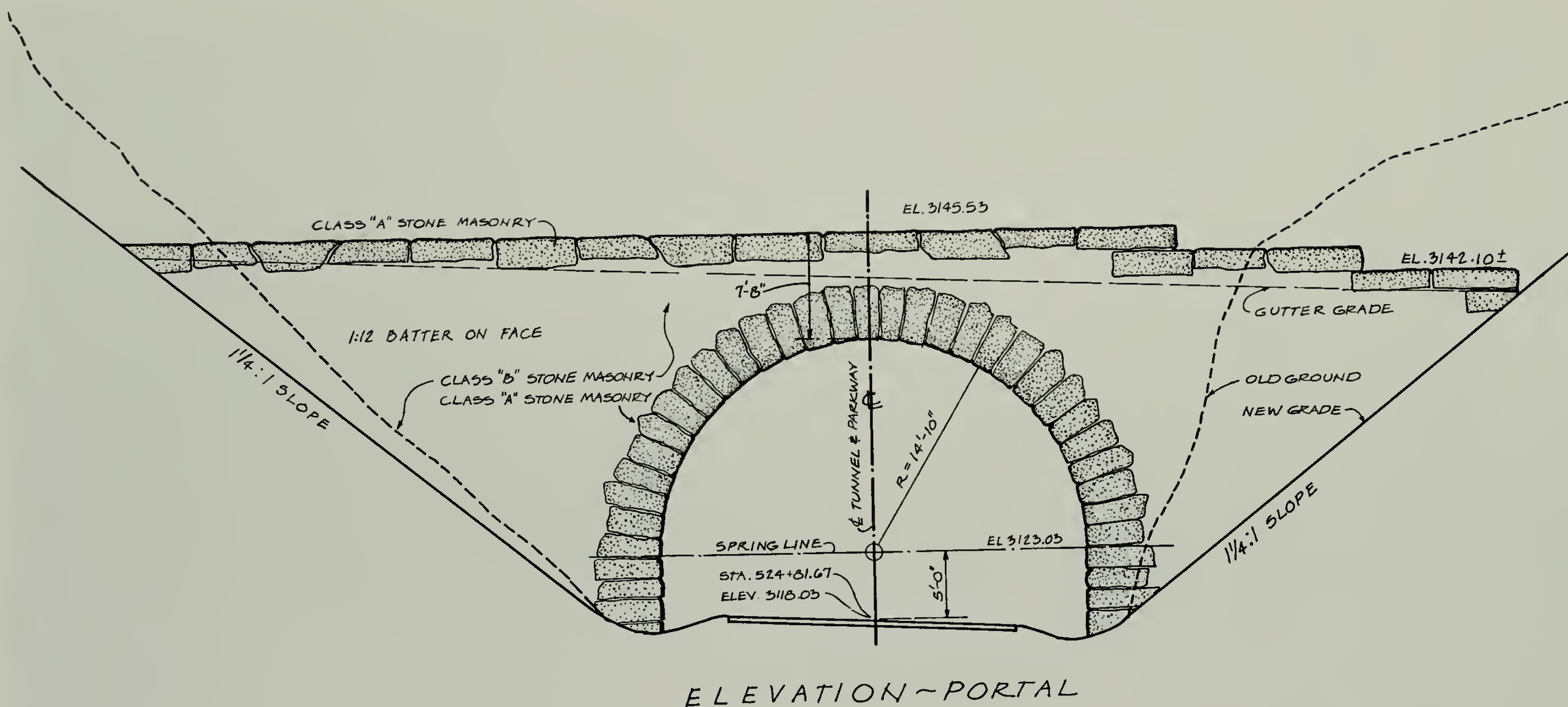
- Research the design of the existing bridges of the parkway before beginning any bridge design.

- Develop an understanding of what bridge shapes, abutments, and arch styles are appropriate for the design grade separations intersecting road alignments.

- Design new stone-faced bridges to be consistent with the overall parkway theme, but recognize that the subtle differences in arch types, alignment configurations, and masonry details add to the character and variety of the parkway.

- Undertake onsite field reconnaissance and understand the condition of the bridge site before commencing design work.

Tunnels



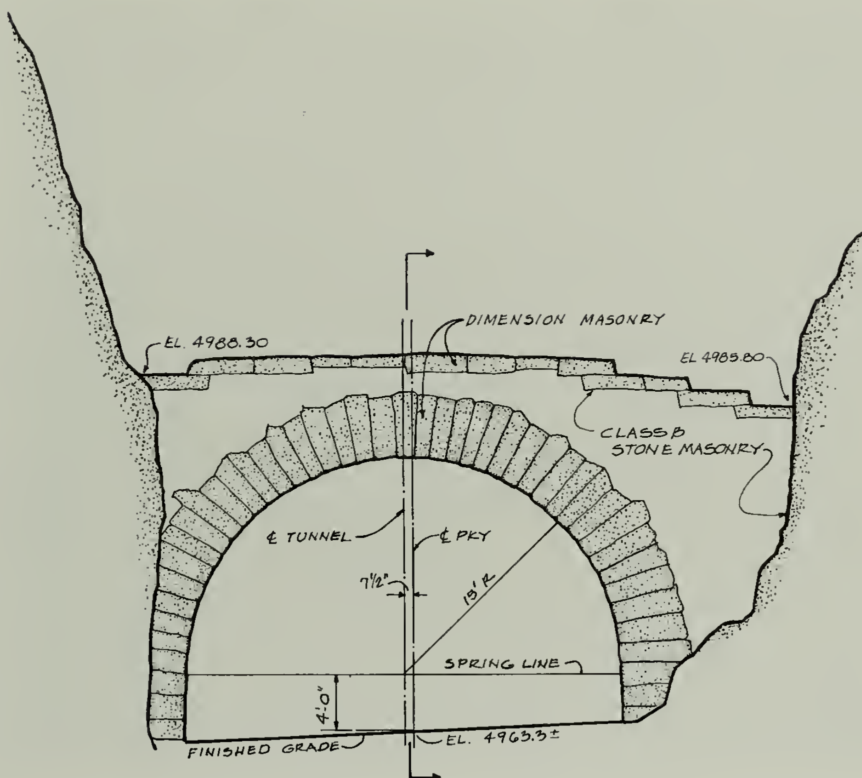
Tunnel Construction

There are 26 tunnels along the Blue Ridge Parkway's 469 miles. Most of the tunnels are where the parkway road passes through a ridge on the side of a mountain. Because the parkway generally parallels the crest of a mountain at a lower elevation than the top of the mountain, it encounters some of the side ridges of the mountain. To accommodate the graceful rhythm of the curvilinear alignment, tunnels were constructed to minimize the damage and defacement of the mountainside. Therefore, as one views the parkway from the valley floors below, the parkway is rarely seen. This visual preservation of the natural mountain slopes and ridgelines became the major benefit of the tunnel construction effort. The tunnels also contributed greatly to the character and dynamic visual experience of the parkway. The coolness of the mountain rock and the dramatic vistas at the tunnel portals are spectacular.

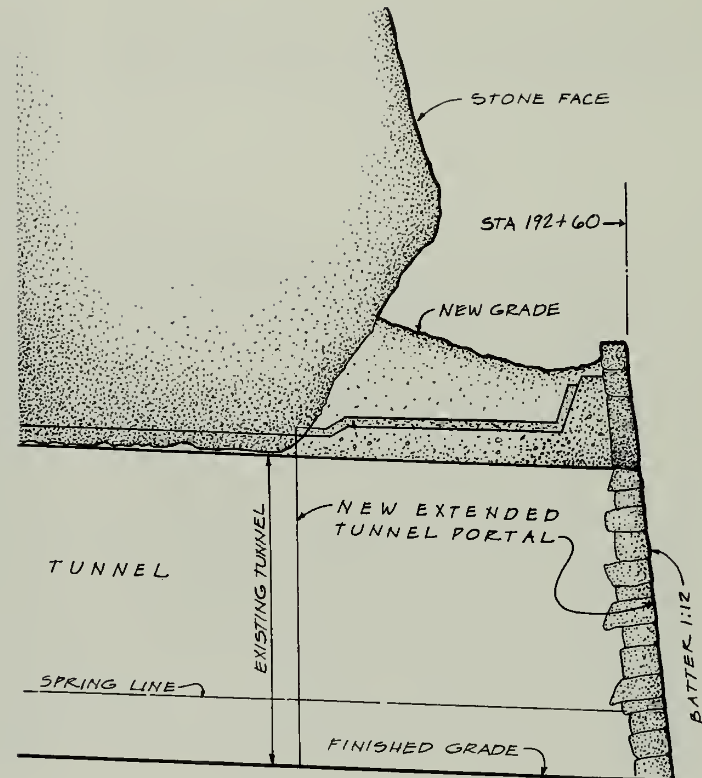
Tunnels were expensive and dangerous to construct. Tunnels constructed before World War II were excavated by air drilling and dynamite explosives. Advanced drilling and blasting techniques were employed in tunnel construction after the war. Since solid rock excavations were common to most of the parkway tunnels, concrete tunnel liners were not necessary for tunnel integrity. However, some tunnels have been lined on the interior with concrete to protect against falling rock and dripping water.

The drawing on the opposite page illustrates a tunnel portal. The original pencil drawing would not reproduce clearly so it has been traced over in ink for presentation in this book.

Originally, the tunnels' entrances were single-excavated arched openings of exposed rock. Arched masonry entrances have been added to most of the tunnel portals for safety. These arched masonry entrances with parapet walls above are constructed just outside the mountain face. The parapet wall not only intercepts falling debris that comes down the mountain, such as rock and tree parts, but it also serves to collect stormwater. The stonemasonry construction of the tunnel portals is similar to that of the bridges.

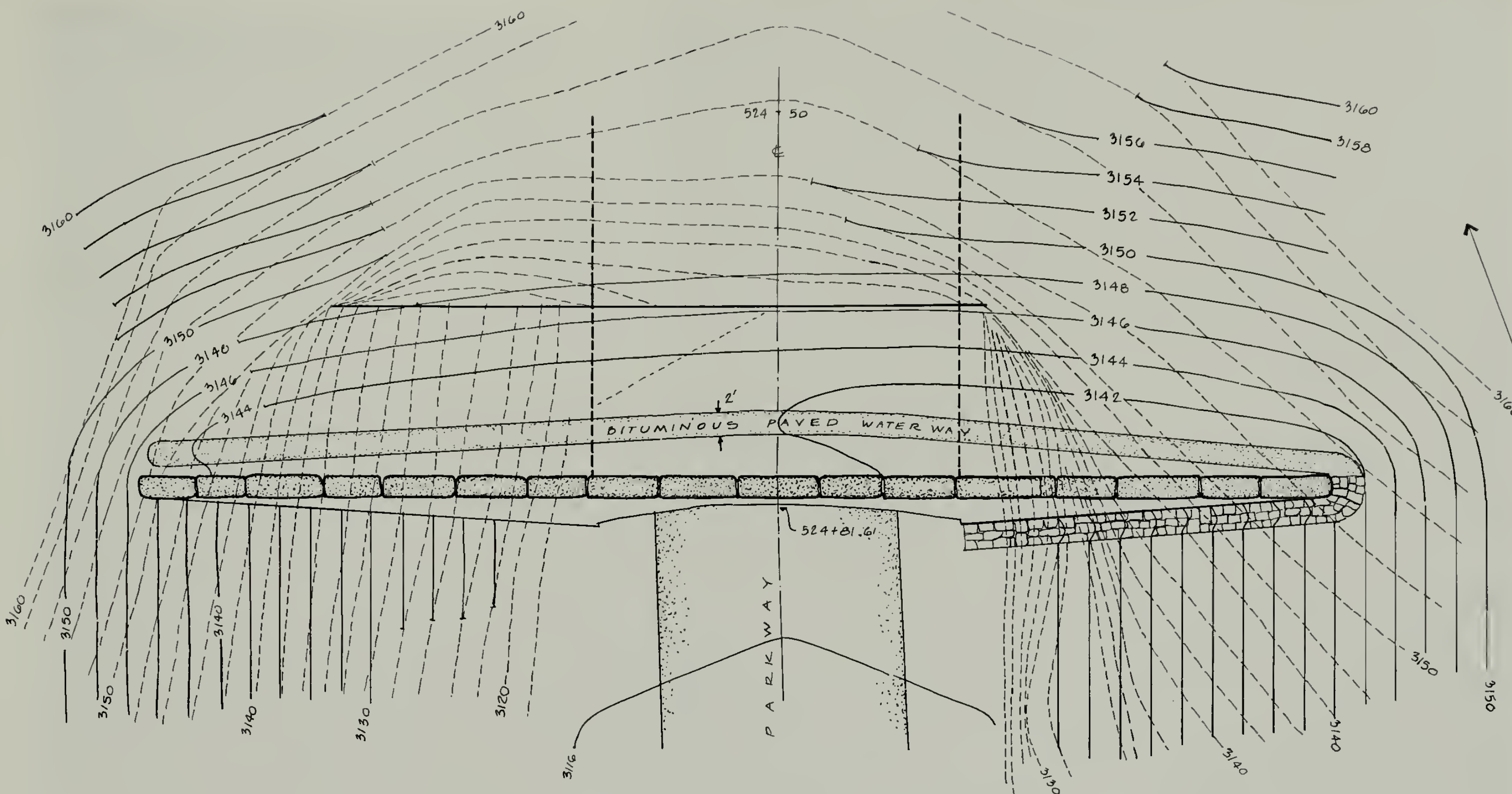


ELEVATION ~ PORTAL



SECTION ~ TUNNEL PORTAL

The elevation drawing on the left shows the designer's layout for a masonry tunnel portal. The spring line for the arch and ring of stones around the arch have been carefully thought out. Elevations have been set for the masonry cap. The section drawing above illustrates how the tunnel portal extends out from the face of the rock above. This allows for the portal top to catch falling debris, water, and ice from the mountain above. (Note how the portal is battered at a 1:12 angle.) The plan drawing on the opposite page illustrates the contours developed by the landscape architects working with the engineers. Drainage above and at the approaches is always important in tunnel design.

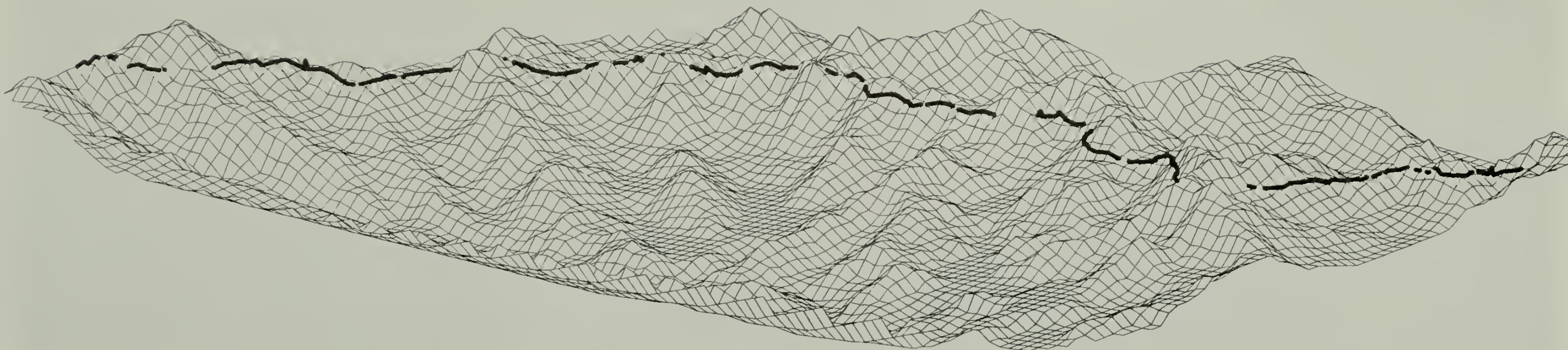


PLAN OF TUNNEL PORTAL

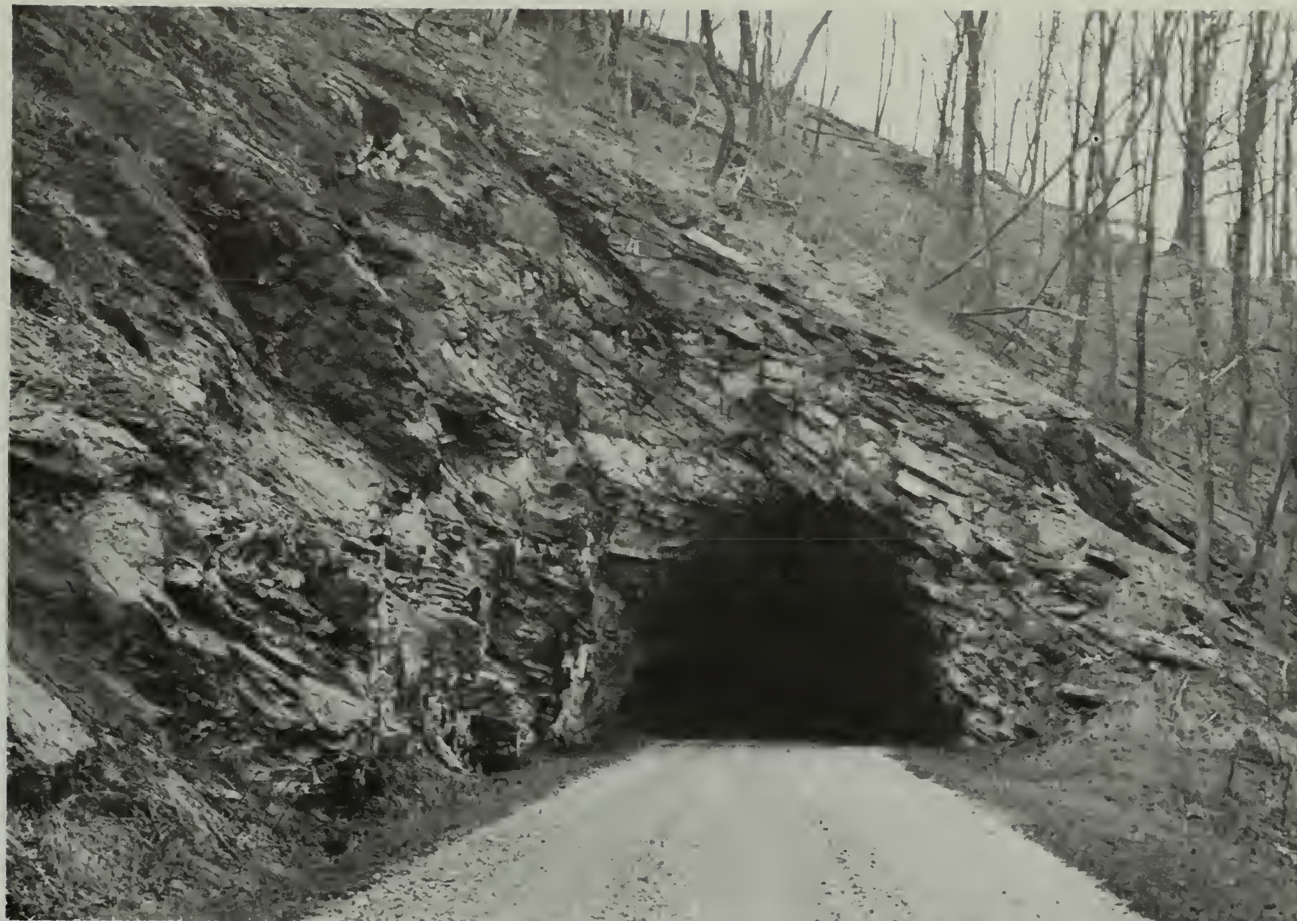
Craggy Flats Tunnel at MP 365.5. This 400' long tunnel, which was constructed in 1942, is in North Carolina.

Craggy Pinnacle Tunnel at MP 364.5. This is a short tunnel of 245'. The curvilinear road alignment can be seen in its graceful movement through the tunnel. The Craggy Pinnacle Tunnel does not have a portal parapet. Over the years, the National Park Service has added parapets at tunnel entrances because they make the tunnels safer by intercepting falling debris and dripping water and by preventing ice accumulation on the archway over the road.

The photograph above is an example of how the tunnels were used by the parkway designers to minimize the road's impact on the mountainside. The tunnels allowed the ridgeline of the mountain to be undisturbed. (Note how the stone headwall steps down with the slope of the grades and therefore relates visually to the natural mountainside. Also, note that white edge striping is only used at tunnel approaches due to a lack of shoulders in the tunnels.)



Tunnels were not necessarily required for the parkway to pass along the side of the mountains. Tunnels, however, would be necessary in some locations if the natural beauty of the mountain was to be preserved. Generally, tunnels were constructed so that the graceful curvilinear vision of roadway could continue uninterrupted while still honoring the topography.



Walls and Drainages

I was standing under one of these "stiff legs" when the casting at the top broke as they swung a big load of stone over the side . . . everybody fled . . . the masonry inspector never moved so fast.

- George Wickstead, 1996

Early Construction. This photograph taken in July 1936 is of a stone wall under construction. A "stiff-legged derrick" was often used to move large stones when a track-mounted crane was not available. The derrick was also used to move stone in early bridge construction. The workman in the photograph is operating from the roadbed of the future parkway. It is important to recognize that a wall built at a similar location today may be constructed of reinforced concrete and then faced with a stone veneer or, in cases where the wall is not visible, be a pre-engineered wall. Stonemasonry is very expensive, and there are few craftsmen left who have the skills for such work. Also, the procurement of stone that matches the local stone is a problem. Much of the stone used for the early walls came from the parkway's construction activity.

Dry Stone Embankments

As you travel the parkway today, you will not see most of the dry stone embankment walls that support the roadway above. The growth of trees and shrubs in the last 50 years now obscures the beautiful craftsmanship of the dry stonemasonry. The photo on the right was taken in 1936 at milepost 263. Dry stone walls are built by carefully selecting and skillfully placing the stones. The strength of the wall and its durability depends on the bearing of one stone against another entirely without the use of mortar or cement. (Note that the wall is sloped or battered back at an angle as it ascends.) The sketch below illustrates a dry stone wall retaining a slope at the carriage house of the Moses H. Cone Memorial Park at milepost 294.

The name for this (wall) in the contract documents was "hand-placed rock embankment" and the contractors hated it.

- George Wickstead, 1996

Masonry Retaining Walls

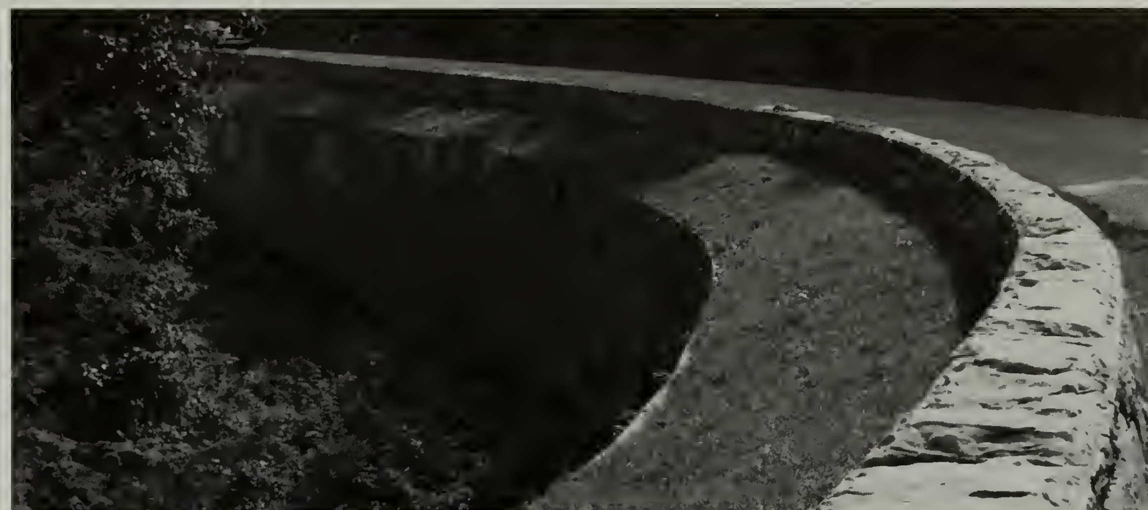
This photograph of a new retaining wall at milepost 218.8 was taken in the middle of January 1936. The first contract for construction had been let in August of 1935, only 5½ months earlier. This retaining wall was called Class B Masonry and is typical of many of the retaining walls along the Blue Ridge Parkway. Stone sizes and joint placement were important structural and visual considerations in the masonry layout. The wall is "battered" or sloped back as it ascends. (Note that the log protruding from the wall at the bottom of the photograph is there to keep the weep hole from filling with mortar droppings while the wall is under construction.)

This photograph, taken in 1994, reveals the character of the stone retaining wall with respect to the regenerated landscape below. The grass shoulder continues for the length of the curving wall just as it does over the stone arched bridges. It is this continuous, uncompromised ribbon of pavement with its grass shoulder that contributes to the roadway's simple elegance. There are approximately 6½ miles of stonemasonry retaining walls and 5 miles of rock embankments that support the slopes below the parkway.

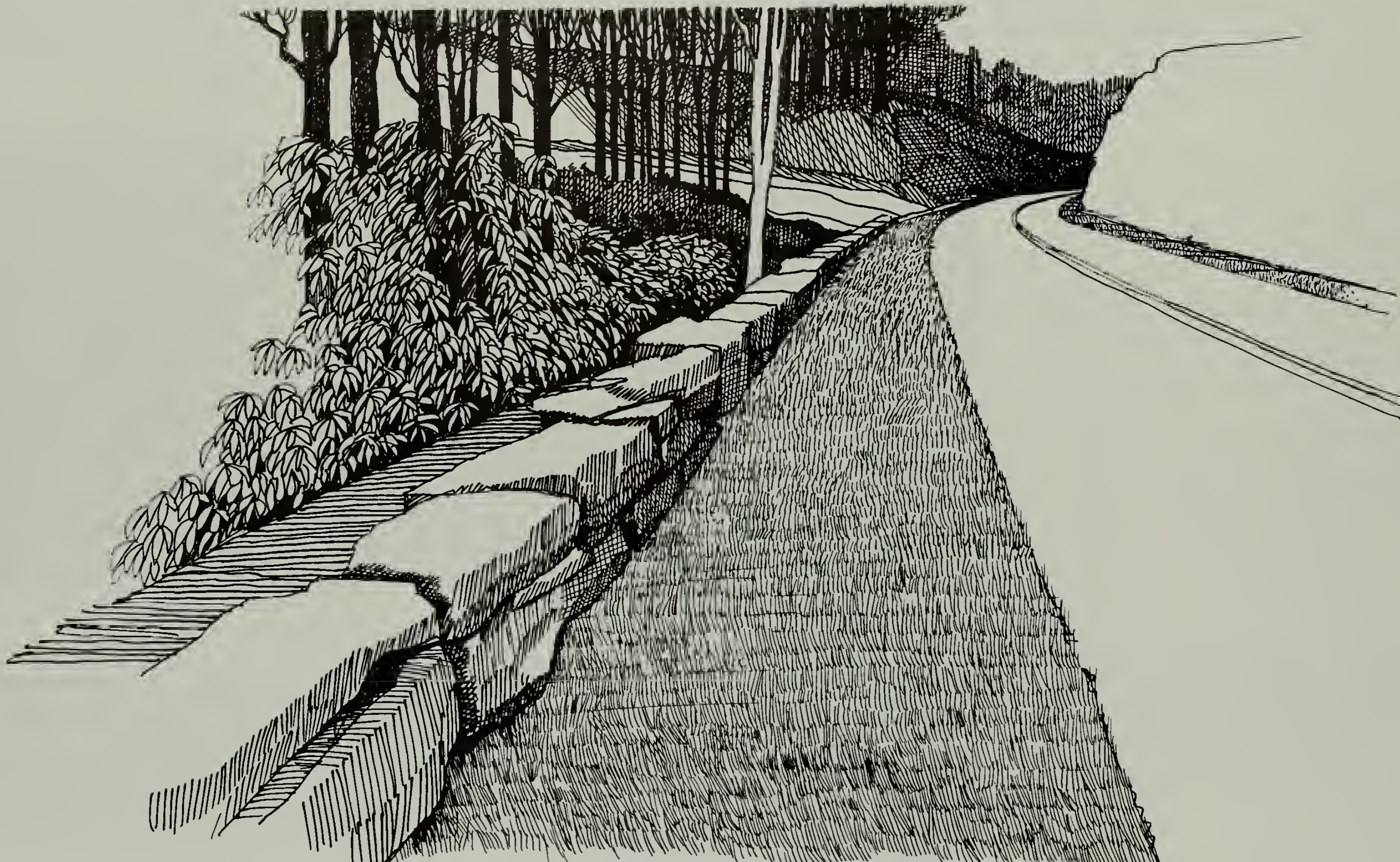
Guardwalls and Guardrails

Over the years, engineers have gained more knowledge of how stone guardwalls and wood guardrails perform when impacted by a vehicle. New crash data has led to a revised design for the stone guardwalls and wood guardrails. The new walls and rails that can withstand the crash test requirements are still referred to as guardwalls and guardrails. The older walls and rails that cannot withstand the crash test requirement are not referred to as guidewalls and guiderails. In the 1930s and 1940s, the walls were constructed of large dry-laid stones. Today, stone guardwalls are constructed of reinforced concrete and are faced with a stone veneer as you see in this wall under construction on Skyline Drive. When completed, there is no concrete visible. It is important, however, to realize that convincing stone patterns should prevail in any new construction. For example, stonemasonry should always appear able to stand up without the benefit of mortar. The pattern of a vertical stone wall is not the same as the pattern for a horizontal surface. Accordingly, the photograph below demonstrates the structural idea, but is not necessarily the most convincing stone pattern. Perhaps the wall would be more convincing with more horizontal joint work.

Pre-engineered Walls at MP 337. The inexpensive labor of the CCC and the WPA days is gone and so is the ability to build long, high stone retaining walls. Therefore, new engineering solutions have been employed to solve the details of large volume site fills. Although not in character with the parkway, the design solution visible in the photograph below utilizes precast concrete units to fabricate the larger portion of the retaining wall below. The more expensive and typical rustic stone guardwall is used at the upper level, where it has the most visual impact. Here, the slightly sloping grass area between the outside of the stone guardwall and the top of the pre-engineered concrete wall skillfully preserves the visual presence and integrity of the stone guardwall.



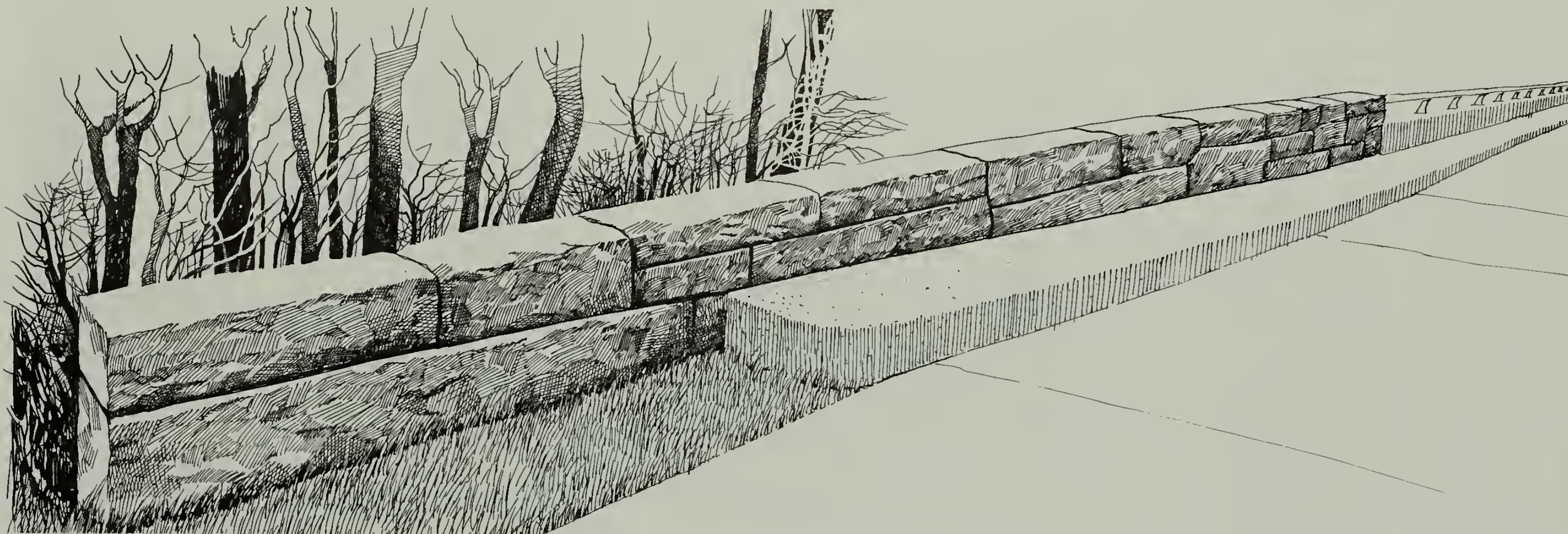
The photograph to the right illustrates the level of rustication on the parking overlook wall. Notice that the capstones are larger. These walls also function as seatwalls.



Rustic Stone Guidewalls. The rustic stone guidewalls along the parkway are used to protect motorists from steep slopes. These walls are comprised of large stones that are placed on the edge of the parkway shoulder. The stones used for the dry-laid guidewalls were quite large so that the sheer weight of the stone offered the protection. The smoothest side of a stone is faced toward the roadway and the irregular side of the stone always faces to the outside, away from the roadway. Over the years, park maintenance has unobtrusively cemented some stones. The illustration above and the photograph on the opposite page reveal the importance of the visual character that these rustic native stone walls bring to the parkway. The graceful curve in the wall reinforces the curvilinear alignment of the roadway as it disappears into the distance.

The photographs above and the illustration on the opposite page show the rustic dry-laid stone walls that were originally used along the parkway. Stone was used in areas where it was visible in the landscape and where it could be salvaged from the ongoing parkway construction. (Note the character of the stonework and the way the stone wall has gracefully turned back into the adjacent side slopes.) Along the parkway, the design of site details such as the intersection of the paved gutters with the stone wall was always carefully thought out.

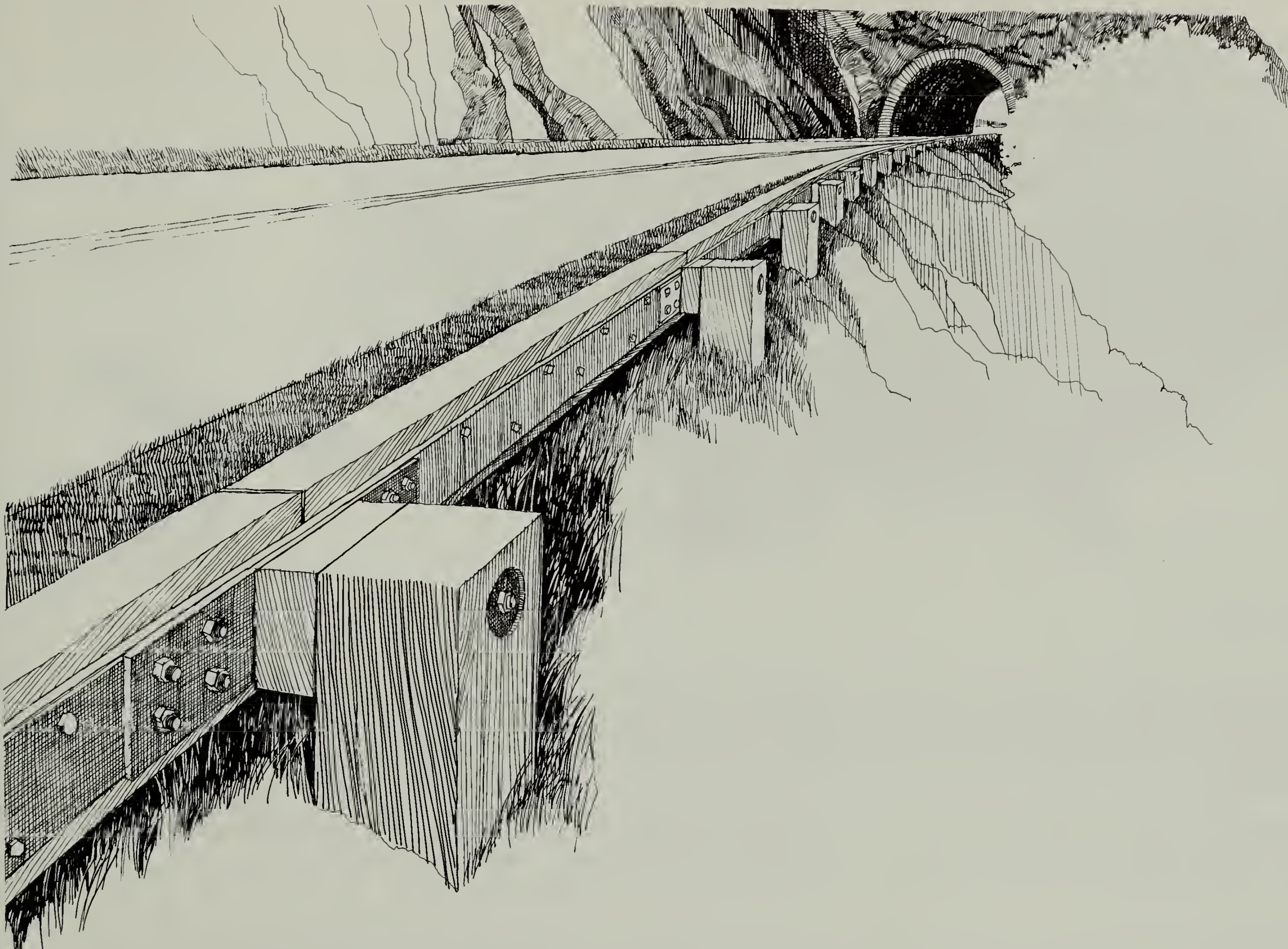
Stone Guardwall and Metal Bridge Rail Transitions. The drawing below illustrates how a stone guardwall transits into the metal bridge rail of the steel and concrete bridge over the Oconaluftee River at milepost 469. The photograph at the bottom shows a similar stone guardwall and metal bridge rail condition on the Blue Ridge Parkway over U.S. 321 at milepost 291.9. There are about 50 of these steel girder bridges along the parkway. Stone is often used in the wing walls, abutments, and piers.

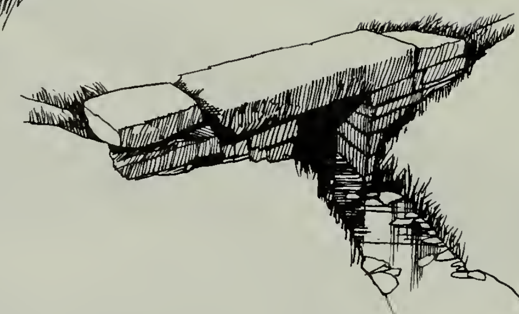


Bridge Parapet Walls. Most of the stone bridges along the Blue Ridge Parkway are in-line bridges or are bridges that carry the parkway. These stone bridges are basically large, reinforced concrete arched structural spans with large stone veneer walls along the sides of the bridges. The bridge is then backfilled with earth so the grass shoulder can continue across the bridge. This bridge, built in 1941, is located at the beginning of the parkway where the bridge crosses over U.S. 250 at Rockfish Gap, Virginia. The stone parapet height is 2' above the road surface. The roadway width is 20', and the bridge/deck width is 39' 6". The parapet wall is capped with full-width stones, the largest of which are used on the leading edges of the walls.

Wooden Guiderails and Guardrails. Wooden guiderails, generally, were used where stone was not indigenous, was not available, or where the shoulder condition was too tight for the stone wall, which would take up more horizontal space than the wooden guiderail. The photograph on the left looks south along a section of the parkway just north of Roanoke, Virginia. This is a section of older, all wooden guiderail. Guardrails and guiderails not only protect travelers from the hazard of steep slopes, but they also visually reinforce the curving roadway alignments of the parkway. Wooden guardrails are one of the important design elements contributing to the overall aesthetic character of the parkway.

The guardrail on the opposite page is at Craggy Gardens, milepost 364.5. This guardrail is representative of the new steel-backed, treated wooden guardrails being used in the national park system. The rail is perceived as all wood from the parkway, but the back is supported by a weathering steel plate that is made continuous at each post through bolts that link it to a connecting plate. Therefore, the continuous steel plate acts to absorb and distribute an impact along a number of posts.



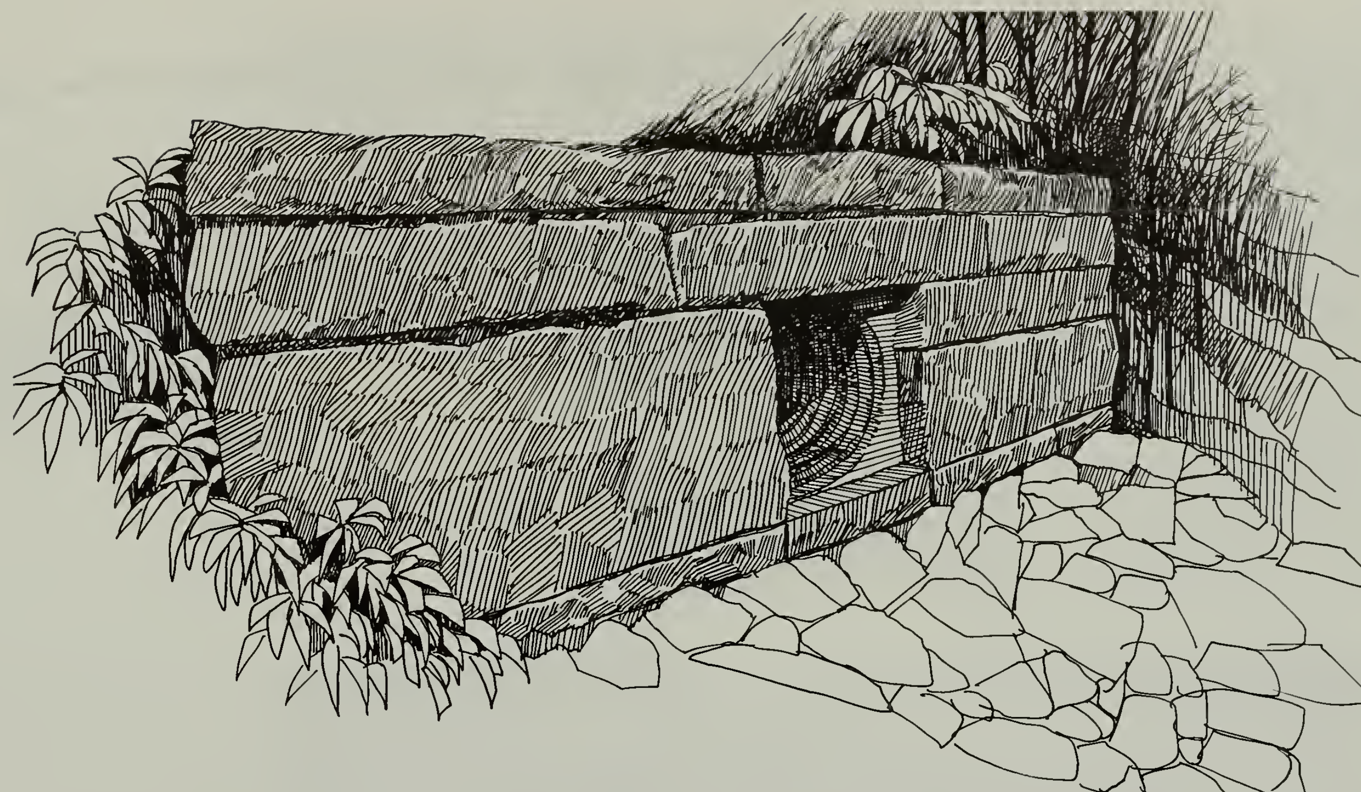


Drainage Structures

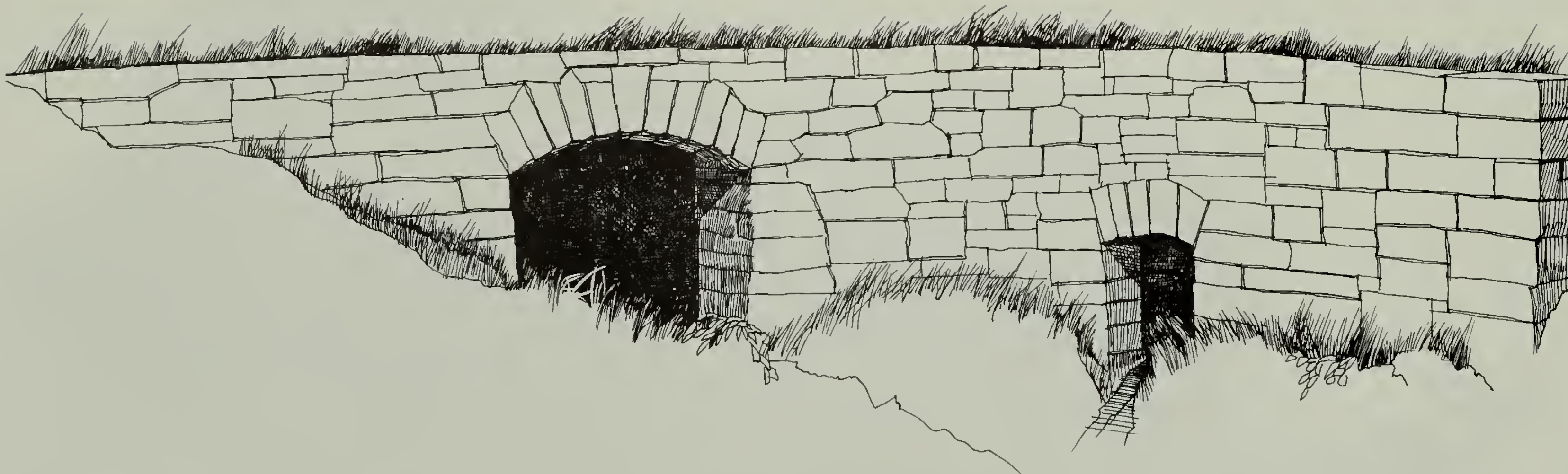
Well-engineered drainage systems are basic to good road construction. The original parkway landscape architects and engineers recognized the importance of well-designed drainage and accordingly gave great attention to its design. Drainage structures have always been carefully placed and coordinated with the natural site. Existing slopes, drainage patterns, vegetation, and other landscape elements are all considered when drainage ways are designed. The size, shape, and placement of headwalls for culverts and pipes are important to the natural and graceful slopes that allow the parkway cross section to blend into the adjacent grades.

Along the entire length of the Blue Ridge Parkway, pipe and culvert headwalls are always faced with stonemasonry. Each drainage structure has its special handmade stone-crafted character. Some headwalls are flat and rectangular, others are arched with curved cheekwalls. Sometimes these interesting features are hidden in the mountain laurel and sometimes in plain view; these details are a major part of the parkway aesthetic.

Many of the smaller inverts, such as the illustration on the right, have dry-laid stone headwalls. It is important to use stones of sufficient weight that can retain the earth. Recent headwalls constructed along the parkway use reinforced concrete headwalls faced with thick stone veneer and mortar joints.

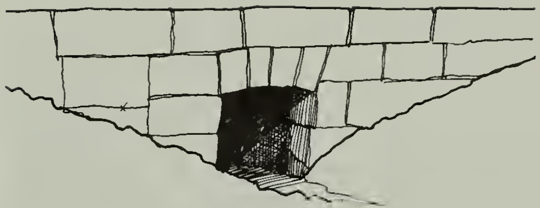


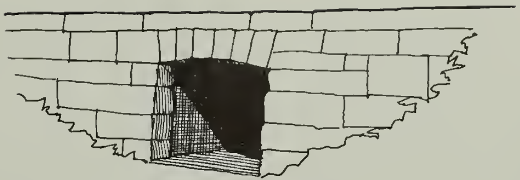
Headwalls should be designed and coordinated with the natural landscape setting. The stone should match the type and color of stone used on nearby stone bridges, drainage ditches, retaining walls, and other stone structures. Whether it is a single pipe or a reinforced concrete culvert, care should be taken to detail every headwall. The type of conduit, pipe, or culvert will depend on sustainable engineering principles that take into account groundwater conditions, geology, structural loading, projected flood levels, and the best stormwater management techniques.



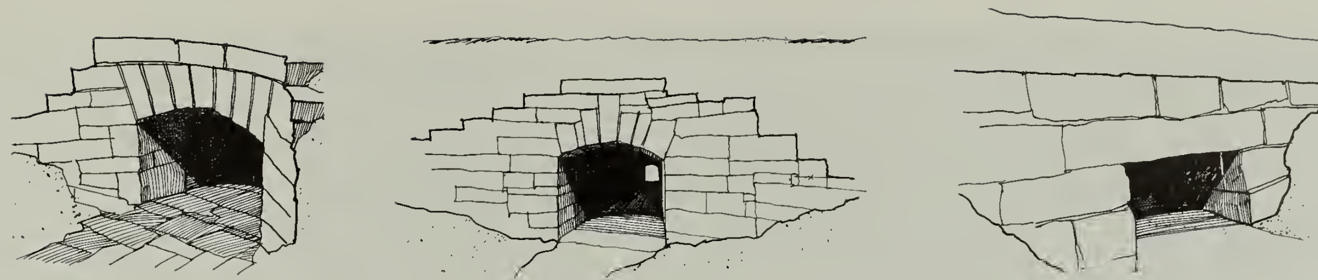
The drawing above illustrates a curved headwall that resolves two different-sized culverts converging at one location. The photograph on the left shows that headwalls are also used for simple farm and service roads that enter the parkway. Here, a farm road intersects the north side access ramp at U.S. 58 in Patrick County, Virginia. (Note that the drainage gutter that leads to the headwalls is paved with stone.)

When a stone headwall is designed it is important to detail the stone coursing and the keying patterns of the ring stones of an archway. When the interior walls or floors of culverts have high visibility from public areas, they have stone surfaces; however, culverts typically have concrete floors, interior walls, and ceilings. When concrete is used it is desirable to use a dark gray color and to avoid light or white concrete. The interior culvert color should be as dark as or darker than the adjacent stonework at the culvert's portal. The blending of natural gray colors in stonework, mortar mixes, and concrete is necessary to achieve a soft, noncontrasting effect. The photographs and sketches on these pages tell only part of the story. Future designers and builders of drainage structures should take the time to visit these beautifully engineered structures in the field. These details are some of the best examples in the national park system.

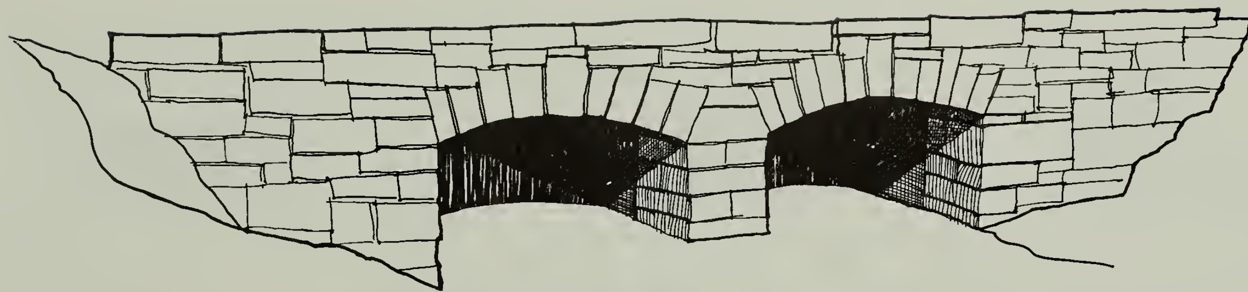




Each drainage way that crosses under the parkway has its own design character that has been developed to solve the engineering and aesthetic issues presented by that specific site. The repose of the slopes, the gracefulness of the lines, and the layout of the stonework are all thoughtful design considerations that make the drainage structures along the Blue Ridge Parkway some of the best on any roadway in America.

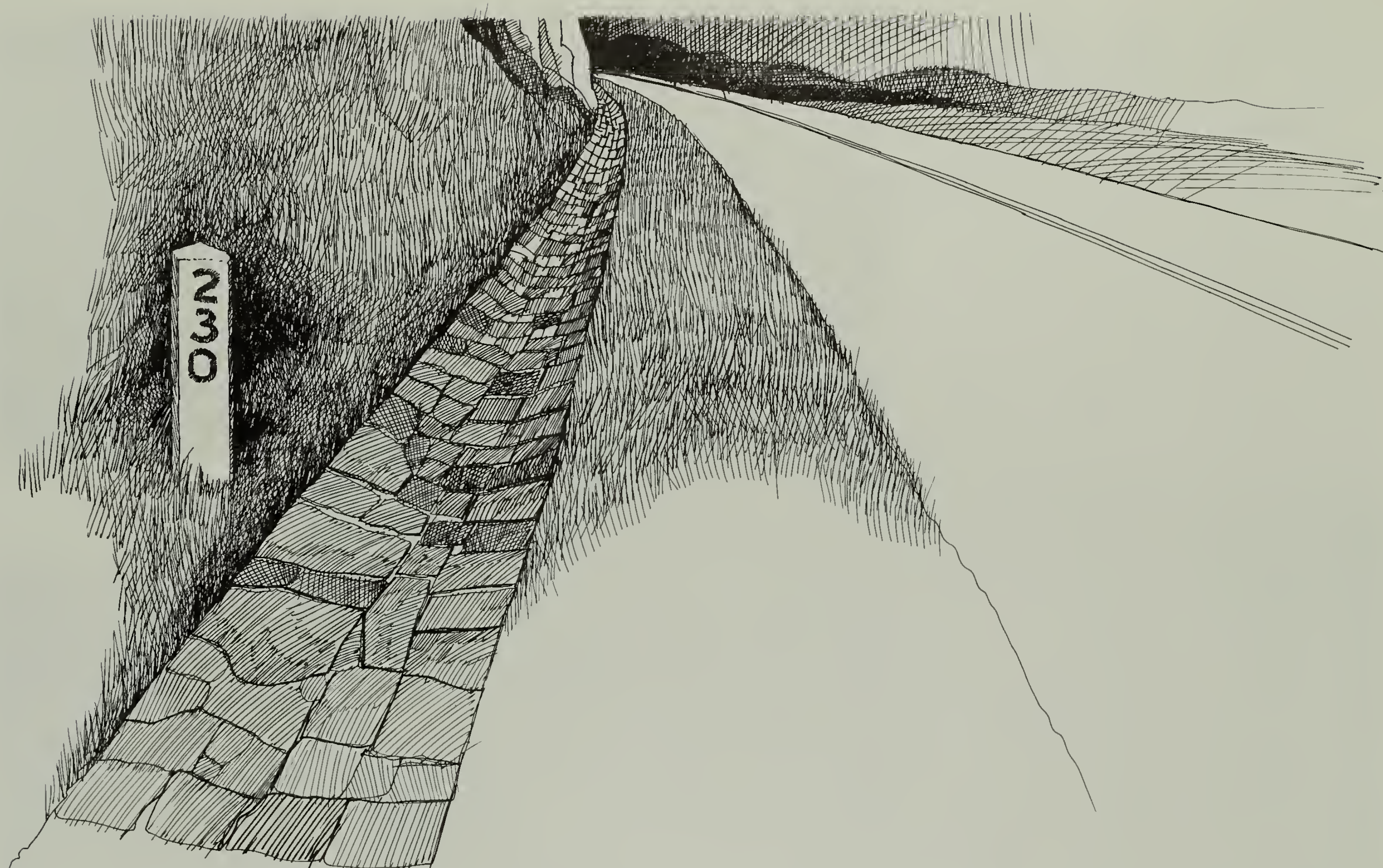


Attention was given not only to the culverts and head-walls, but also to the channeling of the water-courses that approach and leave the parkway.

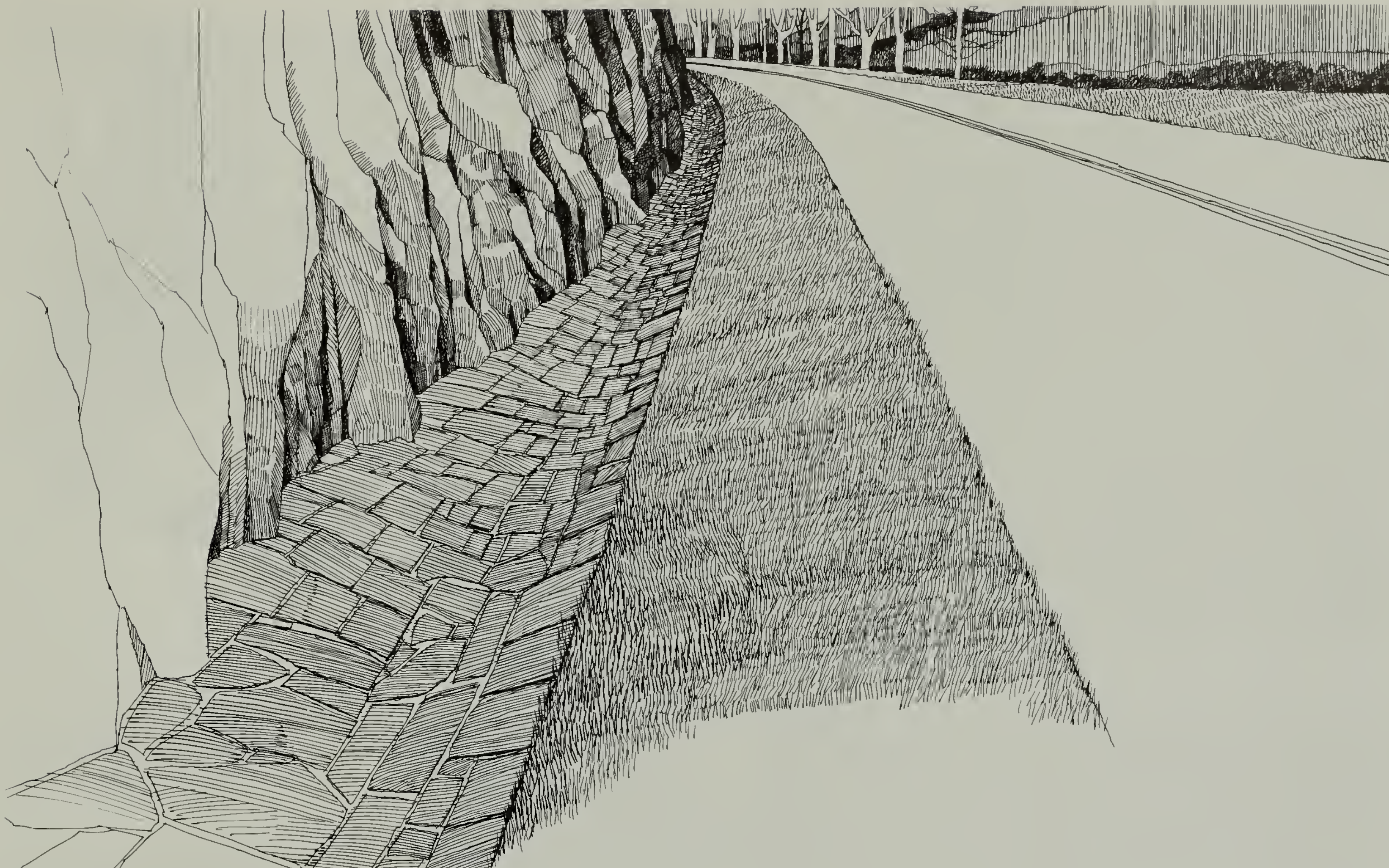


The photograph on the top right is of a study model built by the parkway designers to explore the possibilities of a particular site. The models were also helpful in explaining the headwall configurations to the stonemasons. Each drainage structure along the parkway has been designed for each specific location and was given a high level of attention by the engineers and landscape architects. Walls that step down with the adjacent landform are often used. The rustic stonemasonry is usually constructed of slightly smaller stones than the larger bridge structures. The photograph at the bottom right illustrates the scale of construction and the appropriate size of stone needed to make a graceful curve. Because national parks are sensitive environmental areas, it is necessary to assess all the impacts of constructing a new drainageway. Consideration must be given to spaces needed for construction staging. Accordingly, the careful design of cofferdams, temporary piping, water channels, and other construction techniques all have environmental impacts and must be considered as part of the design process.

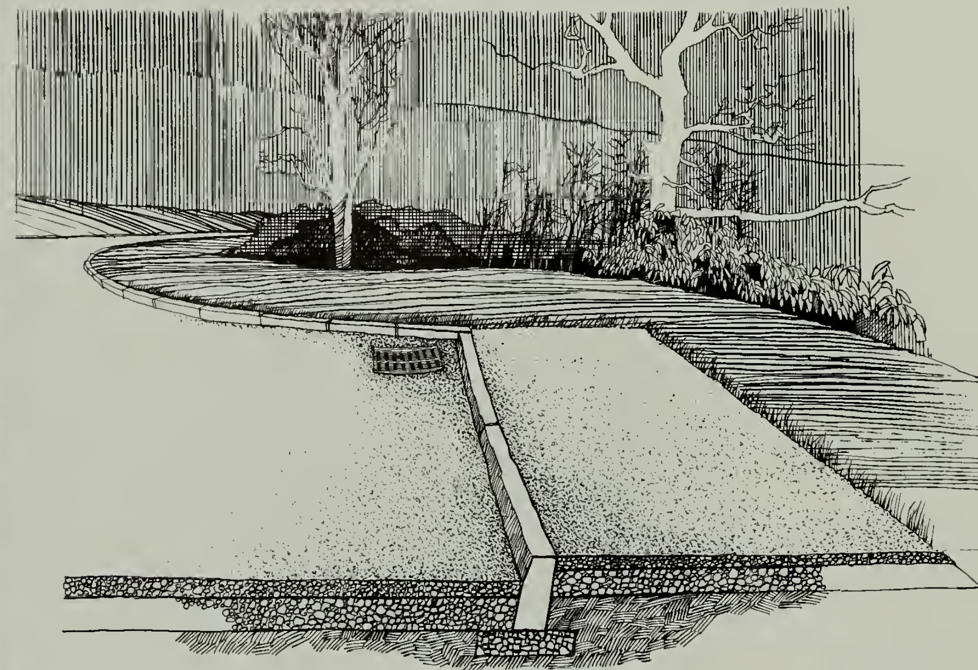
The structure in the photograph on the opposite page is an example of a curving stone headwall that was designed for natural waterflow. This headwall approaches the parkway at an angle. The curving flange wall retains the earthen slope below the parkway. In the 1930s and 1940s the photographer, who was usually a park landscape architect or engineer, would include a park vehicle in the photograph for helping viewers to understand the scale.



Paved Waterway. The drawing above illustrates a typical stone-paved ditch near Little Glade Mill Pond that parallels the shoulder of the parkway. The paved ditches were constructed to direct the flow of water away from the roadway. They are built of flat stone on a compacted gravel or concrete setting bed. The joints between the stones are filled with mortar colored to match the natural color of the stone. These stone gutters parallel the road for some distance and then gracefully curve away toward a drop inlet. These gutter details are always carefully coordinated with the grading design so that they appear to be a part of the natural landscape.



Paved Waterway at a Rock Cut. The drawing above illustrates the detail of a paved ditch against an irregular stone rock face. The paved gutter at the grass shoulder maintains an even clean edge with respect to the edge of the pavement, while the other gutter edge undulates with the rock face edge. The lowest level of the paved ditch is parallel to and is at a consistent depth below the pavement edge. It is very important that paving stones match the stone of the rock face.



Catch Basin in Pavement. The drawing and photograph above show a typical surface-mounted catch basin in the pavement. The grate is held away from the stone curbing and is black to match the pavement. There is no visible concrete border. The detail is simple and unobtrusive.

Drop Inlet against a Slope. The catch basin (photo left) catches the water from the paved ditch. It is concrete but very little of it is visible. A ledge on the top helps to retain the grade above. Earlier catch basins of this type were made of stone.

Drop Inlet in Curb at Linville River Parking Area at MP 316.5. The stone headwall (upper photograph) in the distance is 78" wide. The square hole for the drainage pipe is 16" high by 18" wide with a slightly smaller round pipe just beyond the stone. The grades of the drainage swale between the headwall and the curb in the foreground are very gentle and natural as well as being easy to mow. In the foreground, a stone drop inlet is built into the curb. The granite stone over the opening is 4' wide. It is the simplicity of this scene with its engineered completeness that makes the landscape architecture along the parkway beautiful.

Stone Curbing

The predominant curbing material used along the Blue Ridge Parkway is stone. The curbing in the main parking areas, overlooks, and medians is constructed of stone. Concrete curbing has been used in less important offroad places, such as maintenance yards. The type of stone curb varies along the parkway. In most areas the curbs are made of long, rustic, rectangular shapes that have an exposed vertical surface above the pavement of about 6" and an exposed horizontal surface that averages 5" to 6". Lengths vary from 2' to 4'. The vertical face of the curb is slightly sloped. Shorter lengths are used where the curb curves in a tight radius. In some instances of recent construction, curved sections of granite curb required tight radii, such as the leading edge of a median or island. Stone curbs typically extend a minimum of 18" into the ground. The structural success of the stone curbs depends on solid backfilling and pavement placement. Fieldstone curbs remain at some overlooks, but they are not prevalent because maintenance is generally more difficult for the shorter lengths that characterize this curb type. The freeze-thaw effect on the large mortar joints and the short curb sections combine to make this curb detail weaker and less desirable than the preferred granite curbstones that are longer and accommodate a stronger mortar joint. A road design should recognize the established curb in a given area before detailing new curbing.

Rustic granite stone of a grayish color is the preferred curbing. The mortar color should match the stone color as closely as possible and should be tooled flush, as seen in the photograph on the left.

The visual proximity to existing curbing and historic reference are important. Likewise, attention should be given to the stone color, texture, and size and the quarry of origin. The detailing of radii, corners, termini, and handicap transitions are critical to a pleasing aesthetic result.

Stone Curbing at Mabry Mill. This stone curbing is at the Mabry Mill restaurant parking area at milepost 176.2. The curbstones average about 40" to 52" in length on the straightaway. The curbstones are about 16", 20", or 24" in length on the tight radii. The joints are about 1" wide, and the color of the mortar matches or is slightly darker than the stone. The exposed vertical face of the stone curbing averages from 5" to 5½" in height. The curbstones are about 5" wide at the top and are tilted slightly backward in order to survive the impact of automobile tires. Shorter length stones are used to make the radius and the joints between the stones on the curve have butt ends, which are cut at an angle so that the width of the exposed joint is even across the top and front of the curb.

Park Buildings

Sharp Top pedestrian shelter and parking area at milepost 85.9. This photograph was taken on July 8, 1949.

The structures necessary in a park are naturally less obtrusive if they are reasonably unified by a use of one style of architecture, limited construction methods, and not too great variety in materials. When a truly inappropriate style of architecture already exists in a park in which new work is contemplated, it is urged that the new buildings do not stubbornly carry on the old tradition. If the new style is the more appropriate one, it will prevail. In the course of time, the earlier, inappropriately styled buildings will, in the very fitness of things, be eliminated.

– Albert Good, *Park and Recreation Structures,* 1938

Peaks of Otter Lodge at MP 85.6

The original master plan for the parkway called for the construction of several overnight lodging facilities to be built on national park land at the "bulges" or parks along the parkway route. Today, there are overnight accommodations at Mount Pisgah, Doughton Park, and Peaks of Otter. All are operated as park concessions. The photographs on these pages are of the Peaks of Otter coffee shop and lodge. Long before the parkway's construction, this mountain gap was a frequent route of travelers. Polly Wood's *Ordinary*, a historic structure that has been restored by the National Park Service, is still standing at the site. The *Ordinary* served travelers on the Buchanan to Liberty Turnpike and visitors to the Peaks of Otter in the 1830s to 1850s. Robert E. Lee would visit the Peaks of Otter in the late 1860s when he was the president of nearby Washington University (now Washington and Lee University). The site plan of this development is successful because the service roads, parking areas, and buildings are located so they complement the contours of the sloped topography. All rooms have views of Abbott Lake, and the buildings' shapes respond to the curve of the shoreline while their masses are broken down into smaller volumes, creating a more intimate building environment.

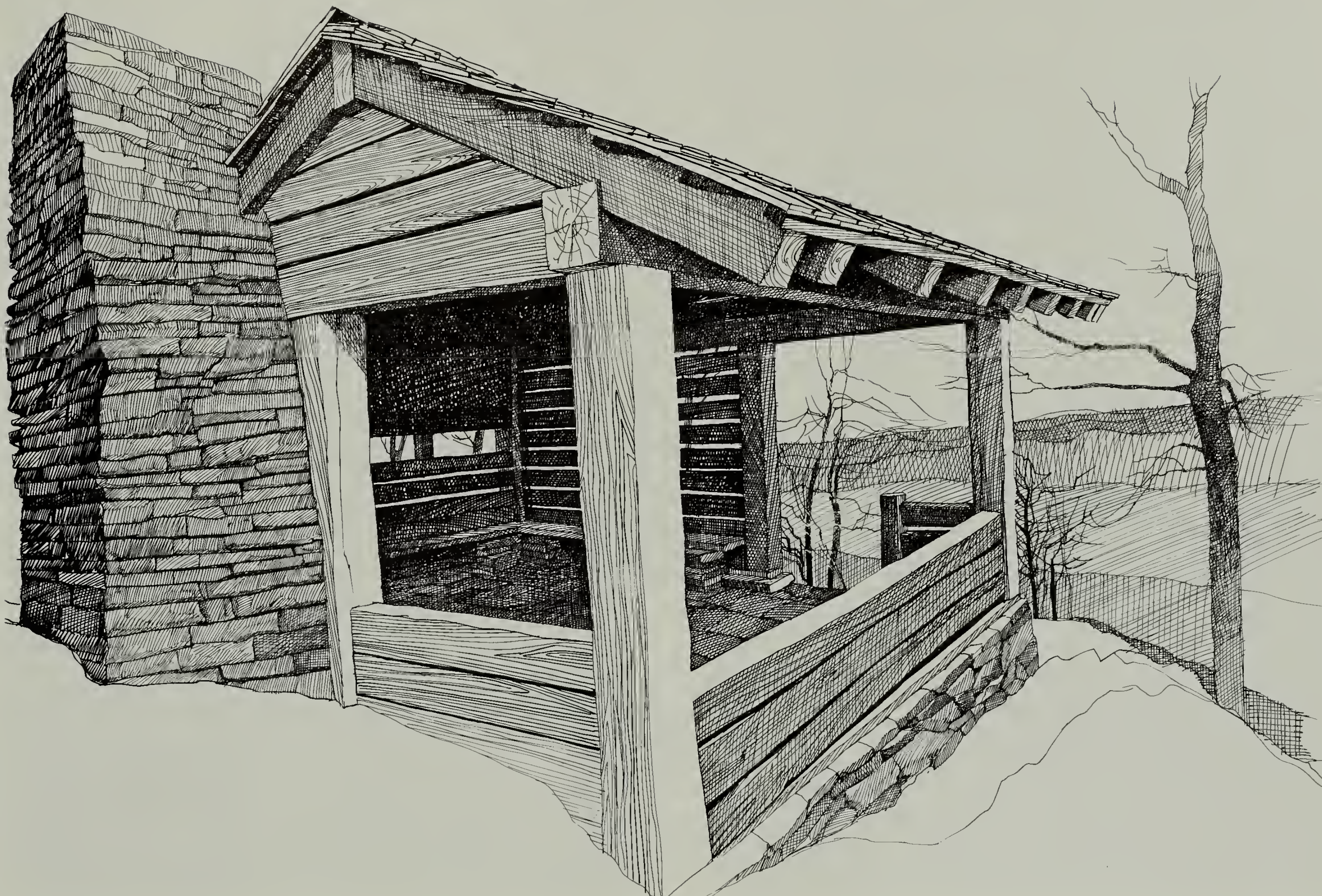
The Peaks of Otter overnight lodging units are very simple yet comfortable. There are no telephones or television sets in the rooms. The lodge buildings are broken down into three main architectural volumes. The curve is accommodated between those three volumes at knuckles where stairways have been placed. There are very few two-story buildings along the parkway. Large buildings are generally not part of the parkway aesthetic. The scale of this two-story building has been mitigated by several design techniques:

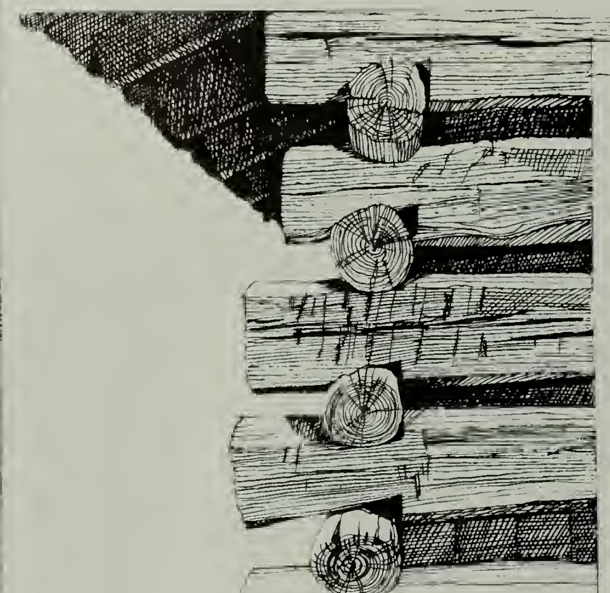
- The roof is simple and low in pitch.
- The thin roof edge and the recessed balconies not only produce dark shadows but emphasize the building's horizontal shape, and this tends to make the building appear closer to the ground.
- The lower level of the building is set into the ground so that from the uphill side it is 1½ stories high.
- The colors are all coordinated shades of gray. This helps to unify the building while relating to the parkway's color theme.
- The parking is back from the building, which allows for visitors to see a pleasant grass foreground as they enter the building.

Rocky Knob Shelter

The first building constructed on the Blue Ridge Parkway was the shelter at Rocky Knob, milepost 168.2. A simple 16' x 16' shelter, it is reminiscent of the earlier Adirondack shelter designs. The shelter is a simple, square shape with a stone chimney. It is approached by a foot trail that ascends 200' from the Saddle Notch Overlook parking area just off the parkway. Situated on a dramatic, tree-lined ridge just below the summit of Rocky Knob, the shelter cannot be seen from the parking area or from the parkway. The shelter's site allows for a spectacular panoramic view of Rock Castle Gorge, the largest park acreage along the parkway. In the early days of the parkway development, there were few such facilities that afforded some shelter for park visitors.

The shelter is constructed of exposed heavy, square chestnut timbers erected on a base of horizontally laid stone. The floor is flagstone. The roof is made of hand-split oak shakes on exposed wood purlins. This building is a good example of early rustic park architecture. Most of its interest as an exemplary park building is derived from its sensitive and delicate site plan and the honest expression of the structure.

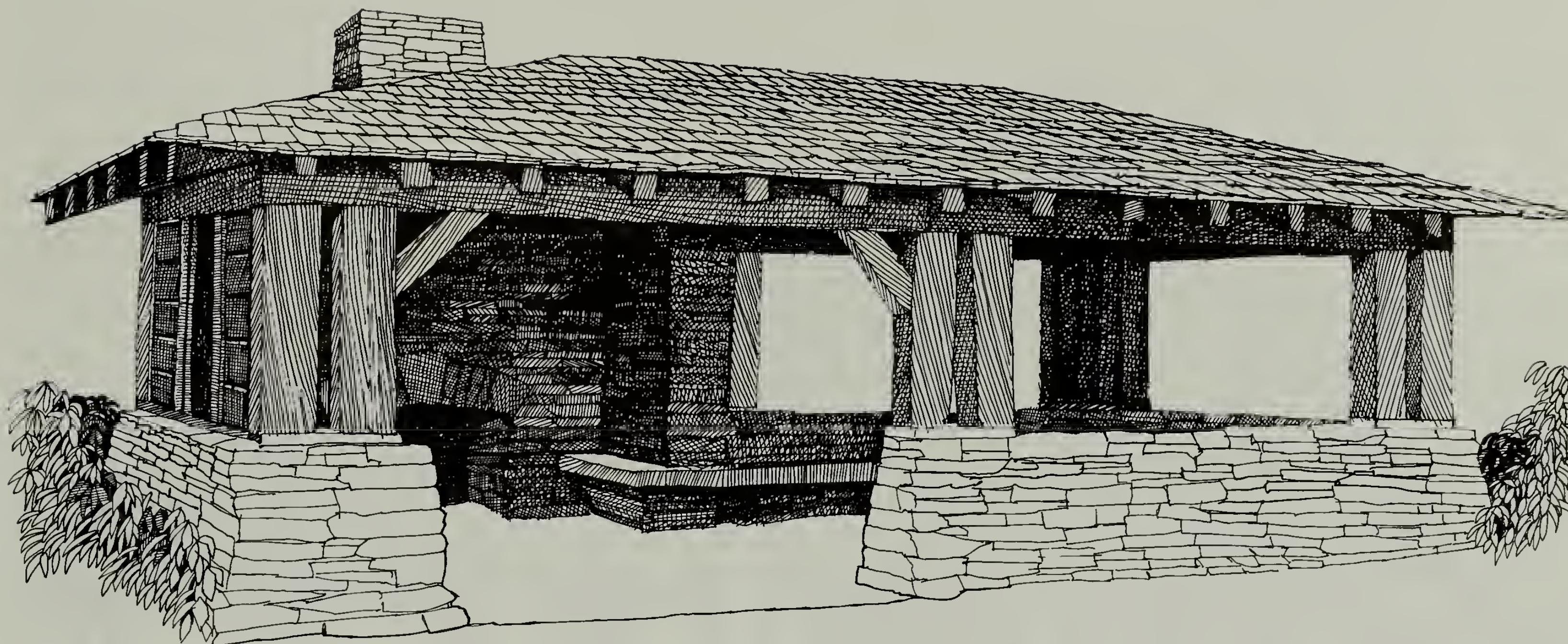




Groundhog Mountain Observation Tower

The observation tower at milepost 188.8 was modeled after a tobacco barn but has a concrete foundation. It is a simple two-story structure consisting of saddle-notched log walls on the observation level. The interior of the building has vertical boards, and the gables have vertical board-on-board siding. The roof of the main structure and the shed addition have wooden shingles. The history of the building is not well documented; it is unknown if the shed addition, which also serves as the only doorway, was part of the original tobacco barn plan.

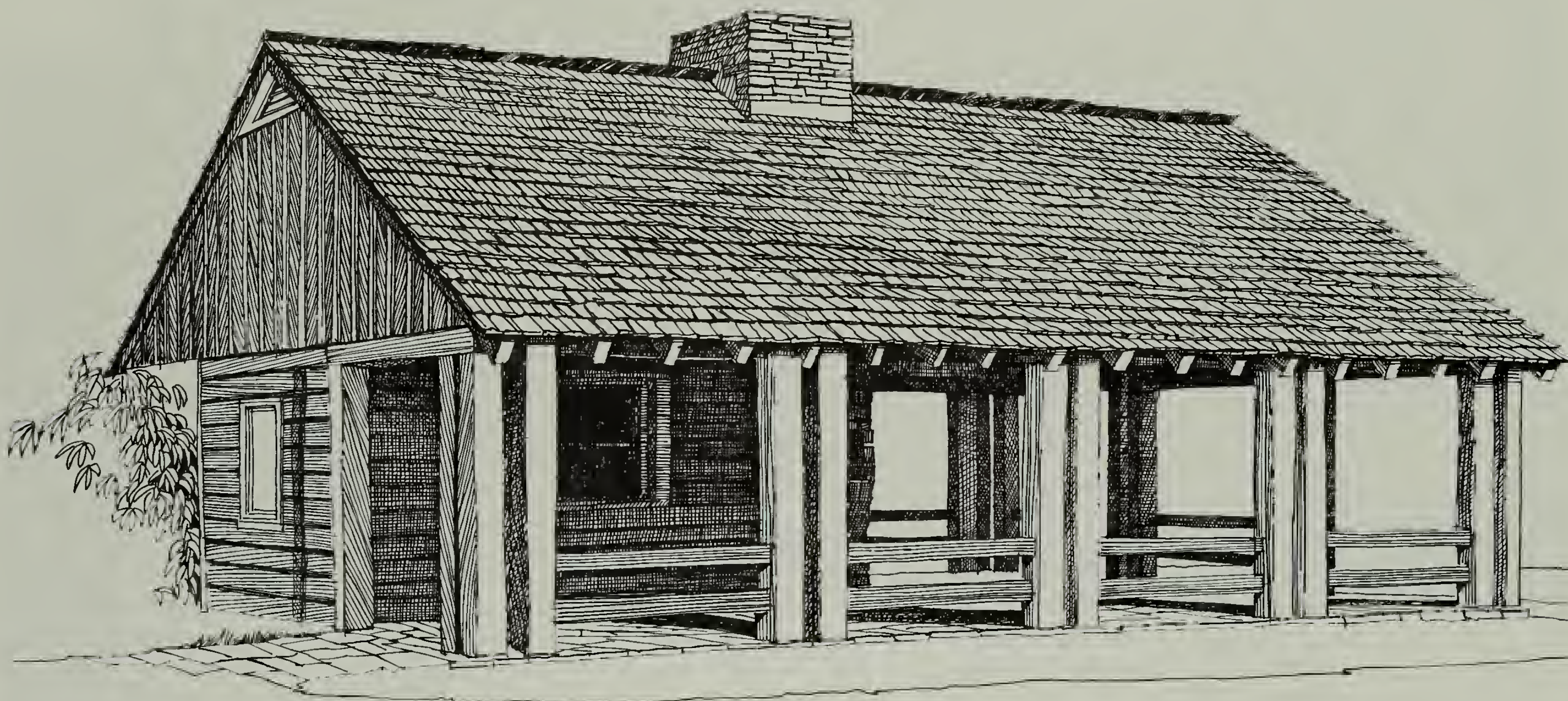
The observation tower offers not only a 360° view of natural scenic beauty but also a view of some of the different fence types surrounding the property. These fences have been collected from several areas along the parkway and reassembled here as an exhibit of fence designs found or once used along the route.



Cumberland Knob Shelter

The Cumberland Knob area at milepost 217.5 in North Carolina just south of the Virginia state line was the first construction site of the Blue Ridge Parkway. Accordingly, the site was chosen for the parkway's 50th anniversary celebration in 1985. The Cumberland Knob shelter, illustrated on these two pages, is on the top of Cumberland Knob at an elevation of 2,885' and is just a short walk from the visitor center. This group shelter and the shelter on Rocky Knob were the first structures built for visitor use along the parkway. These shelters are significant for their unique rustic architectural character and use of American chestnut for posts, beams, and shingles.

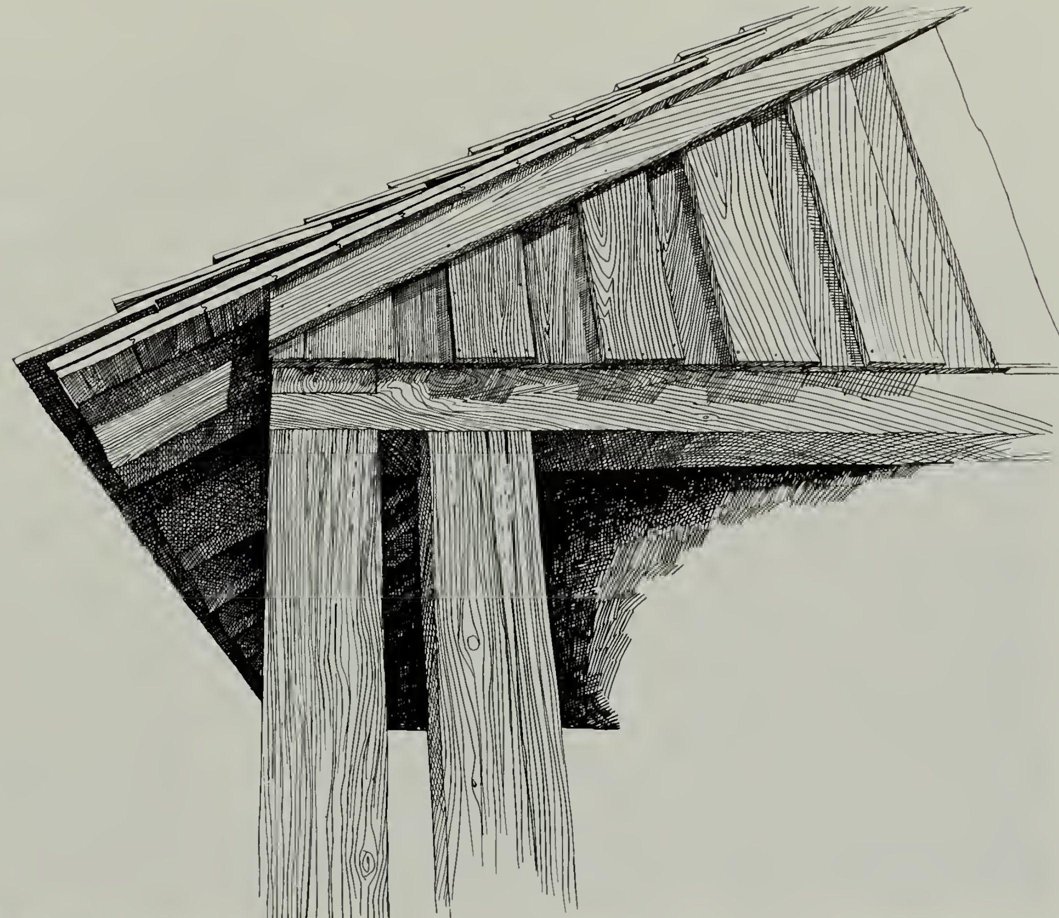
Cumberland Knob was one of the first five recreational areas to be developed along the parkway during the 1930s. Construction of this daytime recreational area began in 1936 and by 1940 the park was already being used by visitors. By 1942, the combined picnic shelter/sandwich shop/comfort station became the first concessioner-operated facility along the parkway. Overlooking a grassy open space, the trail shelter at Cumberland Knob is described as having an L shape and a low-hipped roof. The theme of rustic architecture carried through many park buildings is evident in the rubblestone walls and chimneys, flagstone floors, heavy timbers, square post roof supports, and split-oak shake roofs. Like many park construction projects of the time, the Cumberland Knob shelter was built by a WPA crew.



Exactly 60 years ago tomorrow, right here at Cumberland Knob, the Blue Ridge Parkway was born. Think about it. A mere shovel-full of dirt commenced a project that eventually led to a parkway that is 469 miles long and that today receives some 20 million visits each year. The people who were here on September 11, 1935, knew equally well that they were embarking on a massive endeavor. They knew equally well that no one had ever built a parkway that was so long, or that was to have so many recreational parks and facilities along it.

– Superintendent Gary Everhardt, Blue Ridge Parkway, 60th Anniversary Celebration, September 10, 1995

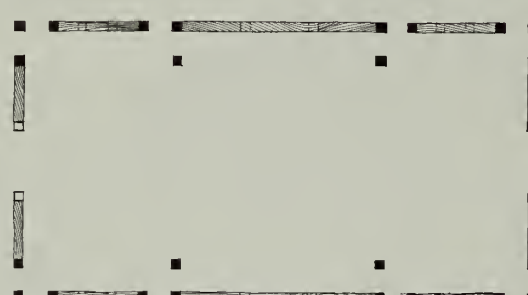
Weathered Gray Color. Paints and stains were not generally available to mountain pioneers. Accordingly, the colors of the cabins and other domestic buildings were those of the natural weathering process that produced varying degrees of gray, depending on roof overhangs and exposure to the elements. The early parkway planners were aware of the indigenous architectural colors and sought to reinforce the natural weathered gray theme of the mountain architecture. Gray stains and bleaching oils were specified on park buildings. It should be noted that most other national parks being improved during the same time were using brown stain colors. Therefore, it is important to recognize that the weathered gray color is a signature of the Blue Ridge Parkway.



Simple Details of the Cumberland Knob Visitor Center. These drawings demonstrate the simple yet thoughtful details used in the design of this 1940 park building. The double oversized posts continue the rustic theme and the vertical siding with its "board on board" vertical pattern carries the parkway's signature weathered gray color. The exposed roof rafters provide a visual reference to the pioneer buildings and also add a level of detail that gives the building character. The roof material is hand-split wood shakes.

Craggy Garden Picnic Shelter

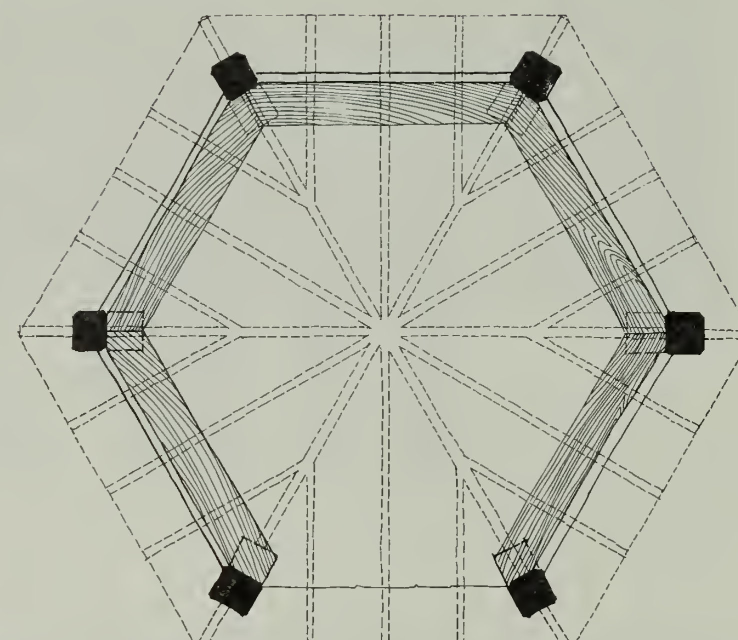
This is the largest of two shelters built by the CCC for the Forest Service (c. 1937). The sites were later added to the Blue Ridge Parkway. This structure is an excellent example of the rustic architecture of the period. This structure near the top of a rhododendron-covered mountainside is like a Greek temple. The trail to the crest of the mountain passes through the shelter. Nestled close to, but well below the ridgeline, the shelter exemplifies sensitive placement; virtually unperceived from the elevation of the parkway below, the shelter takes on its commanding presence after it appears through the narrow trail ascent.



This 24' x 60' building is open on all sides. The chestnut wood posts are 12" square. The cross beams in the "A" are 12" x 16" and span 24'. Note that the wood shakes are nailed directly to the wood purlins.

The significance of this structure lies not only in its placement on the site, but also in its boldness of structure. The simplicity of the rafters, beams, purlins, and large rustic posts are direct and honest expressions of a natural blend of park architecture and the skills of the mountain people who built it.

Craggy Garden Trail Shelter at MP 367.6. The trail shelter was built as part of the CCC program in the 1930s for the Forest Service. The hewn log structure is shaped like a hexagon and has a pyramidal shake roof with a flagstone paved floor. Wooden benches around five of the sides have been providing visitors with a place to sit and see wildflowers and rhododendrons since 1938.

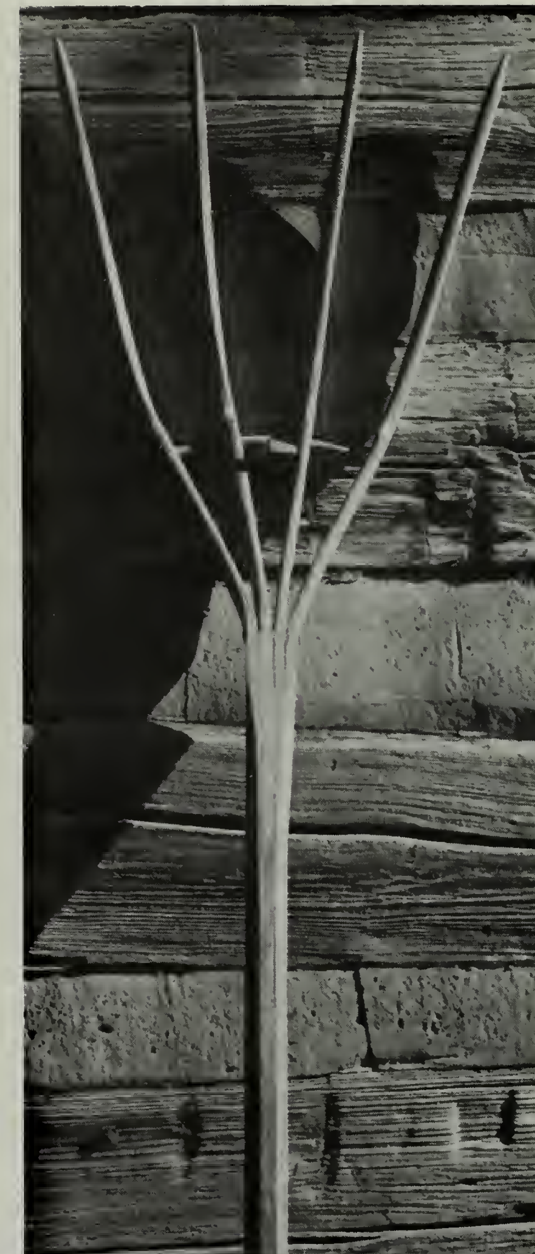


Pioneer Structures

The pioneer buildings that still remain along the parkway corridor have a simple rustic character. Hand-hewn log construction and a local palette of materials were typical. Building shapes, rooflines, windows, doors, and construction details were always basic and functional.

The poorest people build huts of logs . . . stopping the interstices with mud. These are warmer in winter, and cooler in summer, than the more expensive constructions of scantling and plank.

– Thomas Jefferson
(Quoted in Nichols, 1978)



Ramsey House

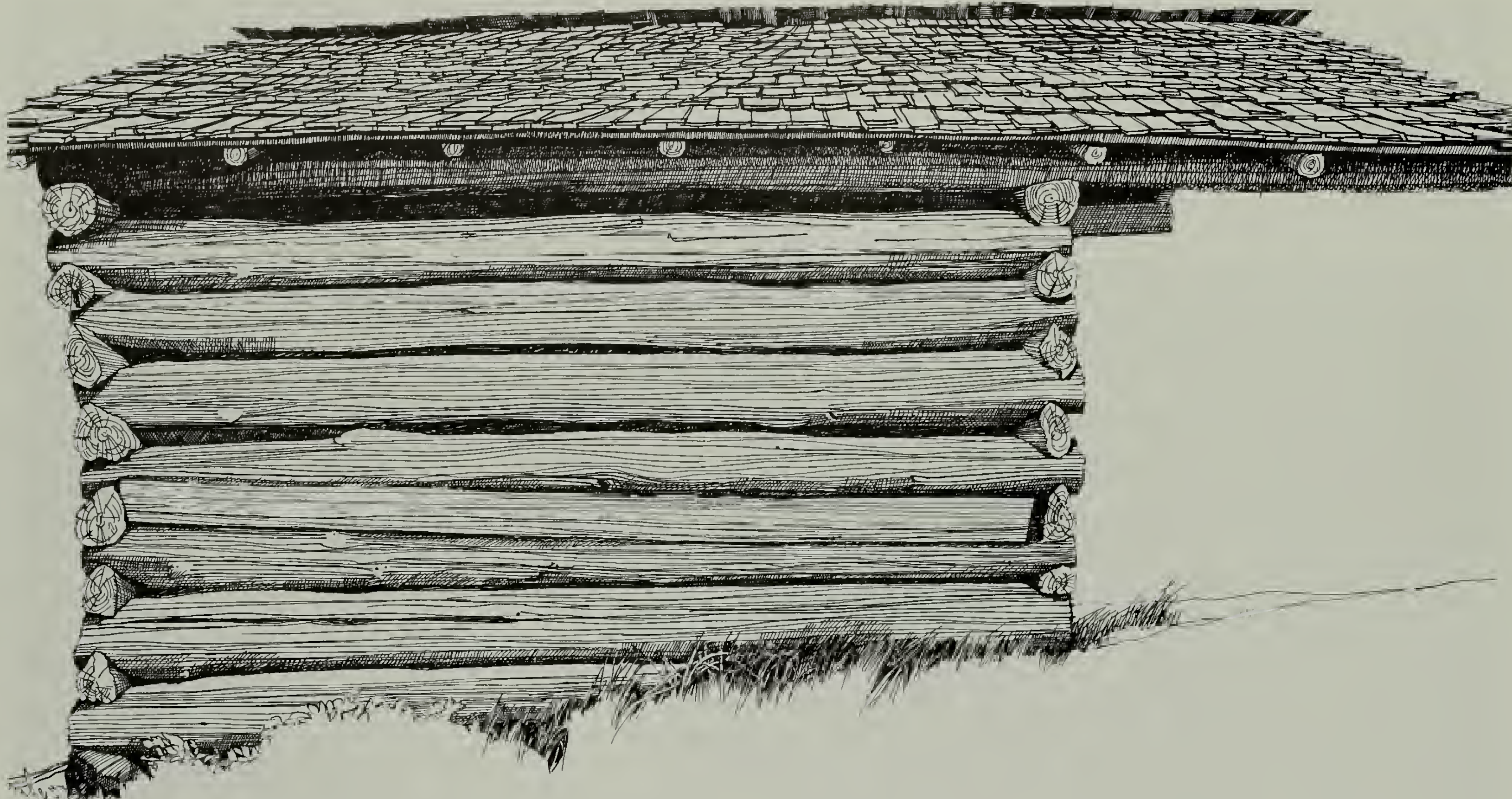
This log cabin, built by William Ramsey in 1890, was moved by the National Park Service to its current farmstead site at milepost 5.8 in 1952–53. The cabin is part of the Humpback Rocks Mountain Farm, which consists of five buildings. It was built of hewn logs with half dove-tailed joints at the corners. Inside the cabin there is one room with a loft overhead. The cabin is 17' x 19' 6". The early structures were sited with great care. Here, the south-facing 7' wide porch is an extension of the cabin and functions as a work and social space. Mountain farmers used the nearby native materials for the construction of their cabins and many of their farming implements, such as the oak pitchfork.

Meathouse and Root Cellar. The building above is the meathouse and root cellar at the Humpback Rocks farmstead at milepost 5.8. The building is built back into a hillside. The meathouse is entered from the upper level and the root cellar is entered from the lower level (root cellar entrance illustrated above). The structure is 11' 6" x 15'. The root cellar on the lower level is constructed of dry-laid stone. The upper level log structure rests on two locust posts on the downhill front corners. (Note that the level of detail in the log notching is not as refined as the main house seen on the preceding page.)

Barn at Humpback Rocks Mountain Farm. This barn building at milepost 5.8 was originally built as a 16' x 16' stable and corn crib. At a later date, a 9' x 16' cowshed was added to the stable. The low sloping roof has the traditional hand-split, white oak shingles that had an exposure of an arm's length to the weather. The walls have been crafted of unsquared logs that have been chinked with pieces of wood from the loft level down to the ground. The sketch on the bottom of the opposite page illustrates the barn in its setting. Mountain farmers always sited their barns with a relationship to their environment. Blocking the north winter winds and gaining the warm morning sun through the barn door were necessary achievements. The location of pathways and farm roads and the ease of access at different levels were always important to an efficient farming operation.

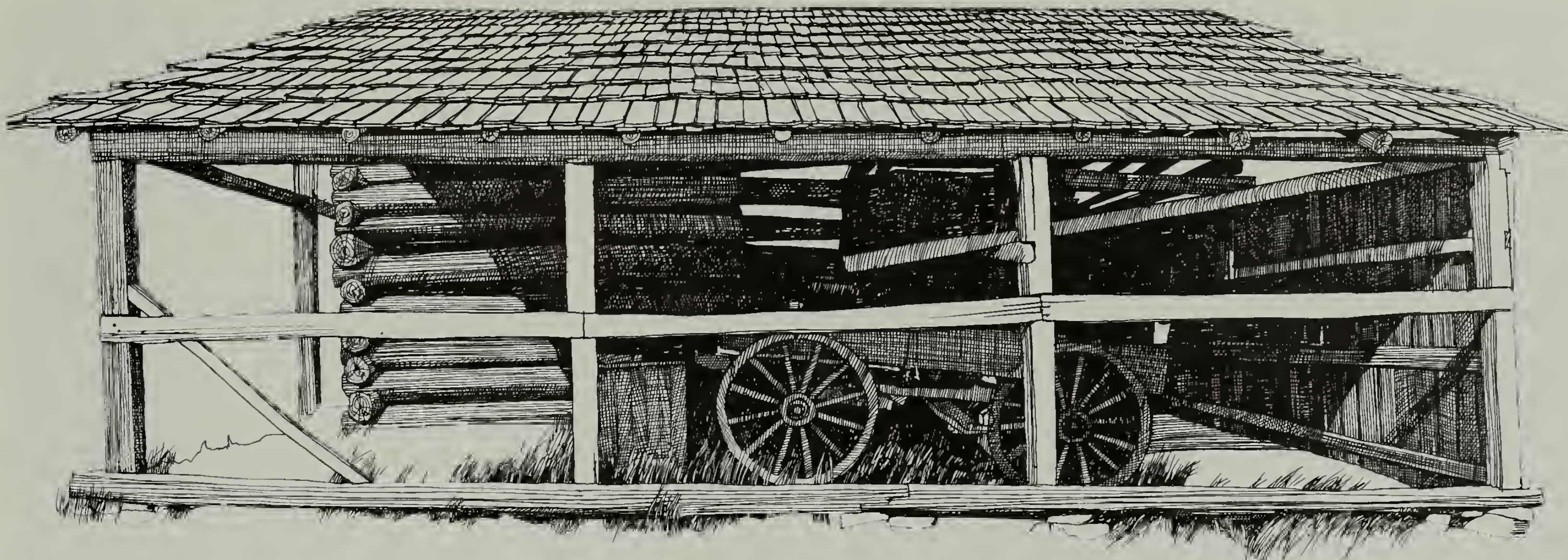
Springhouse at Humpback Rocks Mountain Farm. The springhouse is one of five buildings at the mountain farm exhibit at milepost 5.8. At the far end of the re-created farmstead is the springhouse. This is located beside a spring from which water is channeled underground to the cooling trough inside the building. It is built of hewn logs with V notching at the corners and a board roof. It measures nearly 9½' x 10½'. There is a low door, about 3½' high, facing the spring. Inside there is a stone floor beside the cooling trough. The walls are lined with horizontal oak boards. Nearby there is an exhibit of equipment associated with washday, including an iron kettle, beetling block, and soap maker. The photograph above shows the front of the building. The illustration on the right is of the rear or down side of the springhouse where the water exits in the rocks.

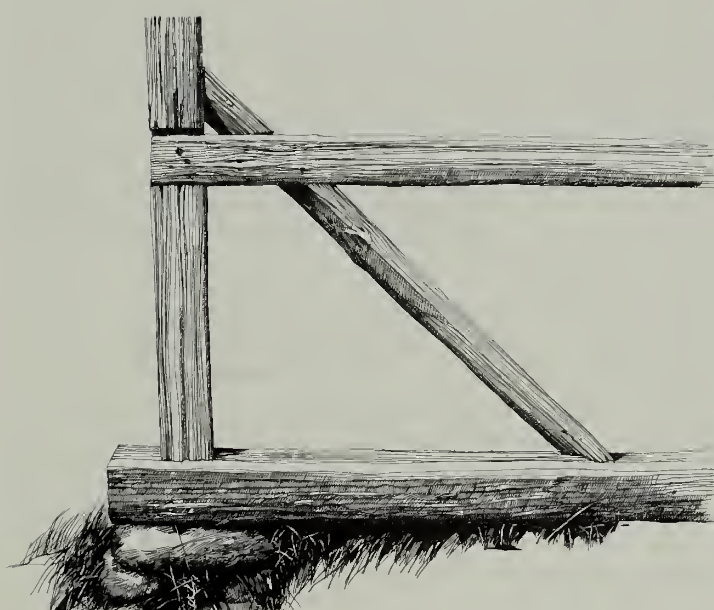
The Chickenhouse at Humpback Rocks Mountain Farm. The chickenhouse at milepost 5.8 behind the Ramsey Cabin is a rectangular log-pen structure of about 8' x 10'. The walls are made of round logs with V notches where they connect at the corners. The building walls are made skunk and weasel proof by the use of wood chinking installed between the round logs. (Note that the roof overhangs the building sides and that the roof purlins extend to allow the roof to give cover for the door.) The building rests on dry-laid flat stones.



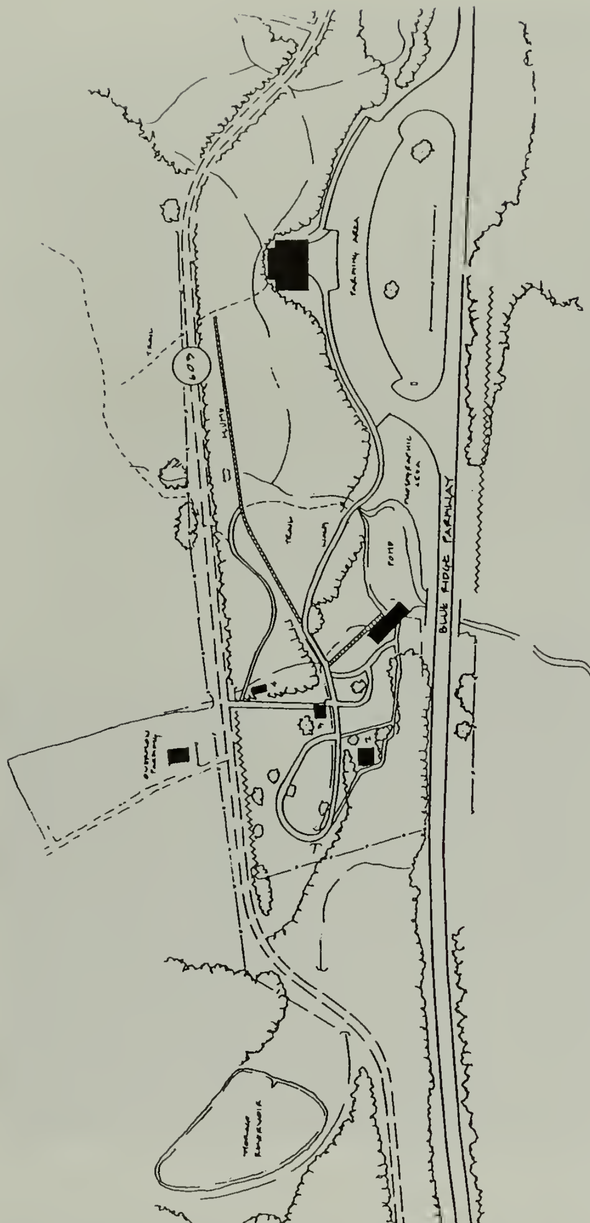
Johnson Farm

This simple springhouse illustrates the logic and thoughtfulness used by the mountain pioneers. The roof is constructed of purlins that rest on small, round roof rafters. The uppermost log of the wall projects out to allow for the roof framing, which cantilevers out over the single doorway. Springhouses protected the important water source from varmints, freezing, and plant growth. The springhouse was also a cool place where dairy products could be kept.





Large Barn at the Johnson Farm at MP 85.4. The drawings and the photograph on this page are of the saddle-notched log barn and its attached open-sided equipment shed.

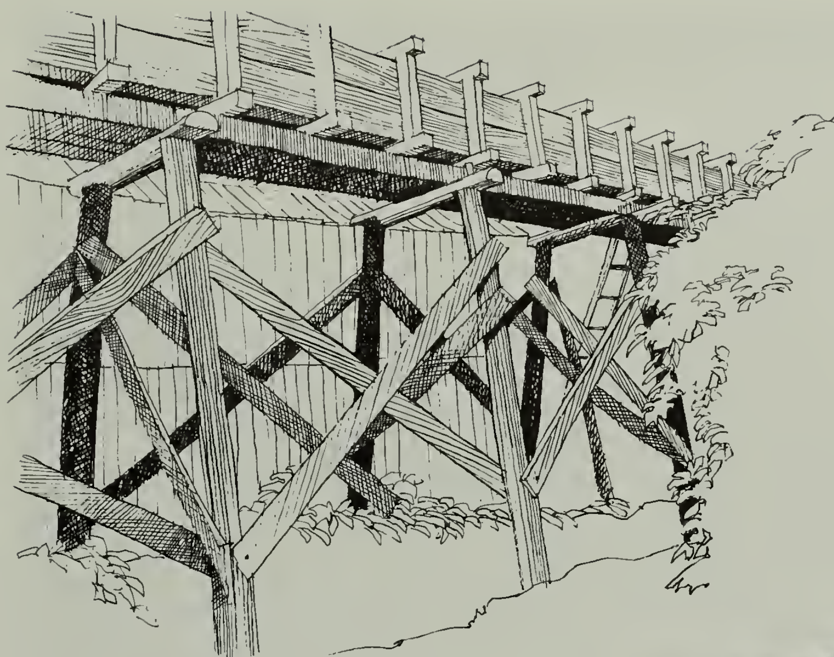


Mabry Mill

The Mabry Mill area at milepost 176.2 has a number of pioneer buildings grouped in a complex close to the parkway that is served by two parking areas, one nearby on the parkway and one to the east of VA 603. A restaurant (a national park concession) makes this a favorite stop. The following summary from the 1992 *Blue Ridge Parkway Historic Resource Study* provides a brief history and description: "Ed and Lizzie Mabry acquired their 90 acre farm in 1898, and Ed built his blacksmith's shop shortly thereafter. The mill was built in 3 stages between 1903 and 1914. A grist mill was in operation by 1905, a saw mill was added after 1910, and a woodworking shop in 1914. The blacksmith's shop was moved in 1910 to a position close to the mill. Using his saw mill and woodworking shop Ed Mabry built a new frame house around 1914. In addition to these structures there were several farm buildings: two barns, a springhouse, a woodshed and washhouse, and a couple of chicken houses. Ed Mabry died in 1936, and the complex was acquired by the state in 1938. The mill was restored in 1942 – one of the first structures to be restored along the Parkway. At that time the blacksmith's shop was rebuilt in a new location and the Mabry house was demolished. In the 1950s a log cabin, dating from 1869, was obtained from the Matthews family in Carroll County, and was moved to the site of the Mabry house. The deteriorated Mabry farm buildings were removed, and a collection of items illustrating mountain industries was brought into the area, to form a countryside museum."

"Mabry Mill was one of the first buildings selected for preservation by the planners of the Blue Ridge Parkway. It was selected as symbol of the self sufficiency of mountain communities. Ed Mabry put together most of the machinery, built his own buildings, and acted as miller, blacksmith, wheelwright and carpenter for the surrounding area. The mill is, therefore, important in its own right and as an integral part of the parkway. Although some of the original materials have been replaced and the setting substantially changed in the course of restoration and repairs, the mill retains a fair degree of integrity. However, the integrity of the other structures beside the mill has been compromised by their relocation. The blacksmiths shop was part of the Mabry complex, but has been moved and substantially altered. The other buildings were not part of Ed Mabry's mill. These buildings have lost much of their historical value, but are important as part of the countryside museum created as an attraction along the Parkway."

– *The Blue Ridge Parkway Historic Resource Study (Draft),* 1992



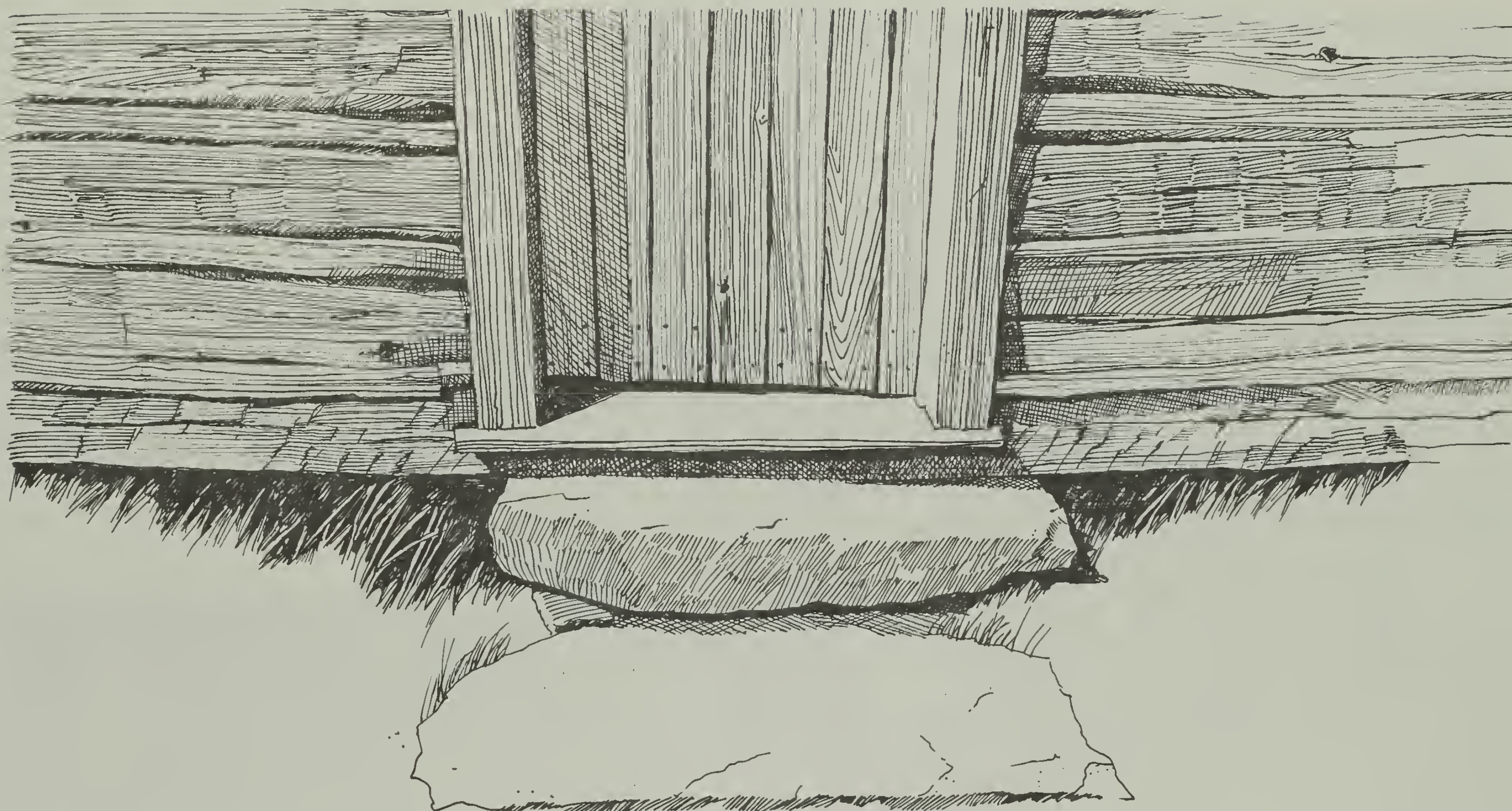
The drawing above illustrates how the flume structure was constructed. The mill's waterwheel was driven by water coming from an extensive network of small waterways that lie above the mill. The drawing on the right illustrates the wooden gutter detail at the roof eave where the grist mill building volume joins the sawmill building volume. The gutter and the downspout are made of wood and are held into place by a wooden bracket that is secured to the roof by a narrow metal strap. The parkway architects recognized the character of the details and applied them to the park building. For example, the nearby Mabry Mill restaurant has wooden gutters.

The waterwheel (photo right) provided the power to drive the gristmill and the sawmill on the inside of the building. The waterwheel was an overshot wheel that was driven by water delivered by an overhead flume carried by a cross-braced wooden frame structure.

This west facade of Mabry Mill is seldom photographed by visitors. This view reflects the three-part history of its construction. The three roofs represent the practical phased approach that the pioneers used to progress with their lives. Whether it is a mill or a cabin, the architecture of the Blue Ridge corridor is characterized by a single-building addition with smaller additions that have been attached at a later time. The middle section of the mill, approximately 20' x 16', houses the gristmill. The uphill section, 22' 8" x 16', houses a circular saw and log carriage. The downhill section, 18' x 15', has the carpenter's equipment and the belt wheels that are driven by the waterwheel.

|--------------------1915--------------------|----------------1928----------------|----------------1916-------------------|

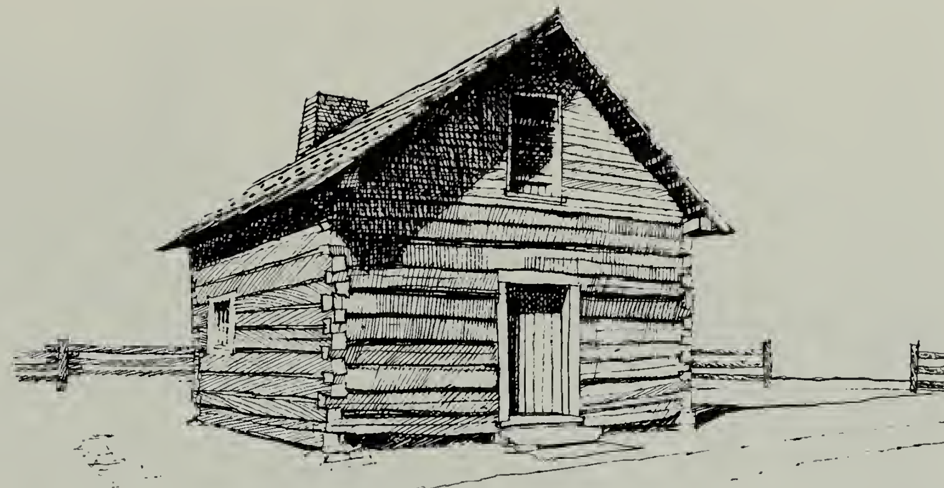
The Blacksmith's Shop. The blacksmith's shop (photographs top and bottom) was originally located in the proposed alignment of the parkway just west of the existing mill structure but was moved to what is now the center of the Mabry Mill complex. The log portion of the building was used as a blacksmith's shop. It has a forge constructed of stone in the center of an earth floor. The attached frame shed originally functioned as a wheelwright's shop. Today, it functions as a breezeway from which visitors can see into the blacksmith's shop.

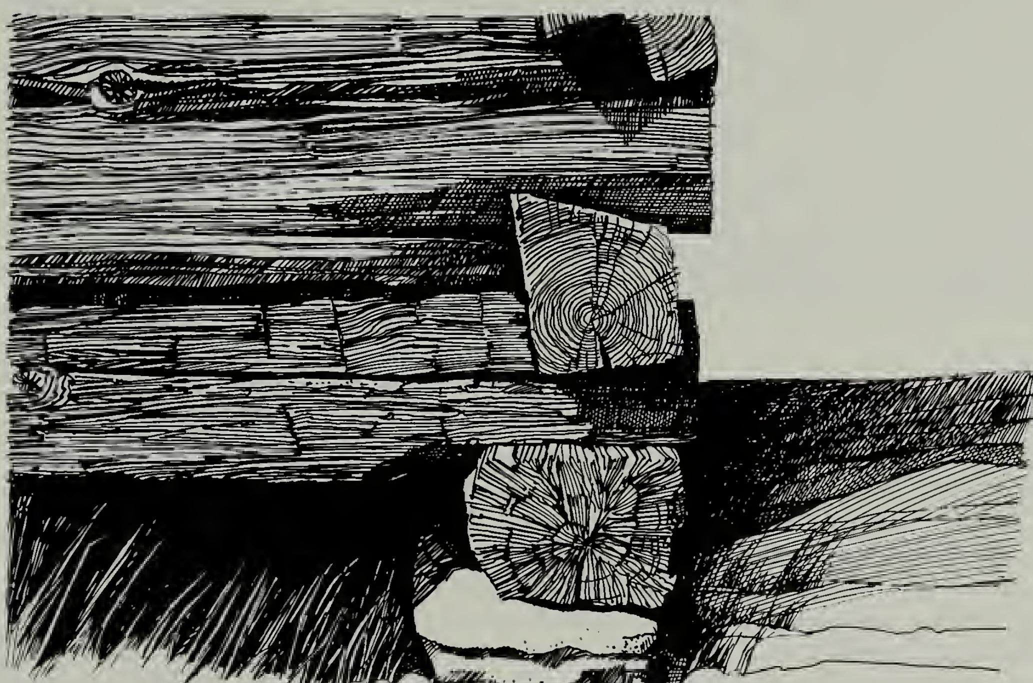


Puckett Cabin

This structure at milepost 189.9 is a good example of an original pioneer building that was preserved near the parkway. Located in a narrow right-of-way, the 16' x 16' cabin is just 60' from the parkway pavement. Well-placed landscaping shields the cabin site from development. The closeness of the cabin to the parkway is not a compromise to historic context; rather, it contributes successfully to the experience of a pastoral road. At this point, the parkway lies lightly on the land and delicately passes the historic structure like a ribbon lying upon the existing topography without change to the original ground. The whole effect is for the parkway to pass close by the cabin site so that motorists can have an intimate experience of the pioneer architecture without stopping. There is, however, a simple turnout for parking if one desires to stop. The only other building at the site is the chickenhouse. The barn, springhouse, smokehouse, and apple drying kiln are gone. The original cabin and chickenhouse, along with a skillful layout of fencelines, combine to make a successful site for the parkway visitor. Recent historic research suggests that the present cabin was built or moved to the site by John Puckett to provide a home for his sister-in-law and children after his brother died from wounds received during the Civil War. The cabin became known as Aunt Betty Puckett's home.

The pioneer log house was constructed of a number of different tree species. Not all timber types were acceptable for building log cabins. American chestnut was a favorite, but pine, poplar, and oak were also used. The logs of the walls were connected by corner notches that would lock logs in place very much like the Lincoln Logs that many people played with as youngsters. A number of the notch types can be found along the Blue Ridge Parkway corridor. Some of those notch types that were part of the eastern construction were the full-dovetail notch, the V notch, the saddle notch, the square notch, and the diamond notch as shown in the illustration below.





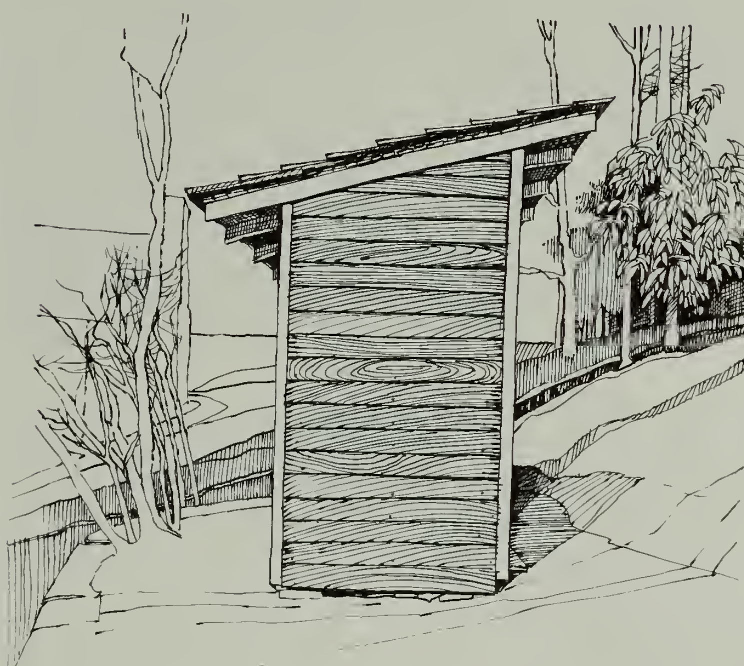
Parkway Setting. The Puckett Cabin, its fences, and outbuilding have the modest scale of a typical Appalachian farm even though some of the structures and fences have been moved or adjusted to allow for easier visitor access. In this site plan, the landscape architects have considered not only the immediate environment of the cabin but also the parkway approach and the open agricultural spaces and fencelines adjacent to the cabin. The landscaped space also extends across the parkway with consideration given to distant vistas so that the simple Appalachian farm setting has a completeness which can be recognized by park visitors as they pass through the site on the curving parkway alignment. It is important to recognize that it is this attention to total visual context that gives the parkway its beauty.

Martin Brinegar and his wife Caroline Jones Brinegar bought 125 acres of land on the crest of the Blue Ridge in 1876. They built the present cabin about 10 years later. The Brinegar Cabin is a weatherboard log cabin with a frame shed addition. The log section has one room measuring 15' 6" x 17' 6" with a loft above. The addition originally had two rooms but now has one called the old kitchen. The north elevation is very plain with a central door in a wall of unpainted weatherboard beneath a roof of hand-split shakes. The east elevation is dominated by two stone chimneys – one for each room. There is one window beside the chimney in the log section of the cabin. The west elevation also has one window and a louvered vent above. Both side elevations show the field stone foundations that are stepped down the slope. There is a porch on the south side supported by two crooked posts. The cabin originally had an orchard, a garden, and a field of crops nearby, but there are few signs of these left. However, there are footpaths laid by the National Park Service leading from a parkway overlook to the cabin and its granary and springhouse. The Brinegar Cabin is a good example of an isolated mountain homestead from the late 19th century. The cabin, with its granary and springhouse, was placed on the National Register of Historic Places in 1972.

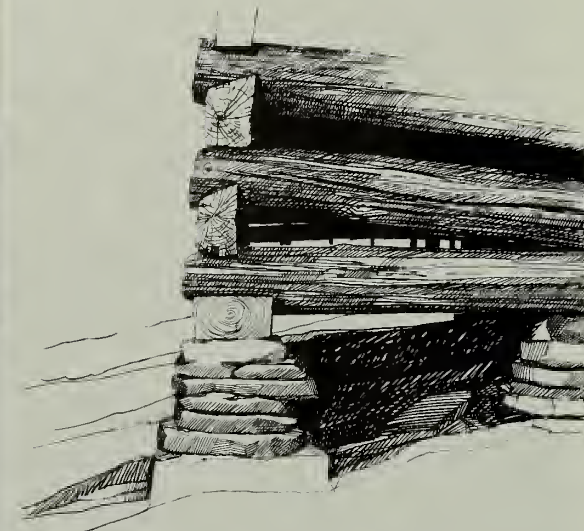
Brinegar Cabin

The setting of the Brinegar Cabin and the various outbuildings reflect the remote lifestyle of a highland family. This modest farm complex is exemplary of the thoughtful placement and relationship of the various farm structures. Mr. Brinegar obviously considered the angle of the southern sun exposure on his cabin porch and the direction of the cold winter winds in his layout and placement of the buildings. The ease of walking to the root cellar or the privy on the level contour was important site design considerations for the highland farm built on a mountain slope where there was not any flat land. Very simply, it was in Mr. Brinegar's interest to make his small farm energy-efficient and easy to work, and he did it all with minimum disturbance of the natural mountainside. Contemporary site planners can learn many lessons from these simple, traditional settings as they demonstrate how thoughtful building placement and use of existing natural terrain can be the foundation for good architecture, aesthetics, and environmentally sensitive site design.

The Brinegar Cabin at milepost 238.5 is well placed on its site. The porch was oriented to the south, and the cabin was over the hill just enough to allow the north winter wind to be deflected by the mountain behind. The nearby granary, the agricultural fields, and the privy were on the same contour of ground that reduced the farmer's vertical movement. In short, the pioneer settler was very conscious of his environment and accordingly considered all aspects of his site before building.



Brinegar Cabin, Privy, and Springhouse. The privy (illustration on left) was a simple structure with a shed roof that sends the water and snow away from the doorway side. The springhouse (illustration above) is down the hill from the cabin and is tucked into a ravine that is sheltered by a large tree and rhododendron.



Sheets Cabin

The Blue Ridge Parkway was located to provide an occasional glimpse of pioneer settings, such as the Sheets Cabin at milepost 252.4. At this point the parkway alignment moves in a gentle, embracing arc above the cabin on its hillside clearing. There is no overlook, but the cabin is the centerpiece of a 6-acre opening framed by trees. The whole effect is to bring motorists visual interest to this single artifact as the road moves around it at a slightly higher elevation.

The 16' x 21' cabin is simply placed on a flat place on the hillside, and the hewn log structure is made level by the flat stone piers upon which it rests. Reputedly built by Jess Sheets around 1815, it was the home of several generations of the Sheets family until the Park Service acquired it in 1940. The structure is one of the oldest along the entire length of the parkway.

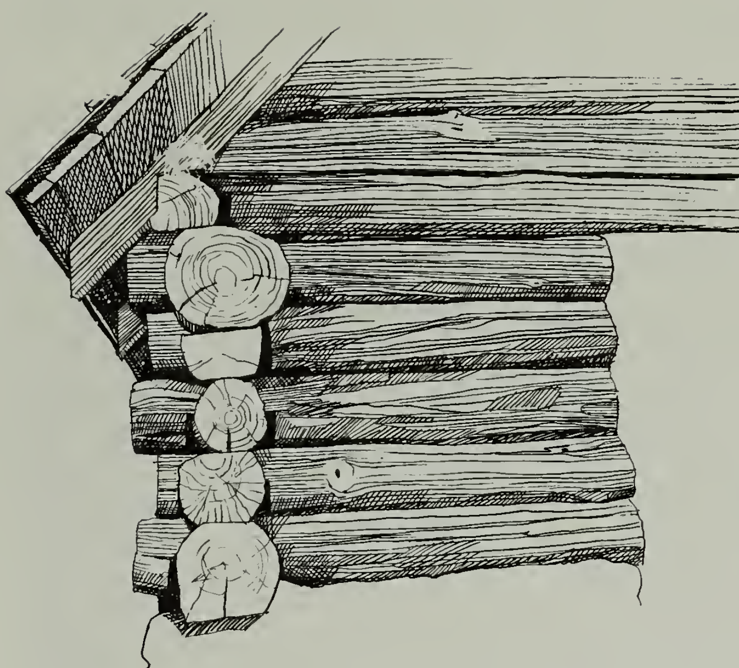
Jesse Brown Farmstead

The springhouse at milepost 272.5 (photograph above) is 11' x 7' in size with a 3' roof extension beyond the door. Like the cabin, the logs used for the walls have no chinking. The Cool Springs Baptist Church (pictured to the left) was moved to its present location by the Park Service from the Tompkins Knob overlook. The 15' x 18' hewn log building has one entrance and one window with a dirt floor. NPS research shows that the structure was used as a barn by the previous owners. The only existing evidence that the building served as a church or meeting place is the memory of the local residents, although local Baptist Association records that have been searched do not support their claim.

A major component of the rural landscape in this country has been the historic buildings. Early on, parkway planners faced the challenge of rescuing several splendid log cabins, a gristmill, homesteads, and other forms of local architecture typical of the frontier settlements of a hundred years ago. Split-rail fences generally marked property boundaries. These have been rebuilt and restored around many farms and farmsteads.

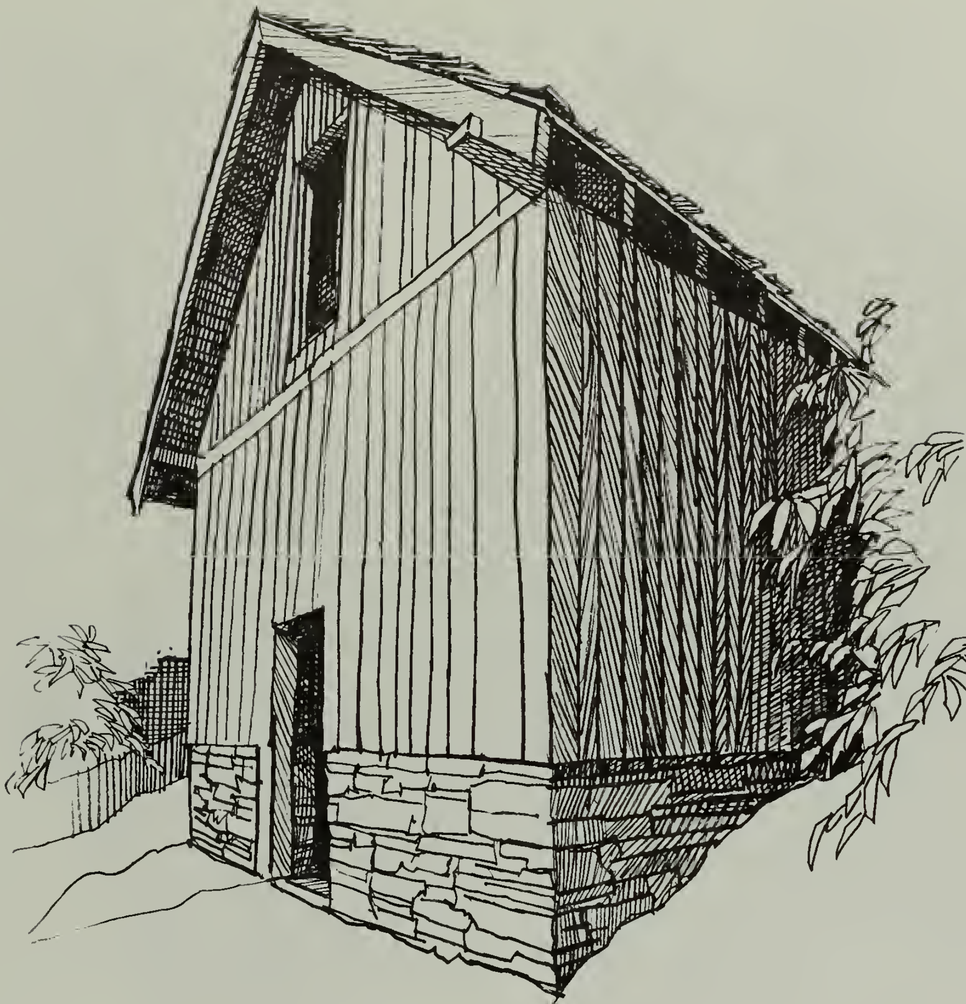
– Granville B. Liles, 1989

The Jesse Brown Cabin is estimated to have been built before 1840 and moved to its present location in 1905 by Aaron Church, whose family used the building for two generations. The Park Service acquired the land in 1937, which included the cabin, a springhouse (photograph on the opposite page), and several other structures used in farming. The cabin measures 15' x 16' and has an 8' wide front porch. The Park Service restored the cabin in 1947 by removing shed additions, replacing the sills, roof, and some wall logs, and stabilizing the chimney.



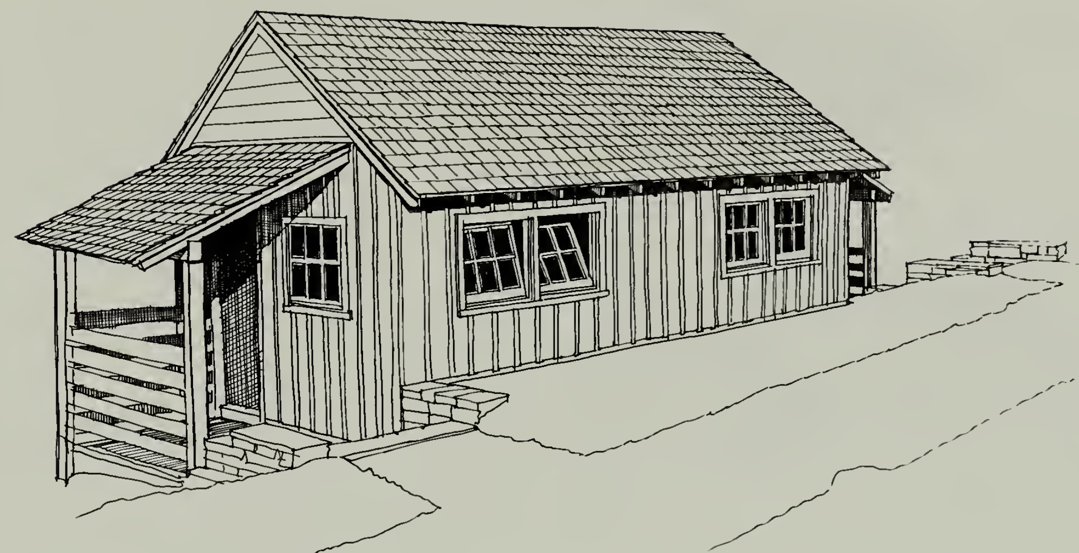
Buck Spring Springhouse

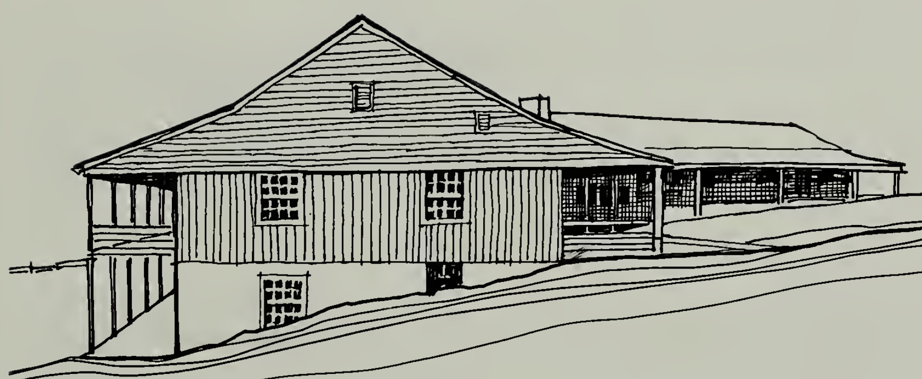
This springhouse at milepost 407.7 has an unusual history. Instead of being part of a traditional mountain farm, it was part of the Buck Spring Lodge complex on Mount Pisgah, which was built in 1896 by George W. Vanderbilt to provide family and guests with a retreat from the palatial main house at Biltmore. Originally accessible only by way of the "shut in trail" from the estate in nearby Asheville, North Carolina, the springhouse, which is the only remaining structure of the original lodge complex, and retaining walls are significant remnants from the era when Mount Pisgah was part of the Biltmore Estate. "The springhouse was modeled on a typical mountain farmstead springhouse but is unusually large (9' x 11') and well-made. The base and foundation are of stone, and there is a stone retaining wall behind the structure. The walls are made of chestnut logs, closely fitted together, and are without chinking. The gable roof has oak shakes over rough sawn boards" (NPS 1992). Today as one travels the parkway, it is difficult to find the springhouse because it is tucked back in dense rhododendron growth. Many of the original structures along the parkway's route have been preserved because they represent aspects of the cultural heritage of the mountains.



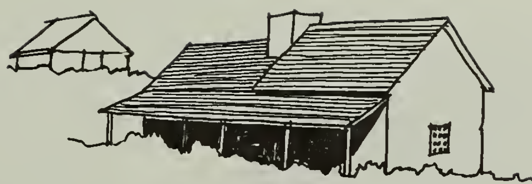
Smokehouse at the Davey Farm, MP 455.6. "The only surviving non-residential building is a smokehouse close to the main house. This is a small gable structure covered in vertical boards, without battens, on a stone foundation. There are two doors on the east, downhill side: the one at ground level has a steel grate in the center and the one at attic level has 4 small vents. The roof is still covered in wooden shingles" (Firth 1992).

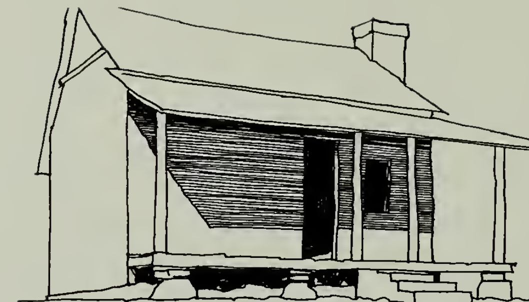
Architectural Elements

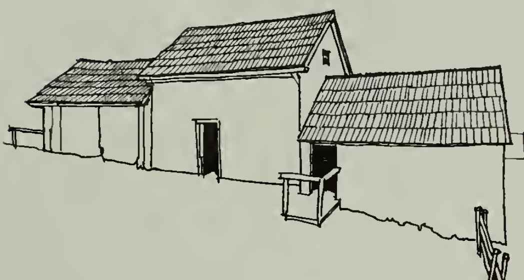


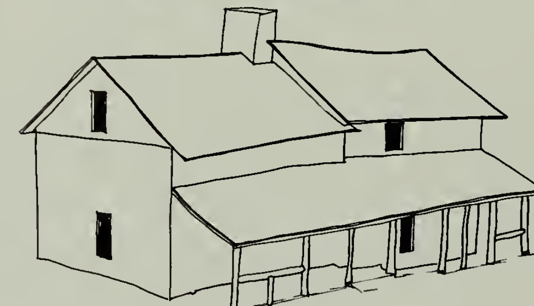


It is important to use architectural elements that produce a consistent design theme within the park. This does not mean that all buildings should be the same, but rather that all buildings should be generated from the same architectural philosophy. The same pallet of forms, materials, and details should be used. For example, building shapes and rooflines are basic to the overall visual scale and character. The relationship of the building to its setting and how it conforms to the topography are also very important. Successful architectural design depends on details such as door and window placement, material selection, texture, and color. It is the combination of architectural details that contributes to a building's aesthetics and its image on the landscape. Even the simplest of park buildings requires special design attention. The sketch at the top of the page is the comfort station at Craggy Gardens picnic area. The one on the left illustrates the Bluffs Lodge at Doughton Park in North Carolina.



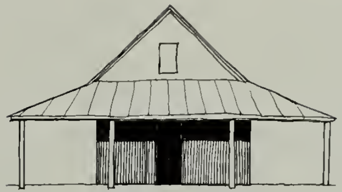


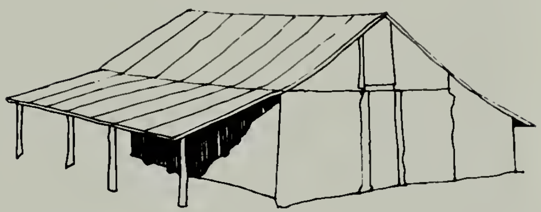


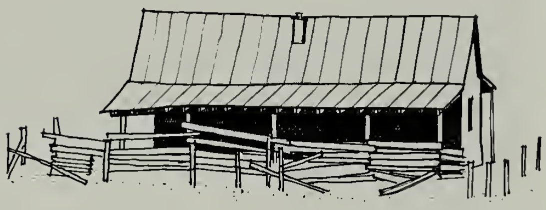


Scale and Massing

The agricultural buildings that existed along the parkway corridor before the parkway's construction were simple and modest in scale. The parkway structures that followed in the 1930s were also modest in scale, mostly single-story buildings. Farm buildings were traditionally grouped to function together using topography and orientation. Park buildings such as visitor centers and ranger stations are larger; however, the original park designers were skillful in the design of parkway buildings. By using porches, overhangs, and broken-up rooflines, the larger park buildings have a scale that is compatible with the historic pioneer buildings. The relationship of scale, texture, material, and color reinforce the visual consistency of the parkway character.







"This office feels that on the Blue Ridge Parkway we have made a start toward developing a unique and very fitting architectural style in the public buildings which have been constructed and in the plans which have been projected. It is simply an adaptation of the general forms, lines, and materials of the local sheds, barns, and dwellings which adapt remarkably well to parkway needs. This office feels that the recall of pioneer building methods in the parkway structures is one of the principal opportunities that we have to preserve something of the backwoods feeling that otherwise may disappear from the mountains."

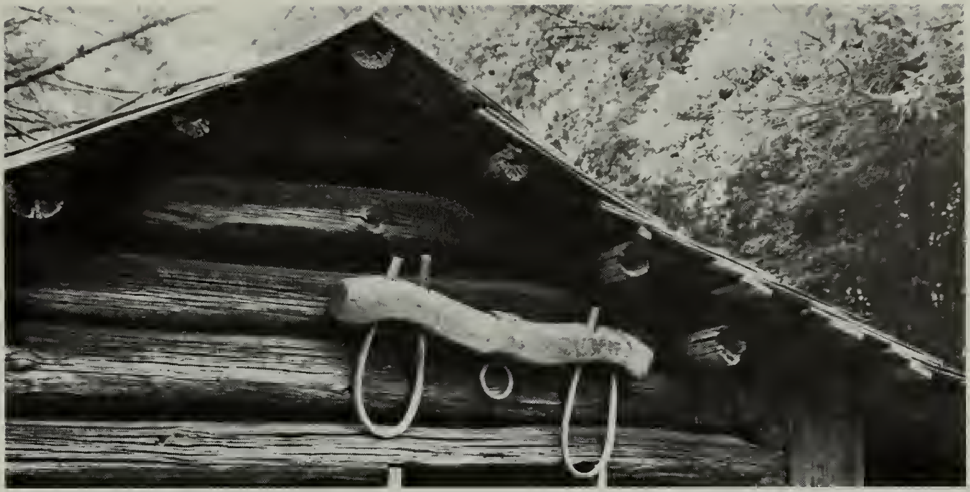
– *Blue Ridge Parkway Historic Resource Study (Draft),* 1992

Chimneys

The pioneer chimney above is a dry-laid stone chimney with the voids between the flat stones filled (or chinked) with clay. This kind of chimney construction is not used today; the parkway architects, however, did adapt the simple character of these chimneys for use on park buildings. The simple stone chimney on the Rocky Knob shelter (top right), for example, has recessed mortar joints so that it appears to be traditional.

Roofs

The roofs of the buildings along the parkway are major architectural elements that establish the visual character of the parkway corridor. Often seen from the viewing platform of the parkway above, buildings and their roofs are dominant elements in the landscape. Simple gable-ended shapes are typical and often have nesting sheds sweeping low to the ground and sometimes smaller gables in tandem. These various roof combinations generally characterize the modest but consistent theme of the architecture along the parkway. Reflecting the need to shed water, roofs were always positioned for the deflection of the cold mountain winds or oriented to seek the sun. The roof of a barn directs the water away from its main entrance but welcomes the early morning sun into the barn door so that the interior space warms up.



When considering new building roofs and roof replacement designers should:

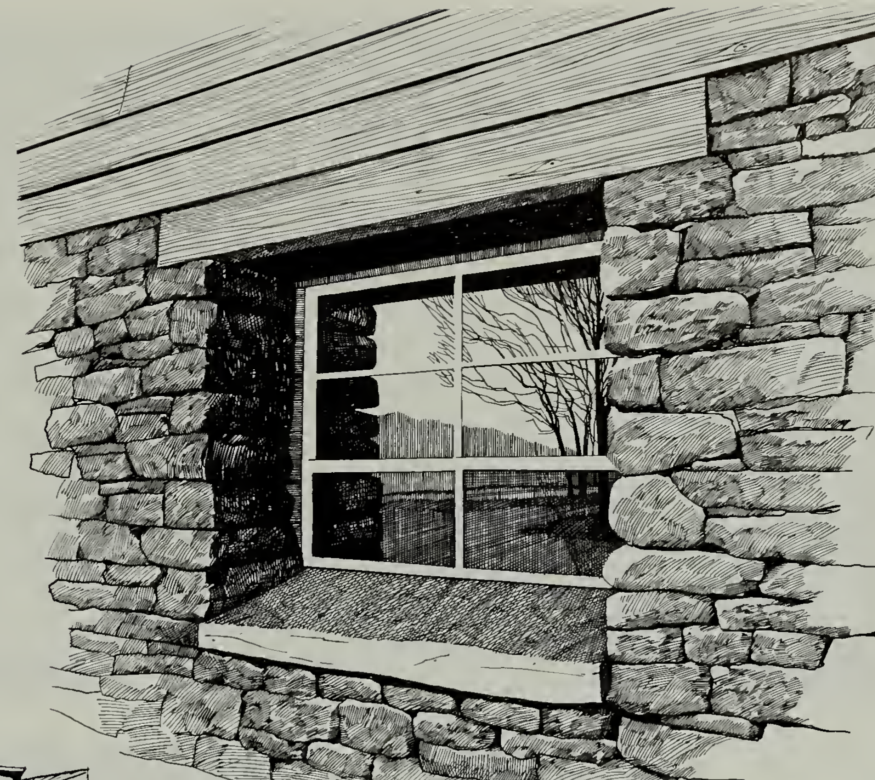
- Encourage the construction of roofs finished with sustainable materials such as copper, terne, and slate where possible.
- Recommend that wooden shingles not be used on visitor centers, restaurants, and other large public buildings.
- Allow only metal roofs that are in the gray-charcoal, gray-black range of colors.
- Allow traditional galvanized or aluminum roofs on barn structures where a precedence has been established.
- Use roof materials that are gray, grayish brown, dark gray, or charcoal and avoid the use of green, hot browns, red, blue, and other high-visibility colors.

Windows

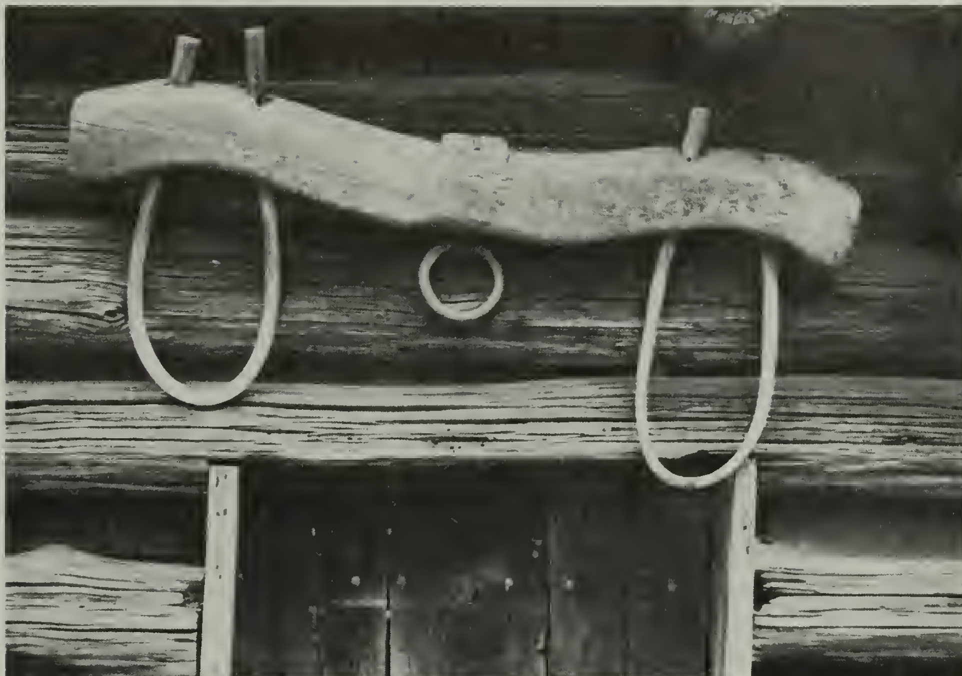
Pioneer structures had few windows. If a cabin or farmhouse did have windows, they most likely did not match. This was probably because of the fact that mountain people were poor, and the acquisition of a window, whether by salvage or single purchase, was an expensive treat. Windows were always punched in the mass, never in the corner, of the building.

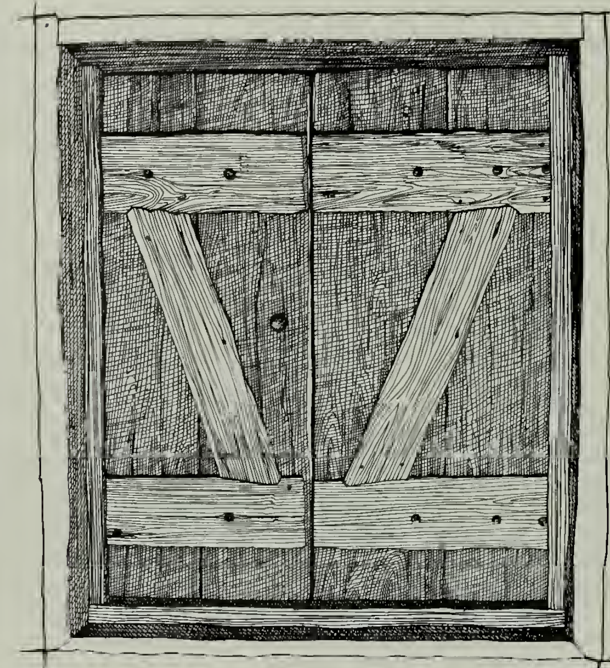
Wood and metal windows are both typical in park buildings. Wood windows may have vertical or horizontal panes, sometimes in combination with picture windows. Metal windows usually have horizontal lights and are used in stonemasonry walls. In small buildings, the window unit is usually repeated. Most park buildings do not have windows at the corners; the exception is the Craggy Gardens visitor center (built in 1966), where the wood windows were placed in the corner to capture the panoramic view. The windows in the photograph at the bottom left are found in the gift shop at the northern end of Mabry Mill (milepost 176.2).

Windows in Their Setting. The depth of the rustic stone wall is revealed by the way the windows are punched into the building mass. The proportion, the depth of the stone sill, and the wide stone header give this building a unique character. The depth of recess protects the window from the elements and provides shade from the southern sun.



The window illustrated above is in the side of a park gas station at the Peaks of Otter (milepost 85.9). Windows in masonry walls are set in deeply because it exposes the thickness and rustic character of the masonry. Shutters and other closures were not part of window installations on park buildings. The windows illustrated on the left are in the coffee shop building at Doughton Park (milepost 241.1). (Also note the use of large, single-piece rustic stone lintels and sills in both buildings.) Windows selected for use in new buildings should have low maintenance, while the tradition of the older park building windows' character is honored in terms of proportion, size of window panes, and general architectural style.

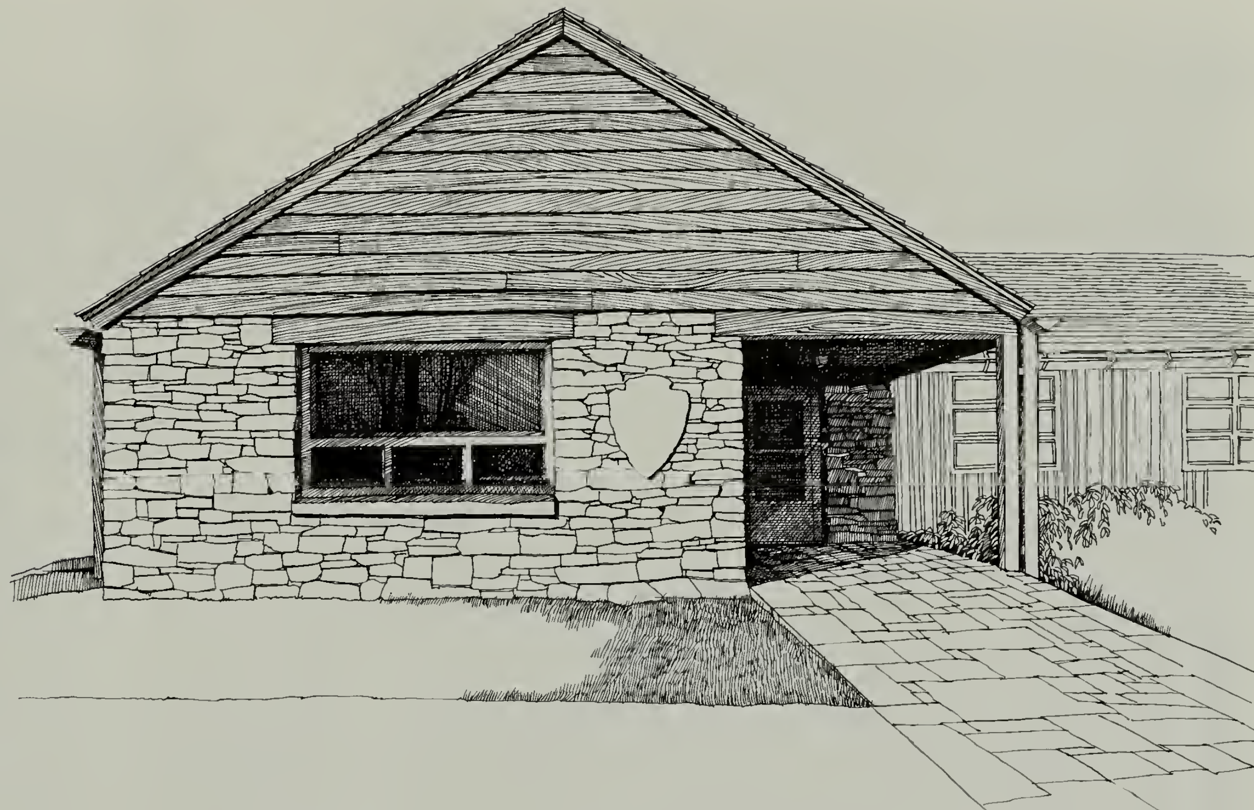




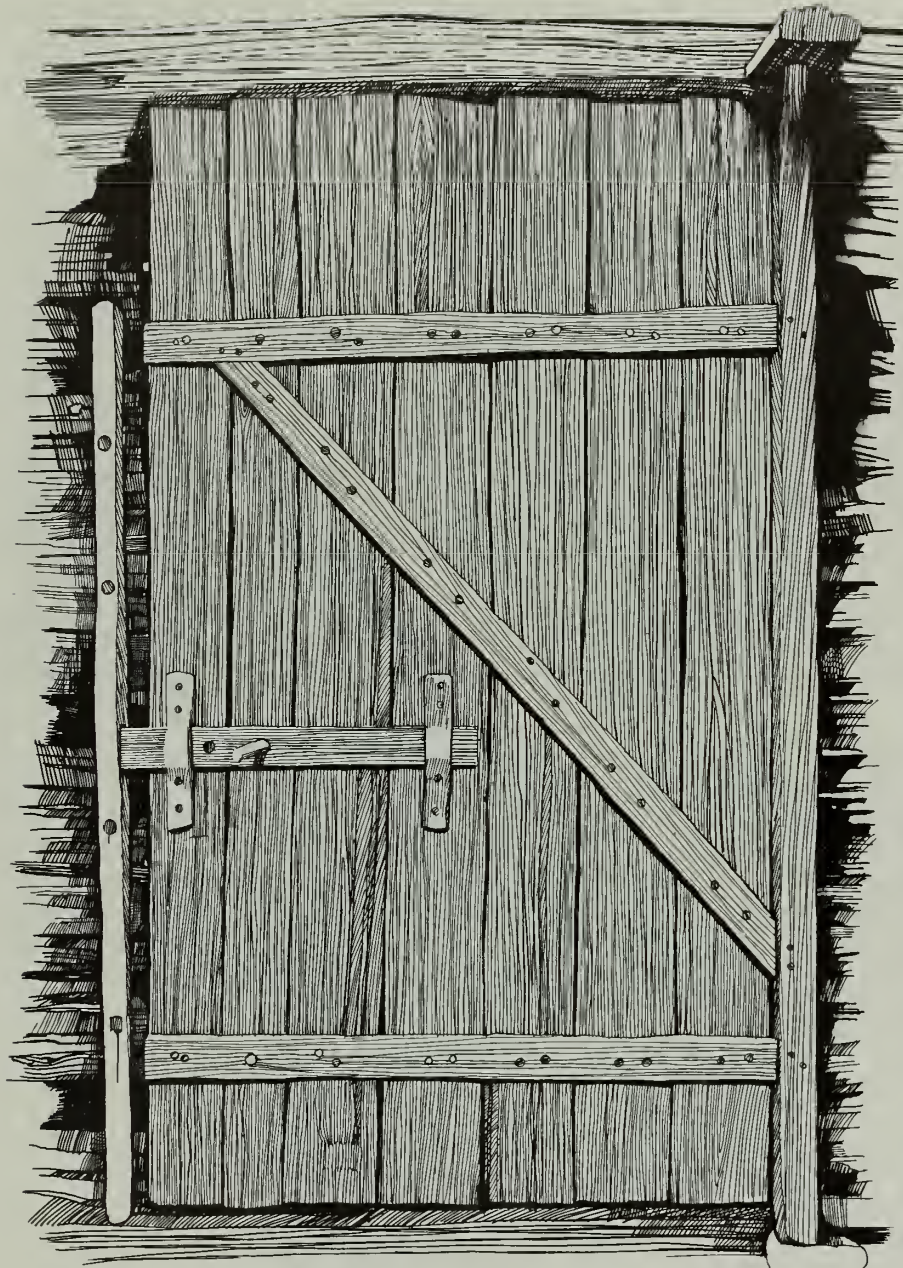
Doors

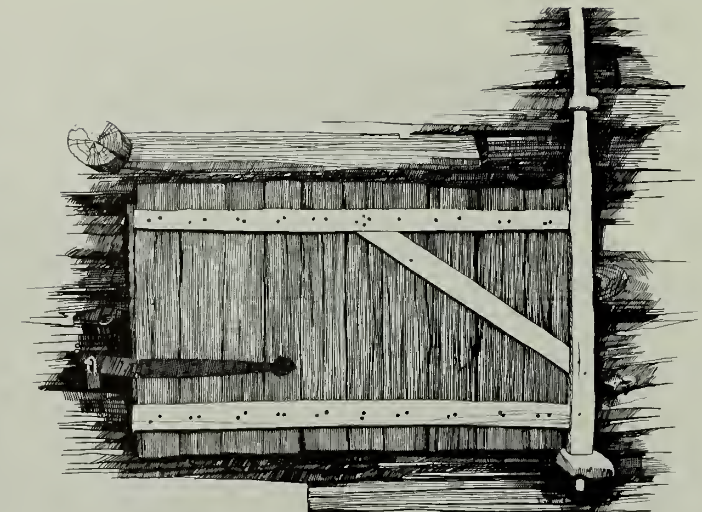
The doors of pioneer houses and farm buildings were typically crafted from vertical wood boards. The doors were made rigid by applying horizontal and diagonal braces that were fastened to the door by wrought iron nails or by wooden pegs. Most pioneer buildings were simple and austere in their shape and detail, with few windows. Therefore, doors are a central element of pioneer buildings and an important character of parkway buildings. The door in the lower photograph is actually typical of door types adapted for use in park buildings. Unlike some pioneer buildings, the park buildings typically have some type of cover, porch, or shed over the main entry door.

The visitor center at the Peaks of Otter (milepost 85.9) is illustrated on the right. The door for the building is modest in scale and the roof overhangs the doorway. A stone walkway leads to the doorway, and roof drainage is to the side so that it does not impact the walkway. The illustration on the opposite page is of a shutter on the group shelter at the top of Sharp Top Mountain. The shutter is typical of the rustic character detail of the early park structures.

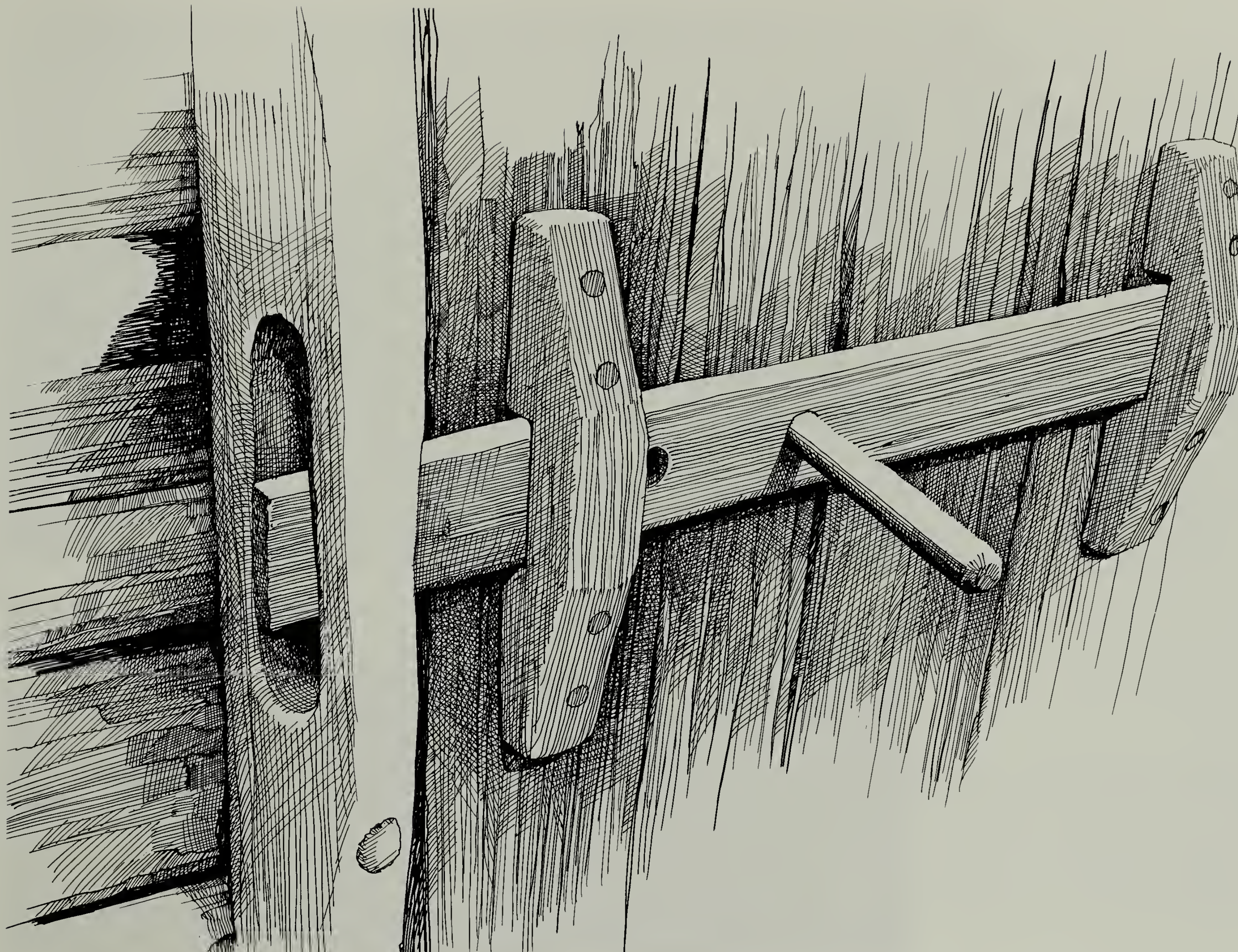


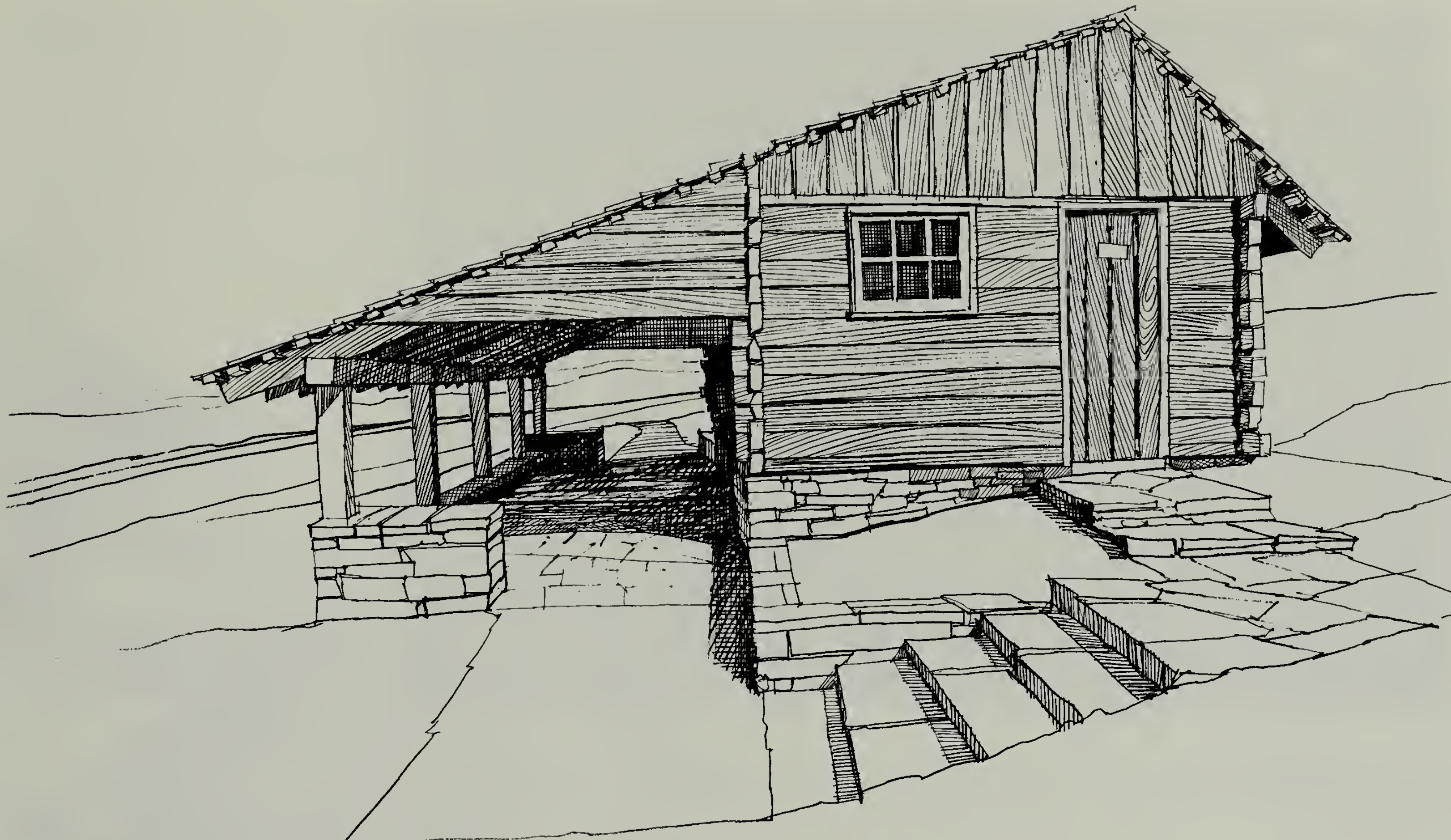
The doors of the park buildings are simple wood in detail and most have panes of glass in the upper half. The use of details in rustic wood trim and the variety of doors and entry cover are what give character to the architecture. Although modern doors have new requirements for safety and ease of use, they can still be designed to incorporate important visual aspects that are typical of the parkway's architecture. The character of a door is also defined by its position in the building mass, the approach, and the detail of the door surround.





Doors and Door Hardware. These illustrations are of the doors to some of the outbuildings at the Humpback Rocks Mountain Farm exhibit at milepost 5.8. The doors are examples of the craftsmanship and resourcefulness of the mountain farmer. Often poor and unable to afford store-bought metal hardware, the farmers would make the door hinges and latches out of the different woods found on the nearby mountain slope. Ash, oak, hickory, chestnut, and other species all had special uses in the construction of a mountain farm.



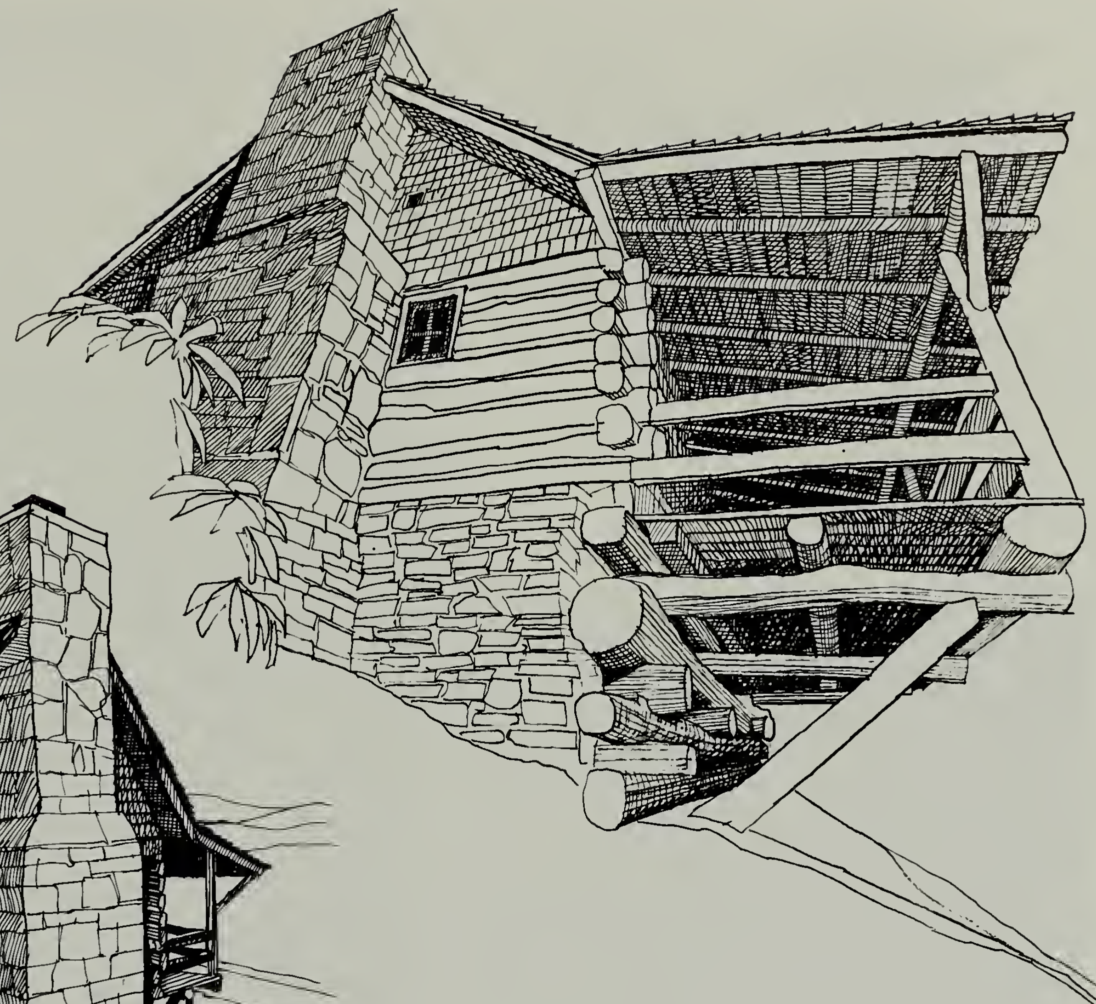


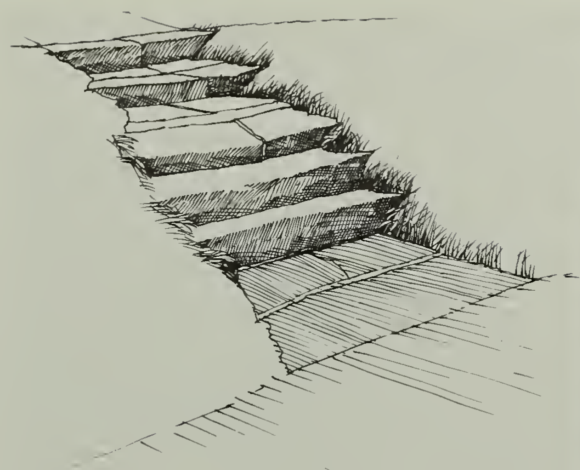
Porches

The illustration above and the two photographs on the left are of the shelter/comfort station constructed c. 1940 at Doughton Park (formerly the Bluffs Park) at milepost 241.1. The park design recognized the benefit of sheltered buildings with a view. Some of the pioneer cabins had porches that served as protection from the rain and snow. They also were places to work, tell stories, and make music. The porches were an extension of the small cabins with shed-like roofs that were tucked up under the roof of the main cabin. Porches, with their low-sloping roofs, are major elements of the park buildings. They not only provide shelter but add character to the architecture of park buildings and can function as a building entry. Porches help to give buildings human scale, define building entryways, and provide places for people to assemble and rest. On some buildings, such as restaurants and visitor centers, they function as exterior lobbies and can reduce interior building spaces. Visually, porches provide scale and interest to the simple architectural volumes.

The Sundown Cabin Porch. Whether they were pioneers or recreational visitors, people quickly figured out the great utility of porches and the broad and beautiful panoramic views of the mountains that they offered.

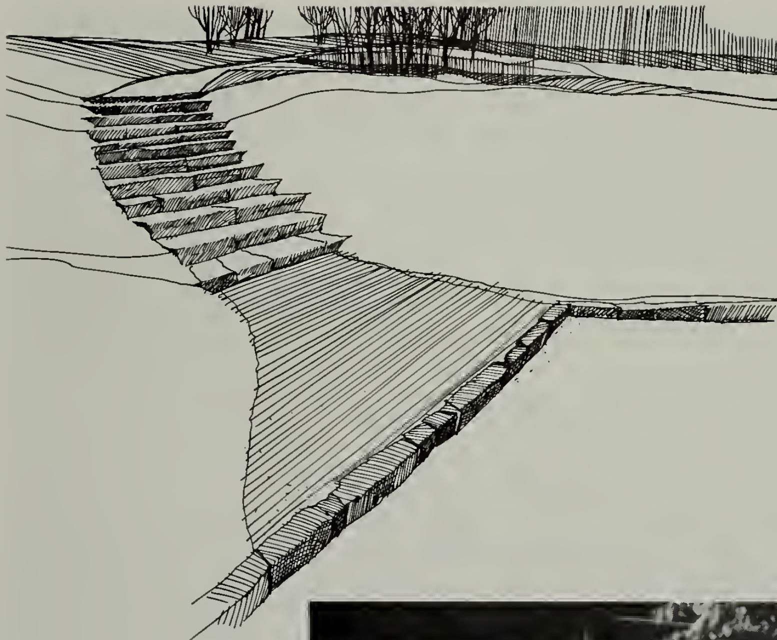
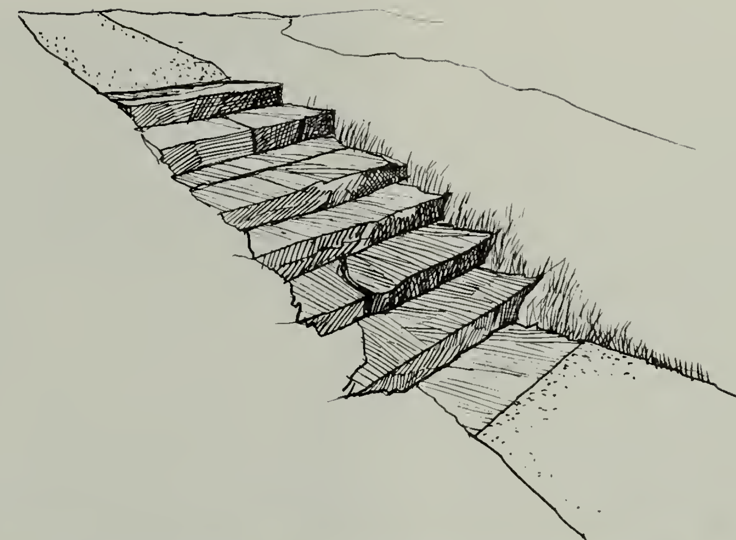
The mountain cabin built in 1937 (illustrated on this and the opposite page) was built on the upland portion of the Davey Farm that was developed by James A. G. Davey between 1935 and 1941. The cabin is an example of how to build on a steep hillside while still preserving the natural slopes and the adjacent landscaping.





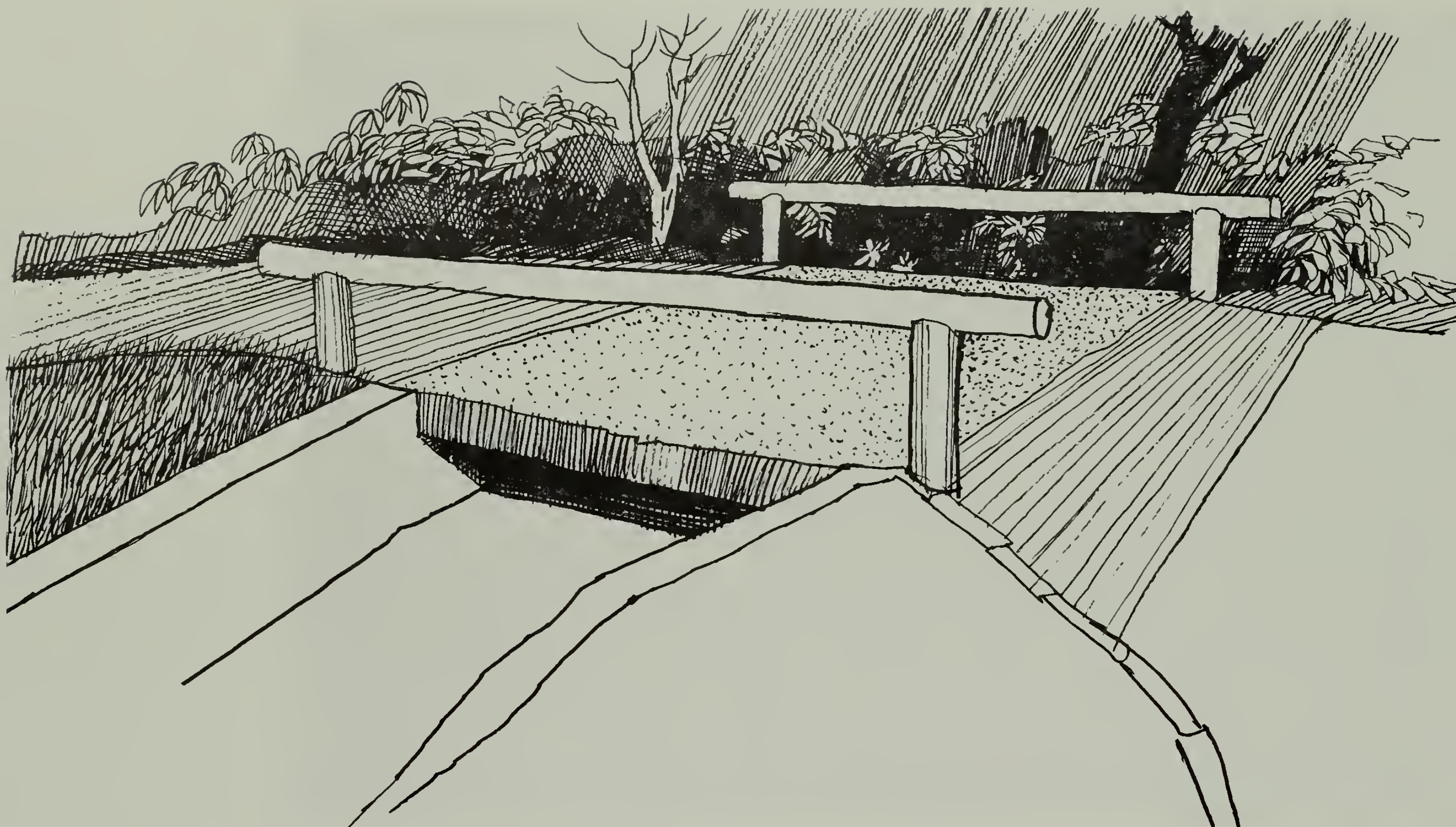
Stairs and Walkways

The attention to the design of site details has been important in defining the visual character of the Blue Ridge Parkway. Stairway construction is part of almost every walkway or trail that departs from more than 260 parking areas along the parkway. From most of those areas, trails either go up or down in elevation; accordingly, stairways are necessary. The drawings illustrate typical stone stairways built in the late 1930s and the 1940s. The drawing on the top left of the opposite page, for example, is of a stairway and path (c. 1937) at a picnic area at Bluff Park, now called Doughton Park, at milepost 241.1 in North Carolina. It was constructed of large stones set in concert with the adjacent landform. The use of stone was consistent with the rustic character already established by stone-faced bridges and guidewalls. Stairways built in recent years, such as the one (photo right) near Brinegar Cabin at milepost 238.5, is less rustic and more precise for reasons of safety. The stairway (photo opposite page) at the newer Folk Arts Center is constructed of concrete yet retains a rustic character because of the adjacent stone wall.

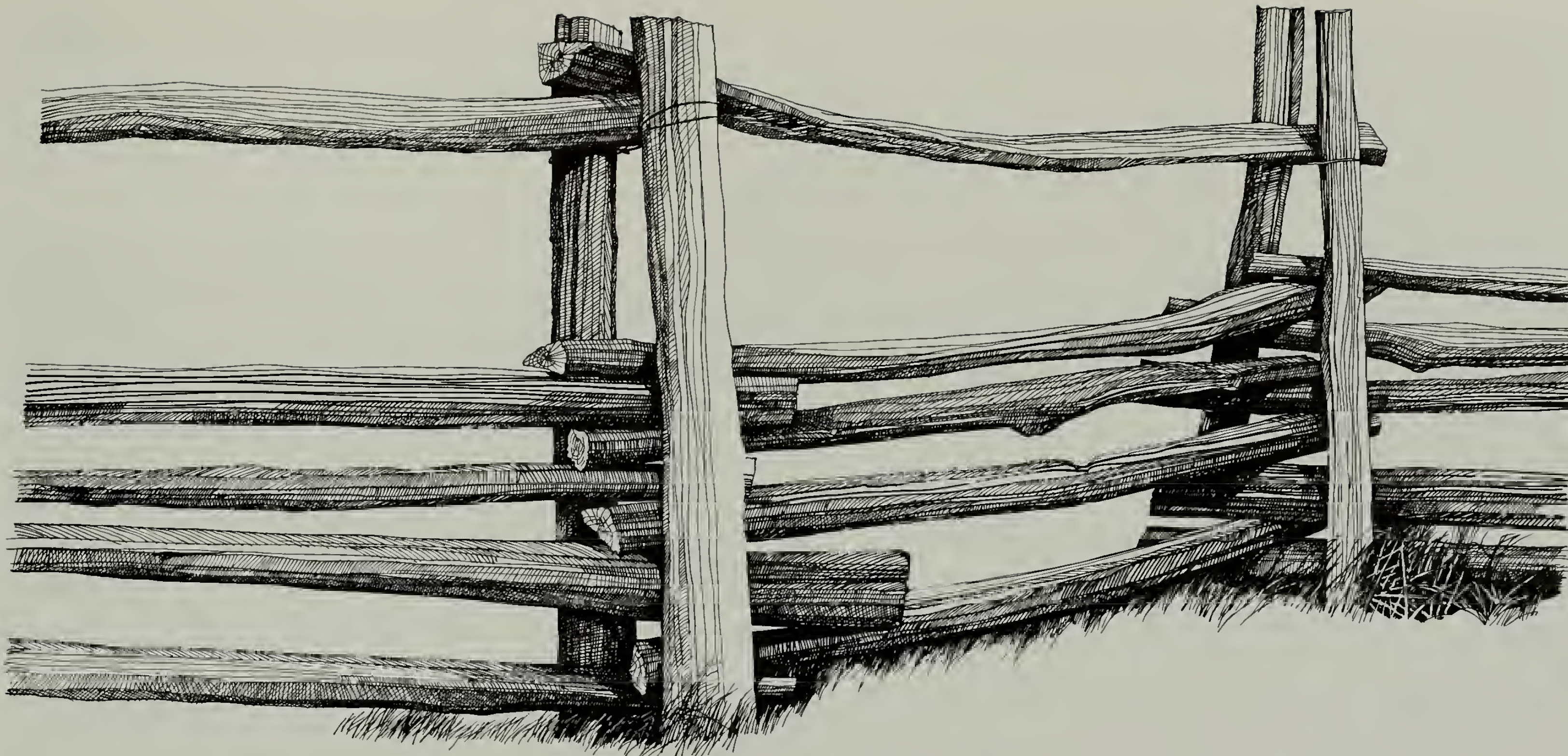

Stone Stairs at Wilson Creek. These stone stairs are just a few yards south of the Wilson Creek Bridge near milepost 302.9. The stairs lead down from a parking area. Built in the 1980s, these stone stairs represent the necessary precision required for a safe descent. This stairway is not as rustic as other stone stairways built in the 1930s and 1940s as seen on the two preceding pages, yet this stairway retains the graceful curve and pitch that work in concert with the adjacent slope. The stair width has been carefully coordinated with the opening in the parking area overlook wall at the upper elevation. The stone stairway is built on a subsurface concrete foundation that will ensure its sustainability through time.

Steppingstones at Julian Price Memorial Park at MP 296.5. These steppingstones cross a small stream that traverses the picnic area. The stones are irregularly shaped rectangles with level top surfaces that are placed at a frequency that invites a safe but slightly daring passage. Once again, this detail relates to the rustic stone used in the bridges, walls, and tunnel portals that visitors have seen in his venture to this spot. It is the parkway's unity of material, texture, color, and simplicity that provides the unique visual character of the parkway.



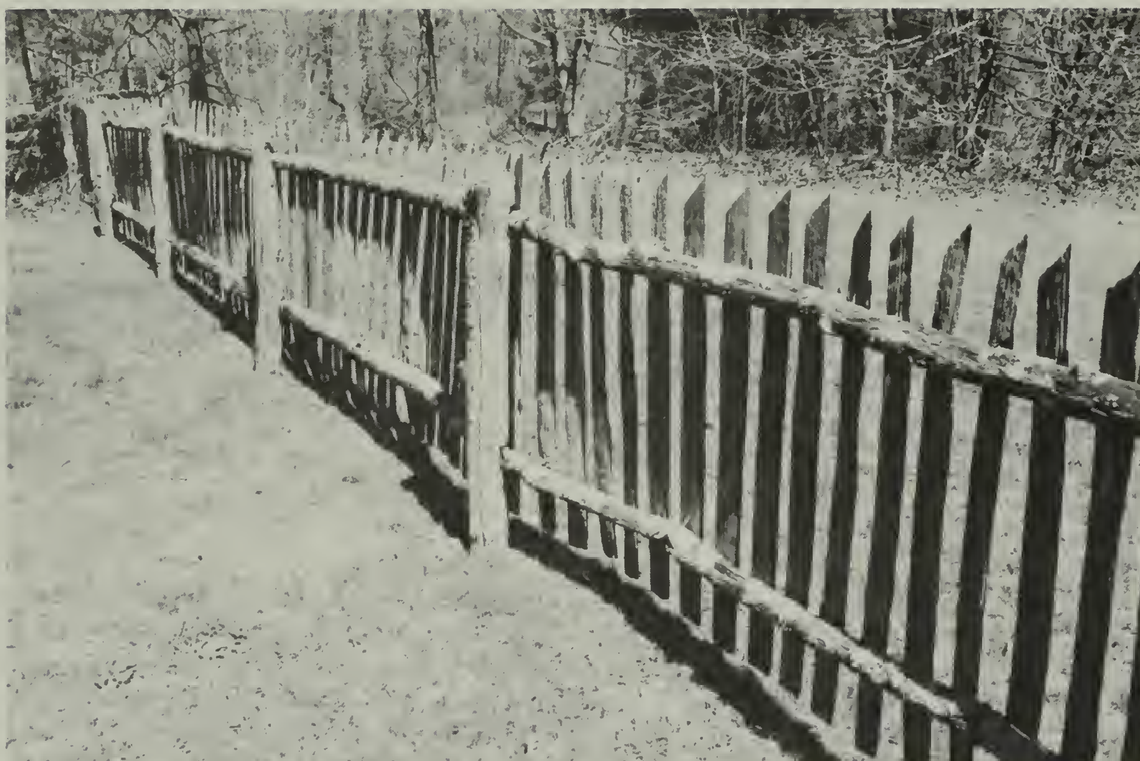
The sketch above is of a bridge over a creek. This one-lane roadway serves the rear of the Mabry Mill Restaurant. Although this simple bridge is not visible to the public, it is an example of how parkway designers have always given special attention to every man-made element in the park.

Fences and Gates



Fences

It has been over 60 years since the Blue Ridge Parkway's construction began. Over the decades, much change has come to the land along the 469-mile long corridor. The plots of farmland that used to present their unique visual character for visitors have changed; magnificent stacks of hay ringed with worm fences have given way to hay rolls bound in black plastic. Christmas tree farms now occupy the space where sheep used to graze. In the early days of the parkway's design, the National Park Service recognized the visual contribution that the traditional farm fences could give the route. In addition, it realized that thousands of standing dead chestnut trees could be used for fence-rails with the help of labor from the WPA and the CCC. In 1943 the Park Service adopted 10 fence designs that were based on fence construction techniques already in use by farmers along the parkway corridor. Not all traditional farm fences could be adapted, however, so the parkway designers used only the few fence types especially suited for park use. Since the 1940s, many of the original fences have been replaced, changed, and even eliminated from the parkway scene. The high cost of maintenance, diminished funding, the disappearance of old-time fence-building skills, and changing agriculture have all contributed to the disappearance of quality fences along the parkway corridor.



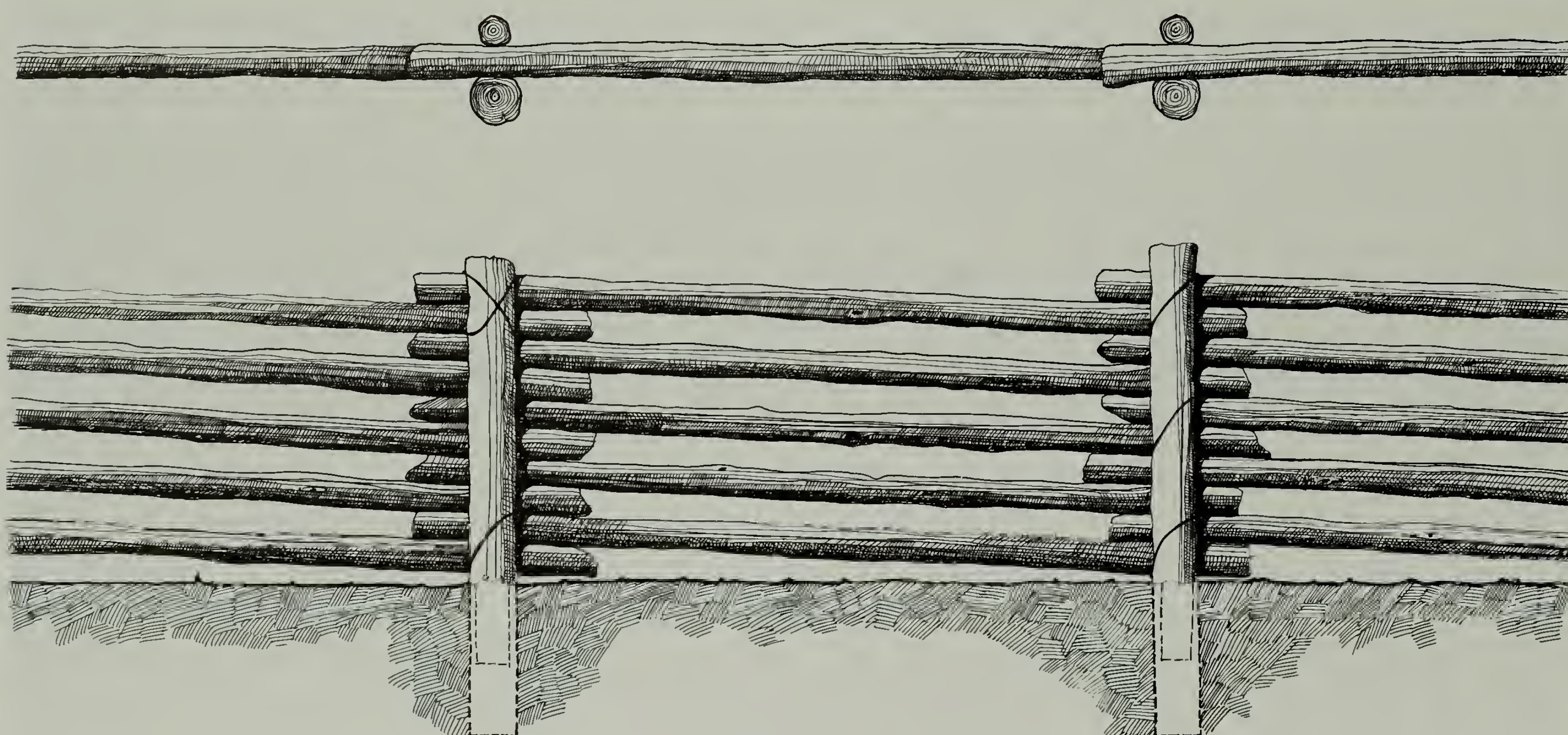
Picket Fences. Picket fences were primarily used near domestic units to protect garden plots from animals. The picket fence pictured here and on the opposite page is at the Puckett Cabin (milepost 189.8). The 45" high fence has 2½" to 3" wide split-oak pickets with gaps that average 2½". The 8" diameter posts are 42" high and spaced 8' on center. The horizontal stringers are about 3" in diameter. The unpainted, natural wood picket fence represents the rustic pioneer character that is an important part of the visual tradition of the Blue Ridge Parkway, which passes within a few feet of this fence.

White Picket Fence at the Johnson Farm. When the Blue Ridge Parkway designers first started to explore the mountainous route for the Blue Ridge Parkway in early 1934, they recognized the value of the indigenous architecture, but they also saw that change was ahead. Consequently, the National Park Service would undertake to preserve a number of farmsteads along the route. The Johnson Farm at the Peaks of Otter (milepost 85.4) was farmed by three generations of the Johnson Family between 1852 and 1941. Photographs on this and the opposing page show the farmstead and its white picket fence, which were interpreted by the National Park Service. A restored white picket fence defines the west and north perimeter of the house yard. Although most fences along the parkway corridor honor the natural weathered gray finish, this fence was restored to its 1930s white finish after careful and detailed historic research. The pickets are split-white oak and vary slightly in height. The fenceposts are round, while the gateposts are square so that hinges and a latch can be attached. Picket fences were usually close to the farmhouse and provided a barrier against domestic and wild animals.

Post-and-Rail Fence. In recent years this has become the predominant fence type used along the parkway. This fence can be applied to simple alignments that allow for easy maintenance along the fence edge. Fence types such as the worm fence worked well where farm animals did the grass cutting. Today, a trimmer is required for the tedious maintenance along the fenceline. Worm fences also require more wood material and are high maintenance. The post-and-rail fence is most adaptive to areas where there are few rocks in the ground.

"The post and rail fence has posts that are about 9' (±) on center. The minimum fence height for pasture use is 4' minimum with about 2' minimum post depth in the ground. The top of the post varies about 2" to 3" above the top rail. Front posts are 6" to 8" in diameter. The smaller back posts are about 4" to 6" in diameter and are set into the ground about 1'. Posts are wired together at the top rails and at the bottom rails. Sometimes the middle rails are also wired to the posts with galvanized 12 gauge steel wire. The fence should be constructed with the high end downgrade so as not to accentuate the slope of the rails. Sometimes this fence is constructed with fewer rails where it is used to the visual effect of making an edge and where its animal containment necessity is obsolete."

– *Fence Standards for the Blue Ridge Parkway,* 1943



This fence separates a footpath from a pasture area. Humpback Mountain is in the distance. This fence type is widely used along the Blue Ridge Parkway corridor. The path connects the Humpback Rocks Mountain visitor center area at milepost 5.8 with the Humpback Gap parking area at milepost 6. The elevation here is 2,360'.

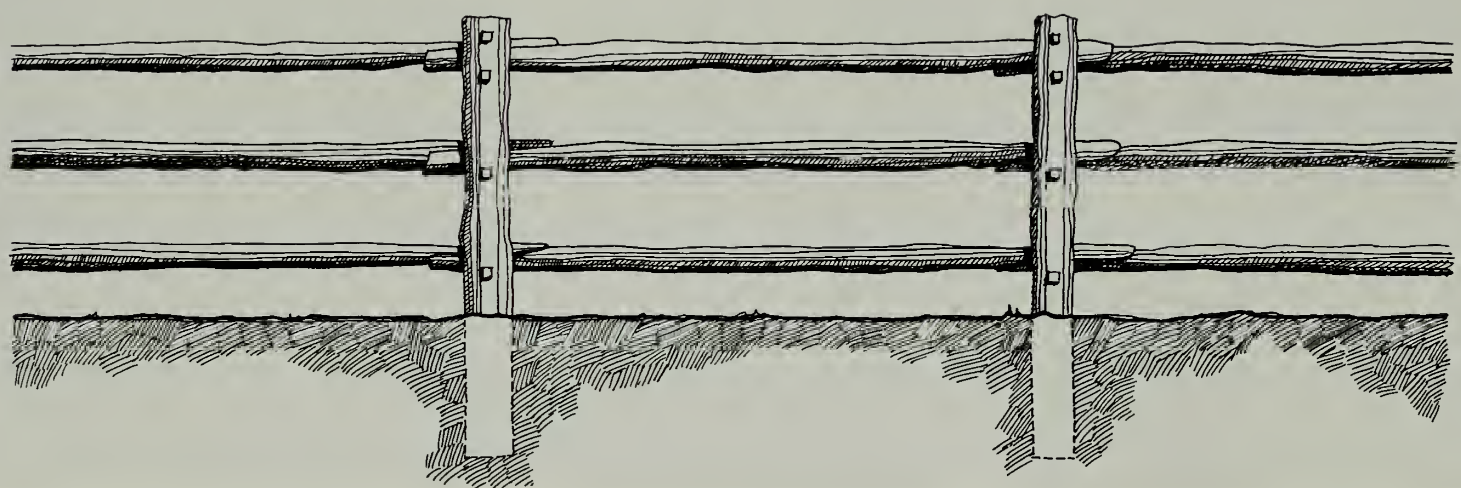
Split-Rail Fence at Rocky Knob. This split-rail fence at Rocky Knob (milepost 168.6) was designed and located by the landscape architects for aesthetic reasons. The fence defines an outdoor edge and adds visual interest and detail to the open space. The graceful arc of the fence visually reinforces the curvilinear alignment of the parkway (see photograph on the opposite page). The parkway's streamlined cross section is also revealed by the softly curving evening shadows that cross the pavement. It is the orchestration of all these design elements that unite to give the Blue Ridge Parkway its unique standing as one of the best engineered roads in America.

In the old days of the parkway, many of these fences would have been fastened together with wooden pegs. Today, most post-and-rail fences are fastened together at the top and at the bottom with 12-gauge wire. The wire is wrapped around the two posts and rails and stapled to the post. Then the wire is twisted, and the wire ends are then flattened back out of harm's way. The pointed posts repel water.

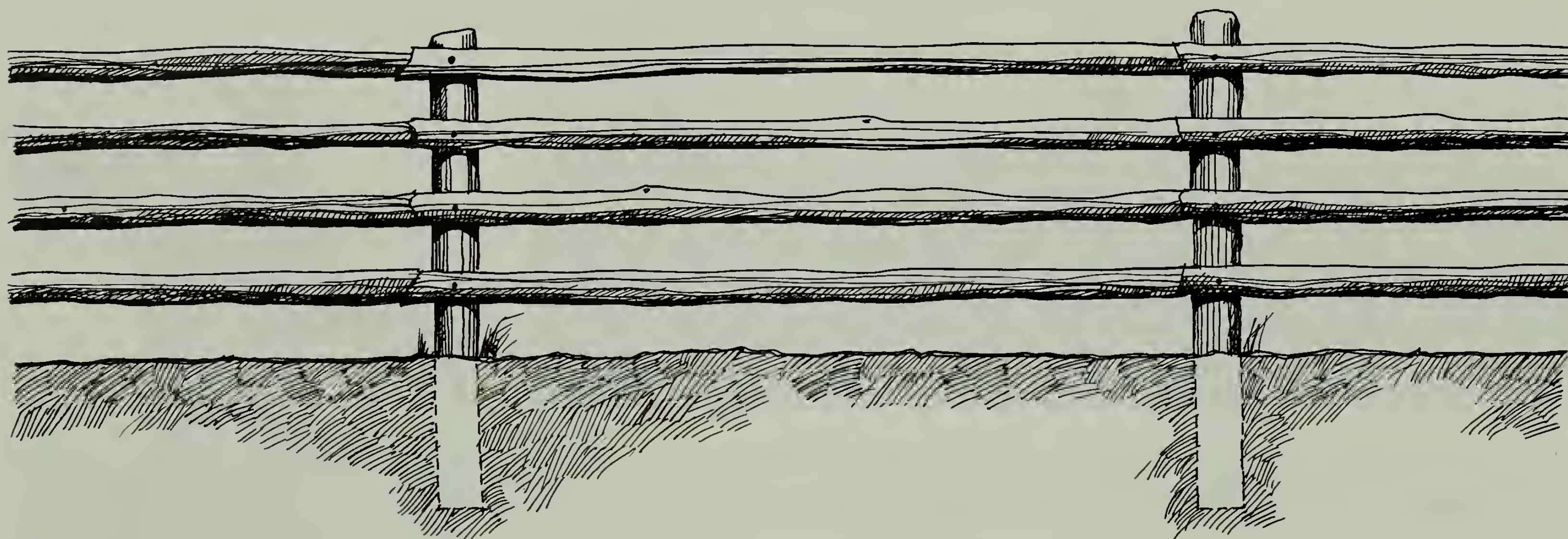
Post-and-Peg Rail Fence. This fence was originally designated by early parkway designers for use in pasture and park areas. This fence type is an example of the all-wood fence that many farmers used because it required no expensive metal fasteners for its construction. Also, the locust wood used to build these fences grows in abundance along most of the parkway corridor. The posts of this fence were generally of green locust and were predrilled before being sawn in half. The pegs were dry locust. The middle rail is held down by a 20d nail driven inside the back of the post. This fence type has several variations and can be seen at numerous locations along the parkway. Today, fewer fences of this type are along the parkway than there were just a few years ago. Few craftsmen remain who make these fences, and the availability of wire has made the wooden pegs obsolete. The post-and-peg rail fence, however, has an intrinsic visual quality and expresses the original character of the pioneer theme that the parkway designers established along the parkway in the 1930s.

The *1943 Fence Standards for the Blue Ridge Parkway* identifies the following general specifications for this fence type:

"The posts are 6" to 8" in diameter and are predrilled with a 1" hole before being sawn in half. The top of the top rail is 4' from the ground. The posts are 8' on center, and the rails are 10' in length. The pegs are 1" in diameter. The top pegs are about 6" on center, and the bottom three pegs are about 17" on center."



This post-and-peg rail fence is at the Groundhog Mountain fence display at milepost 188.8. In the 1930s and 1940s, this fence type was common along the parkway. Over the last few years, the post-and-rail fence, which is wired together, has displaced the fence that used pegs. It should be pointed out, however, that it is fences like the post-and-peg rail fence that help give the parkway its unique visual character.



Spiked Rail Fence. This fence was originally designated by the early parkway designers to be used for pasture and park areas. Its design assumes that posts can be placed in the ground, which is not always the case along the rocky, mountainous regions through which the parkway passes. The posts and rails in this design are held in place by nails. Metal fasteners such as nails, screws, bolts, and wire were expensive and often not affordable to the modest mountain families. Accordingly, many traditional wooden fences were put together with all wooden pieces. The post-and-peg rail fence would be an example of an all-wood fence. The spiked rail fences are rarely seen along the parkway corridor.

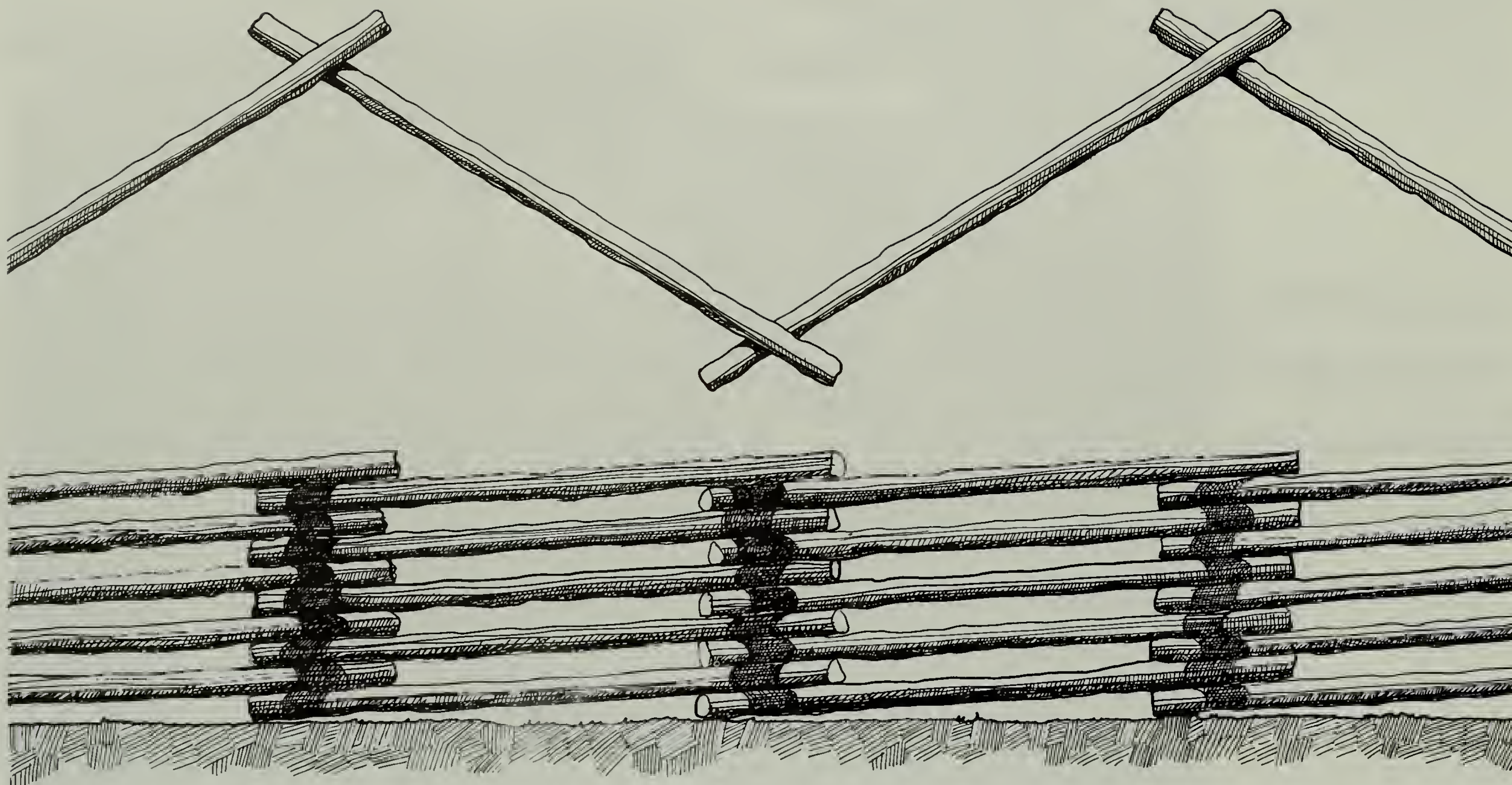
The 1943 *Fence Standards for the Blue Ridge Parkway* identifies the following general specification for this fence type:

"The post would be 6" to 8" in diameter and would be held in place with 20d nails (hot dipped, galvanized preferred). The top of the post varies from 4' 3" to 4' 6" above the ground. The posts are 10' apart. The top of the top rail is about 4' 2" above the ground. The clearance below the bottom rail and the ground is 10"."

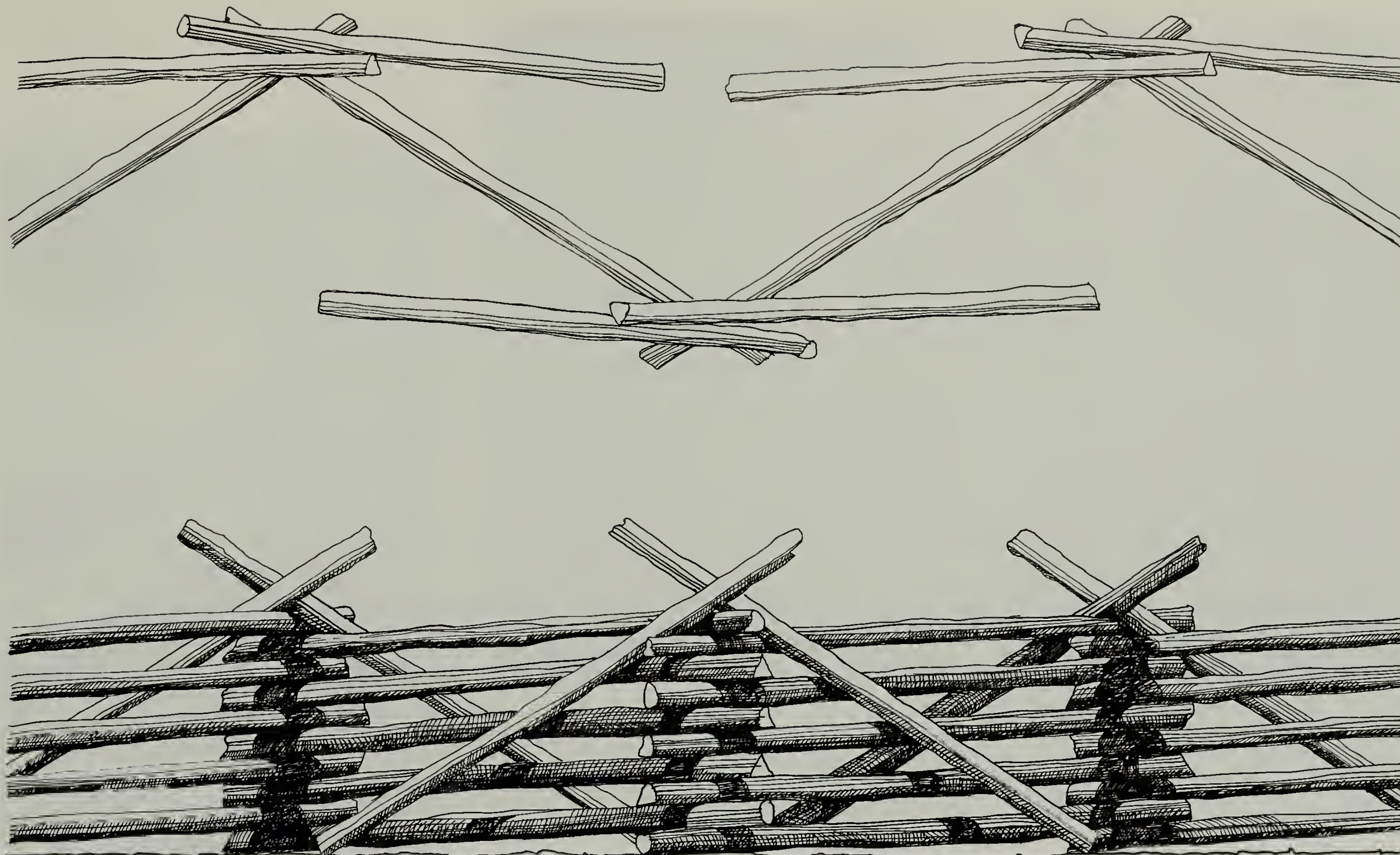
The photograph to the right shows how a spiked rail fence was used. William Hooper is visible in the foreground.

But, just at surely as machines have gradually displaced horses and oxen, those machines have also eliminated towering haystacks and colorful shocks of corn ringed with yellow pumpkins, the enchanting fields of buckwheat and the interesting plots of linen flax.

– William O. Hooper



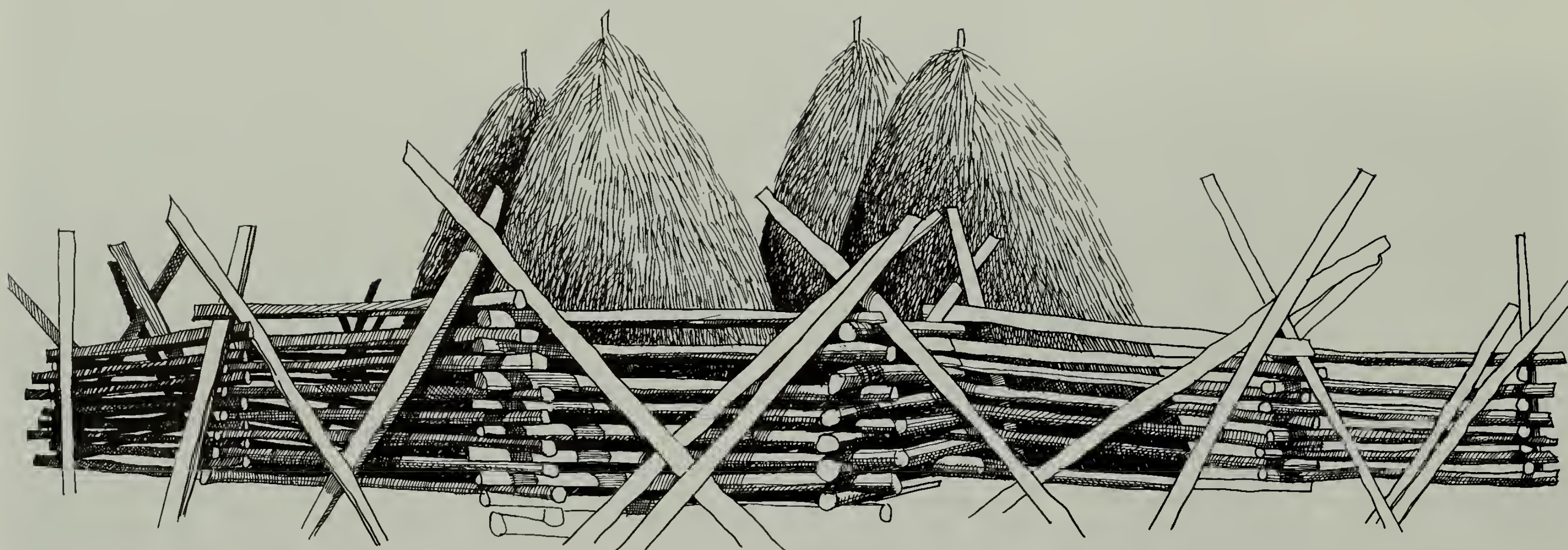
Worm Fence. This fence type is often seen along the Blue Ridge Parkway. It is used to define landscape areas, pathways, and roadways. The fence is usually built with five rails to a minimum height of 4' 3". All rails, or the top four rails only, are wired together with 12-gauge galvanized steel wire.



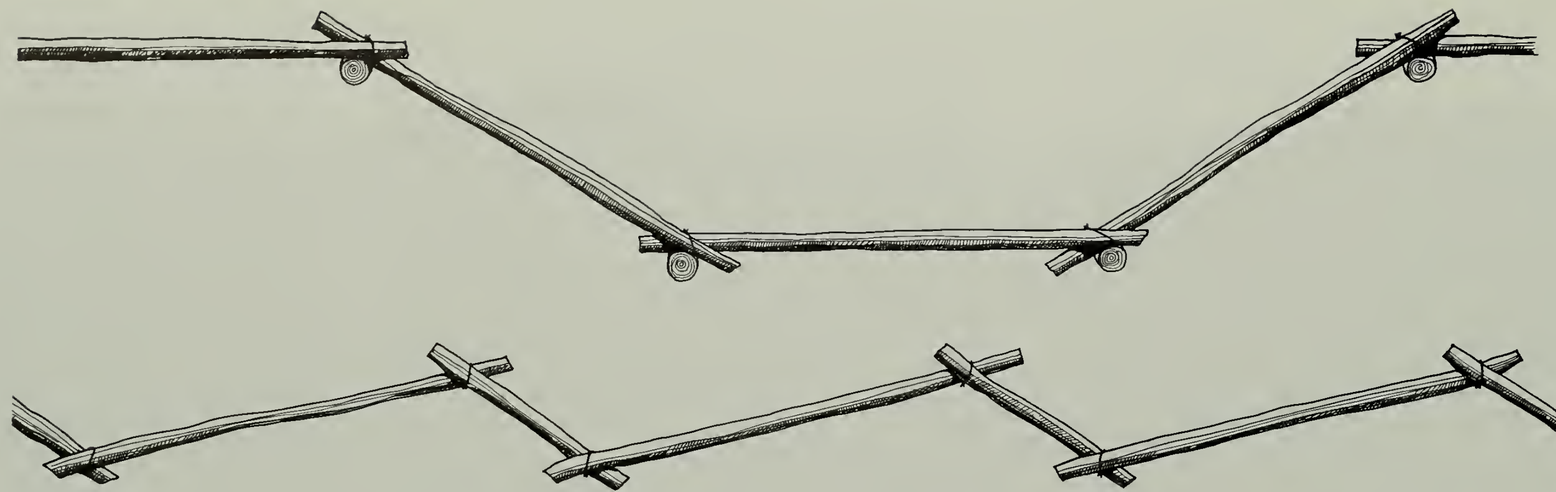
Worm Fence with Locks. This fence type used to be a common sight along the parkway, but today it is rarely seen. Typically, this fence type measured 4' 3" high and was used to contain livestock. The worm fence with locks was used by farmers because it could be built on rocky ground and easily removed if necessary. Removal and setup were quite simple because there were no permanent posts in the ground and the fence members were all the same length. This fence type appears frequently in photographs taken along the parkway during the late 1930s and 1940s. The rustic quality of this fence has great visual character. It is unfortunate and disappointing that it has almost disappeared from the parkway scene.

The simple "worm" or "snake" fence in the photograph above is of a view looking north along the parkway just a few feet above Mabry Mill. Here, the fence serves as a visual element of the nearby complex of pioneer buildings at the Mabry Mill site. The fence also helps to define the pedestrian areas. The photograph on the right shows the terminal post detail of the five-rail worm fence.

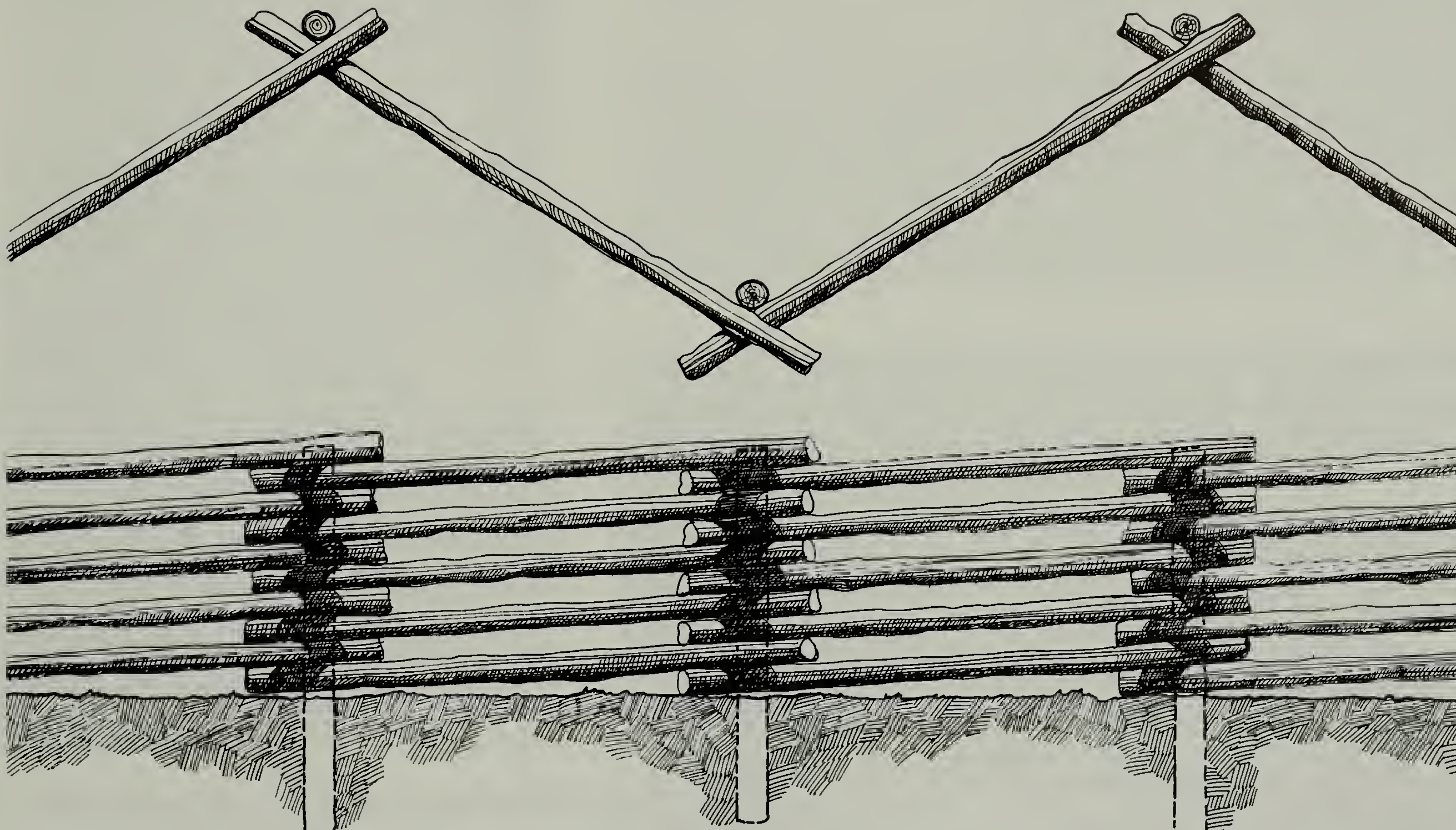
The photograph above was taken at milepost 170 near Rocky Knob in September 1953. It illustrates a simple “worm” or “snake” fence with no locks or braces.



Haystacks with Worm-and-Brace Fencing. This drawing illustrates the worm-and-brace fencing that farmers used to protect the haystacks from grazing livestock. These fence enclosures and the haystacks were common along the Blue Ridge Parkway corridor in the 1930s and 1940s. Many of these scenes were within the parkway right-of-way; for example, next to the Smart View parking area (milepost 154.5) where the National Park Service would lease land back to a local farmer for raising hay. Stacking hay in the fields was done by placing loose boards on the ground around the base of a pole. This helped to keep the hay from wicking up the moisture on the ground. Successive layers of hay were placed around the pole and were walked on for compaction. After the conical shape was completed, the sides were dressed in a way that would repel the rain. Hay was also placed carefully around the top of the pole so that there was as much water tightness as possible at the center. Sometimes there was a single haystack inside the fence and sometimes there were four or more inside the fence. This fence is a type of worm fence with locks, sometimes called a snake fence. This fence was flexible. The rails could be easily reused and reconfigured on varying topography because no holes had to be dug. It is important to recognize that over the years it is the detail on the landscape, such as haystacks and fences that have given the Blue Ridge Parkway its visual character. Over the years modern farming techniques have brought changes in outdoor hay storage, causing once-familiar sights to vanish. Although this detail has disappeared from the parkway, it is possible that it could be revived as an occasional interpretive exhibit.

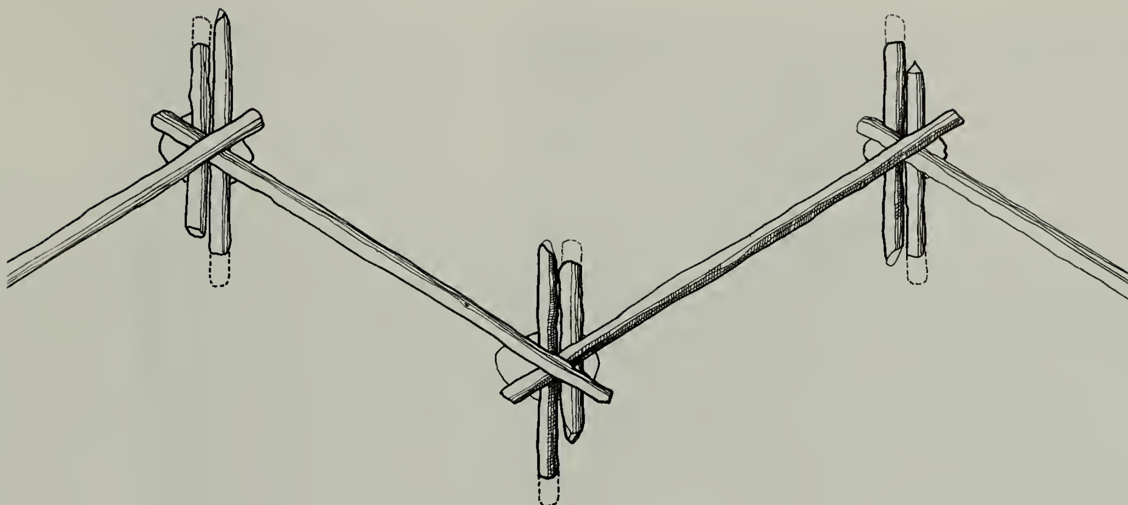


Split-Rail Worm Fence Variation. This is an example of a simple split-rail worm fence that has been introduced for purely aesthetic reasons. There are no animals to keep in or out. This fence, which is in front of the Peaks of Otter Lodge, functions to visually reinforce the curving line of the pathway. It also adds character to the area, which is a frequent place for photography. This simple fence is more friendly to mowing operations because it does not have bracing poles. It has three rails, which is the minimum number of rails that should be used for this fence type. The plans above are from the 1943 *Fence Standards for the Blue Ridge Parkway.* There is a single post at each joint that is connected to the rails with a 12-gauge galvanized steel wire.



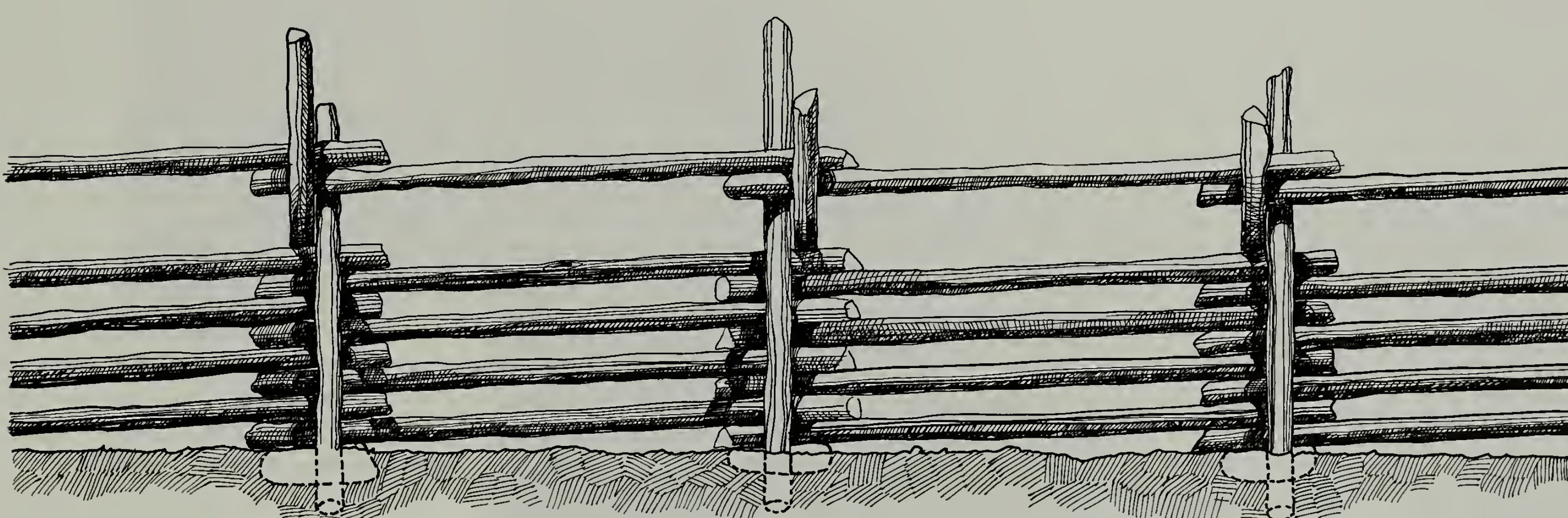
Worm Fence with Post. This fence is five rails high and has a post in the ground at the joint. It is obviously most adaptable to terrain where subsurface rocks are not a problem. This fence is also very good for resisting strong horizontal loads such as those generated by a bull.

Rail-and-Rider Worm Fence. This type of fence was very flexible for use in rolling rocky terrain. All the rails were of one length, which is why the locks (cross braces) seemed to stick awkwardly into the air. The fence, which was approximately 4' 6" high, was an excellent barrier to large animals that might raid the garden. These fences were common along the Blue Ridge Parkway during the 1930s and 1940s. Today, they are very rarely found.



"Fence to be laid up four rails high then posts set in ground and laid at right angles to general line of fence. Angle made by crossed posts to be determined by field conditions so as to give required height of rider rail. Relation of front and back posts alternates is determined by slope of rails. Posts are 6' to 9' long. . . All rails should be 11'. Locust posts should be used where possible. All rail fences should be constructed with high end down grade so as not to accentuate the slope of the rails."

– Fence Standards for the Blue Ridge Parkway
1943



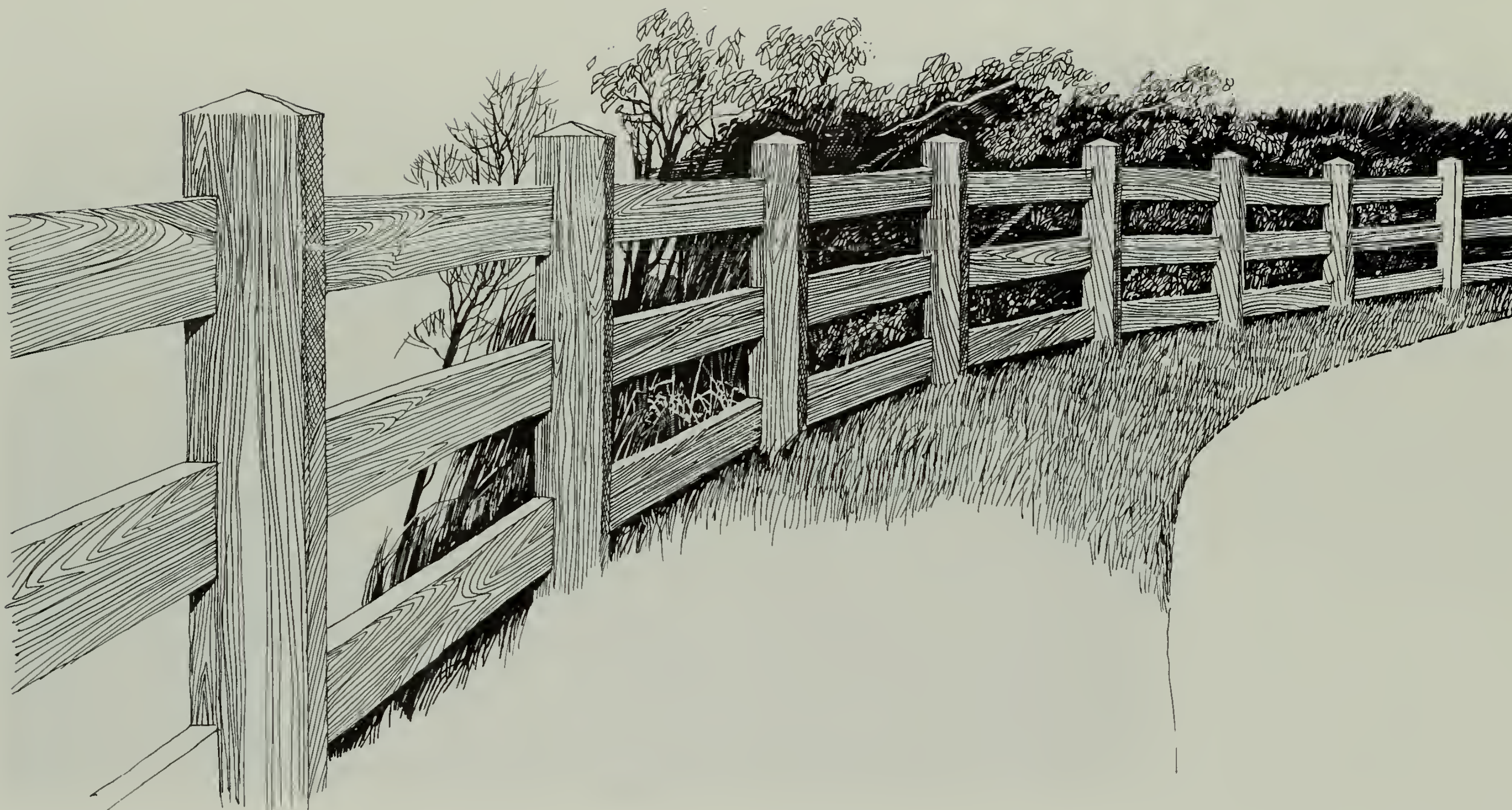
Buck Rail Fence. The traditional buck rail fence type has almost entirely disappeared from the parkway corridor. There is a 147-foot section of this fence at Groundhog Mountain (milepost 188.8), where it is part of an NPS interpretive display of fences. (Note that the simplicity of the land around the fence allows for the visual presentation of the fence character.) In the old days, livestock would have cut the grass in and around this fence. In today's park environment, it is the trimmer that mows the grass around this intricate detail. Thus, it is the maintenance requirements that have made some fence types almost obsolete. It is important to understand that it is the visual character of fences like this one that contributes to the overall visual character of the Blue Ridge Parkway.

This fence type was very adaptable to rough terrain. The supporting X-bracing and the diagonal rails are let into the ground slightly, which makes this fence type practical for rocky areas. This fence varies in height from 36" to 40". The X-bracing supports are spaced from 40" to 48" apart. The diagonal rails are about 9' long and are set into the ground. The outside spread of the X-bracing at the top varies from 25" to 30". The outside spread of the X-bracing at the ground is 22" to 25". The wood X-bracing and the diagonal rails are split and measure 5" to 6". Some rails are employed where the diagonal rail intersects the crotch of the X-bracing.

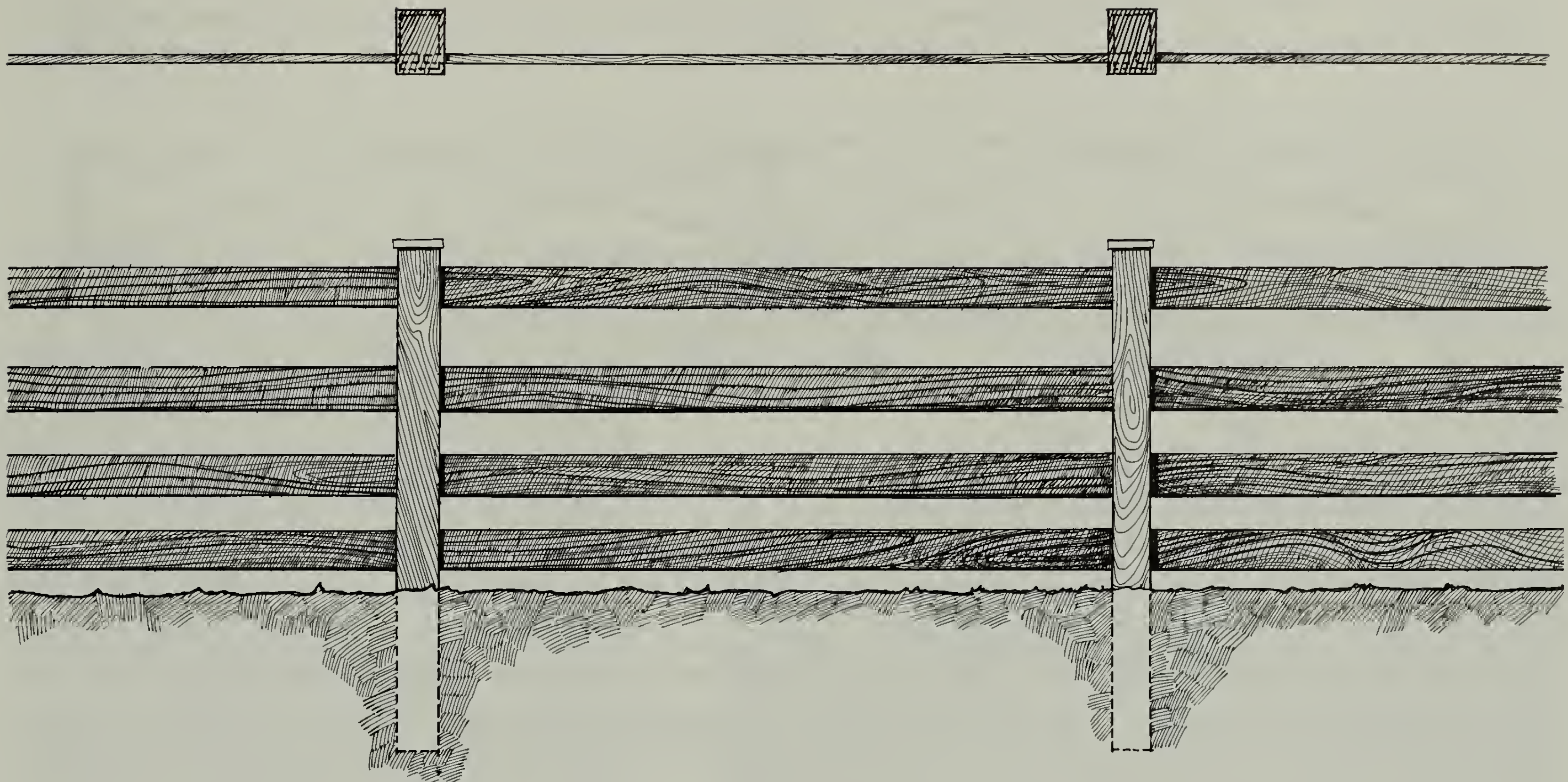
In 1935 when I first got to the site of the parkway construction I was impressed by the whole hillsides covered with these standing white corpses . . . the dead chestnut trees . . . we used a lot of them to build fences and trail cribbing at Cumberland Knob.

– George Wickstead, NPS Landscape Architect, 1995

Chestnut Rail Fences. This 1930s photograph shows CCC workmen making the split rails for fences along the parkway. These rails had great utility and were useful in many different fence types. They could also easily be reassembled on another site. Most of the original rail fences along the parkway were made from the dead American chestnut trees that were standing all along the parkway route. The fence in the center of this photograph is a worm fence with rider, a fence type that has almost entirely disappeared from the parkway scene.

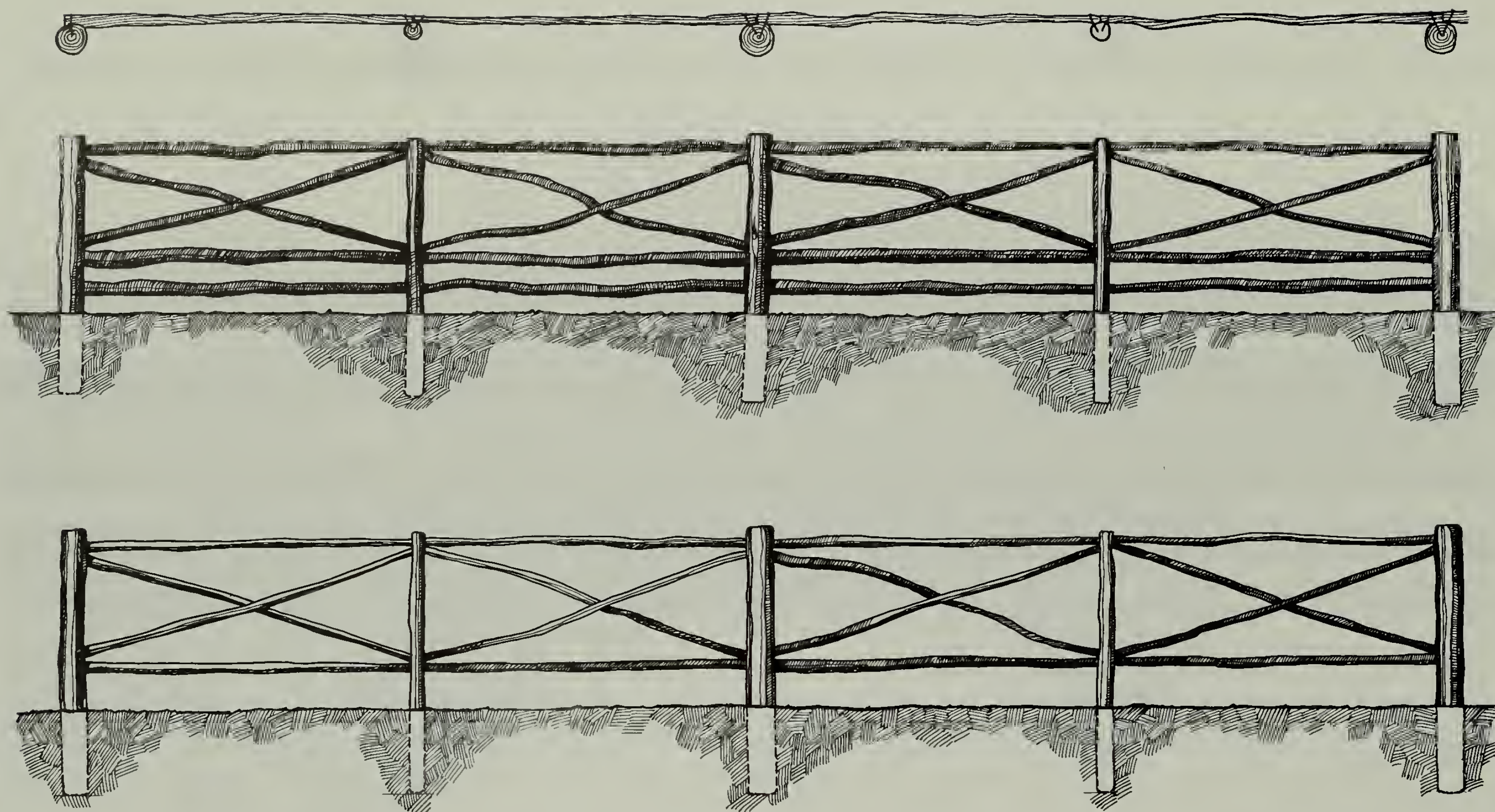


This three-board fence is along the old carriage road of the Moses H. Cone manor house at milepost 294. This fence type is less rustic than other fences along the parkway, and it is appropriate for the more formal architectural setting of the house.



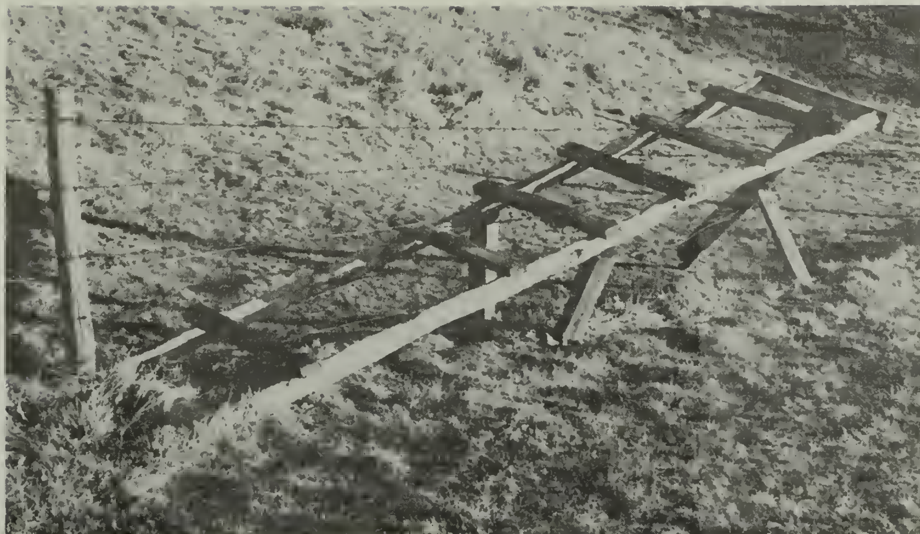
Four-Board Fence. "All lumber to be rough sawed. Posts to be 6" square with 1" cap as indicated. Boards to be nailed to posts on side toward roadway, unless otherwise specified, and joints to be faced with 1" x 6" board as indicated."

– *Fence Standards for the Blue Ridge Parkway,* 1943



Locust Pole Fences. These fence types, typically made of locust poles, are from the 1943 *Fence Standards for the Blue Ridge Parkway*, "Pastures and Developed Areas" section. There are two sizes of posts that alternate. The small posts are about 4" to 5" in diameter, and the large posts are about 6" to 8" in diameter. Posts are 8' on center. The posts are about 1½" above the top rail. The top of the top rail is 4' above the ground. The small ends of the rails attach to the small posts, and the large ends of the rails attach to the large posts. The rails are attached through predrilled holes to the poles with 40d nails on rails under 2½" in diameter. 60d galvanized nails are used for larger rails.

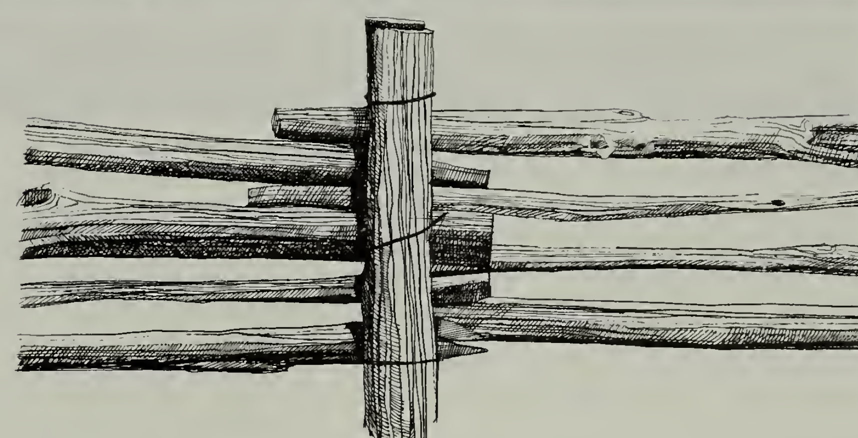
Details on the Fenceline. Several wooden birdhouses have been built and maintained by parkway staff, and they are usually found on the post-and-wire fences that parallel the parkway. The fence cross-over (right photo) is called a stile. The photograph was taken on June 7, 1937, at the point where the Appalachian Trail used to cross at Beagles Gap. (Note that the rectangular wire of this fence fabric is not acceptable. Only straight or barbed wire is used with the rustic wood post.)



Farmers, hikers, and park rangers often have to cross fencelines. The photographs on this page are examples of various fence crossings or stiles. The photograph on the opposite page is a pedestrian passage through a rail fence at Humpback Rocks.

Fences for Pedestrians. Mabry Mill at milepost 176.2 is a very popular place for park visitors, and pedestrians are constantly exploring the site to take photographs of the historic structure. In an effort to protect the fragile landscape and to provide for safe pedestrian routes, fences have been placed in critical areas to help control the surface wave. Design consideration for fence layouts also includes the visual context. At Rocky Knob at milepost 167.7, five-rail post-and-rail fences line the parkway. Not only are they picturesque in that area, but they fence in cattle pastures as well.

Groundhog Mountain Fence Display. The aerial photograph on the right shows the Groundhog Mountain developed area at milepost 188.8. The parking area actually has been designed around the old Bowman Cemetery that is outlined by the square fence enclosure. There are many cemeteries along the parkway route, some of which are still in use. The Groundhog Mountain fence display exhibits a number of different fence types — the buck rail, the worm, the post-and-rail, and the picket fence— all of which are illustrated in this chapter. When a visual line is needed where there is no livestock to contain, the landscape architect sometimes used a four-rail or even a three-rail post-and-rail fence similar to the one illustrated on this page to use the wood materials more economically.



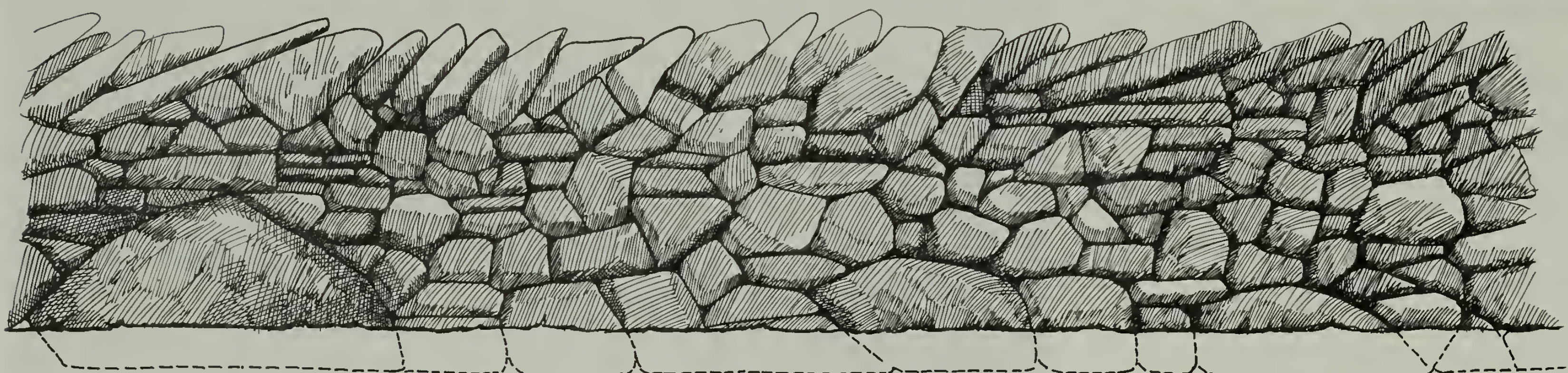
Post-and-Wire Fence. Post-and-wire fences are common along the Blue Ridge Parkway. They are used to enclose pasture areas where cattle, horses, or sheep are grazing. The fence in the photograph above is on the east side of the parkway at the Moses H. Core Manor House Center at milepost 294. (Note that although this fence is simple, it still has a unique visual quality.) It is the irregular shape, the weathered gray color, and the light green lichen that give the posts their visual quality. (Note that all of the posts have slanted tops to shed water.) Post-and-wire fences are always used for pasture areas and are not generally used to reinforce vistas or in areas of high pedestrian traffic.

This section of post-and-wire fence (photograph above) lines a pasture along the parkway just south of Meadows of Dan. There are five strands of barbed wire spaced about 9½" on center, with the highest wire being 47" above the ground. The wire has barbs at 5" on center and is stapled to posts that average about 6" to 6½" in diameter. The posts are 8' on center. The 3" diameter wood brace is crossed by a double twisted wire. Sometimes the diagonal bracing wire is tightened with a stick (photograph on left). The stick is wedged between the other wires and is left in place. This detail adds to the visual character of this simple fence.

Fence types often change from one type to another in the same line (photograph top left). Here, a five-strand barbed wire fence meets a five-rail post-and-rail fence. Pasture fences like these vary in height from 42" to 48". Single or double bracing (photograph lower left) occurs at various intervals. The spacing of braces depends on the terrain, ground conditions, and structural needs.

Along this section of the parkway (photograph on the top right, milepost 178.8), there are pastures on both sides of the road. (Note that there is a post-and-wire fence on the left side and a five-rail post-and-rail fence on the other side of the parkway.) Some of the posts are made from locust. There are no machine-cut round posts and no hog wire, and some of the posts have bark, some have knots, and some have a slight twist. It is this individual visual character that contributes to the parkway's beauty. Machine-turned round posts, square-cut posts, hog wire fence, and other modern fences are inappropriate for use along the parkway corridor. The simple fence-lined farm road (photograph on the lower right, milepost 178.5) contributes to the visual scene even though it is some distance from the parkway. Understanding the details that make up the Blue Ridge Parkway corridor is important for the continuance of the parkway's design themes. Fences are constantly changing, being rebuilt, or being eliminated because the land uses are always in transition.

Fieldstone Fence. This fence is typical in rocky areas along the parkway corridor such as Humpback Rocks at milepost 5.8. The fence is laid up dry with no mortar, with capstones laid at an angle. The size and angle of the capstones vary. Fence or walls of this type often incorporate large in-ground stones as they may naturally occur along the fenceline. The foundation stones are usually set into the ground about 6", and the fence height above the ground on the interior side is a minimum of 3' 6". The fence is about 3' wide at ground level and tapers to about 1' at the top. Great care should be taken to select and place the individual stones. The weight of the stones and their interlocking arrangement are important factors for the sustainability of dry-laid fieldstone fence construction. These fences can last for generations and become a part of the land. Accordingly, the fieldstones used for new construction should match the indigenous stones of the location. This fence type represents an important contribution to the visual character of the parkway corridor. A typical elevation of the fence is represented below. The drawing to the right is a typical section of a fieldstone fence.

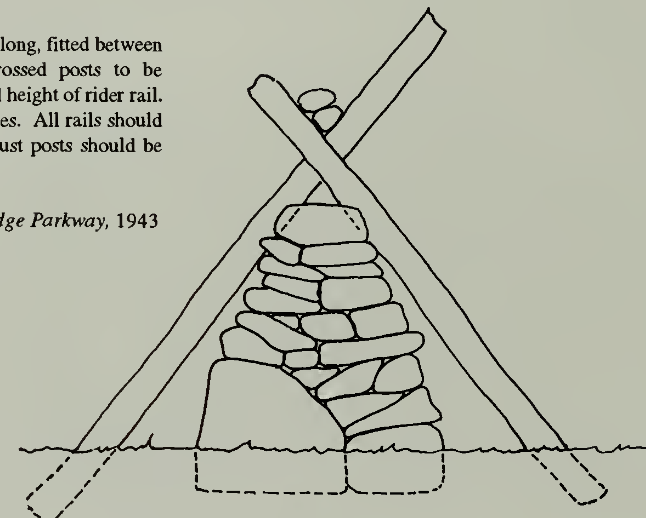


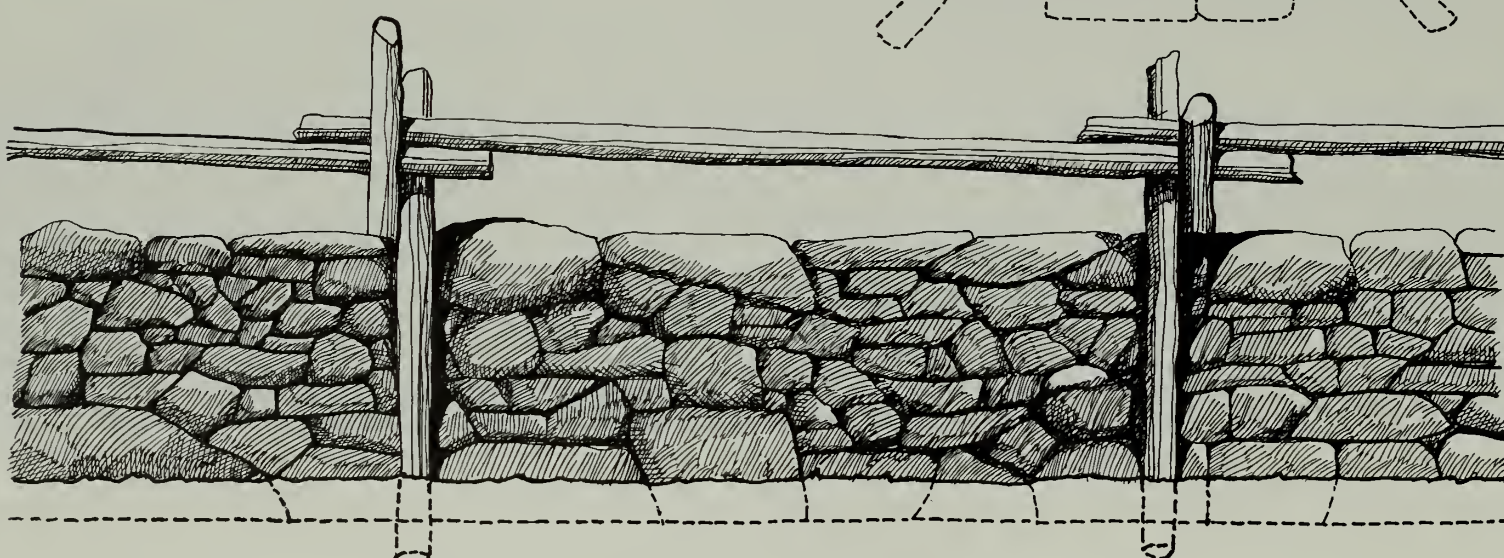
This fieldstone fence is at the Humpback Rocks Mountain Farm at milepost 5.8 on the Blue Ridge Parkway. Here, the fieldstone fence encloses an area adjacent to a barn; it separates an animal area on the inside from a pedestrian walkway within the farm complex.

Fieldstone and Rider Fence. Many of the areas along the Blue Ridge Parkway corridor are rocky. This fence type was typical to areas along the parkway corridor that have natural loose rock near the surface of the ground. Wooden rail fence types that required frequent and deep postholes were difficult to construct in rocky areas. Accordingly, farmers clearing their fields of stones would simply move them to nearby fencelines. Natural uncut fieldstones were used for the base of the fence, which was 3' wide. The thickness of the stone wall at the top was about 1'. This type of fence quite often used large stones that were already protruding from the ground. The stone wall portion of the fence is about 3' high. The wood post and rider (or top rail) make the fence height about 4' 6" maximum. An example of this fence type can be found at Humpback Rocks.

"Wall to be laid up dry with posts 6' to 9' long, fitted between the capstones. Angle formed by crossed posts to be determined in field so as to give required height of rider rail. Relation of front and back post alternates. All rails should be 11' unless otherwise specified. Locust posts should be used where possible."

– *Fence Standards for the Blue Ridge Parkway,* 1943



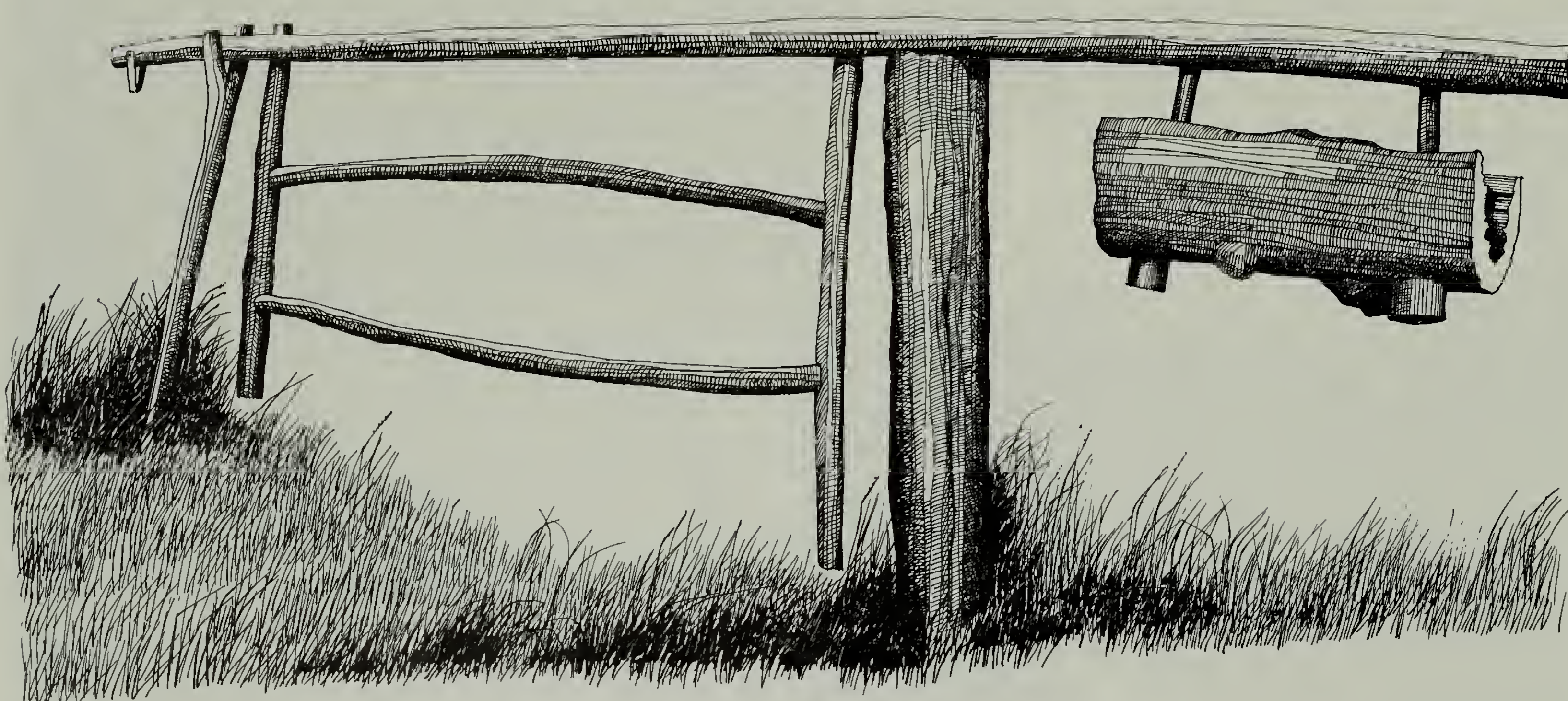


Utility Screen Fence. Vertical board fences are used to screen utility areas along the parkway corridor. The service entrance and loading dock at the Peaks of Otter Lodge and coffee shop at milepost 85.6 are screened by fences of several different heights (photograph bottom left). The fences are typically made with simple vertical rough-sawn boards of varying widths. The color is always a semitransparent weathered gray. The screen fence (photograph bottom right) encloses a trash unit at the Rocky Knob picnic area at milepost 169. (Note the fence slopes down with the grade of the land.) Attention to detail is a trademark of parkway design.

Wooden fences like this one at Groundhog Mountain picnic area (milepost 188.8) are used to screen utility areas from view. This U-shaped screen fence encloses two trash dumpsters. The trash units are located for the convenience of park visitors and for easy pick-up by maintenance trucks. The fence structure on the inside is comprised of 4" x 4" posts with three horizontal stringers. The three most visible faces of the fence are made of vertical 1" thick rough-sawn oak boards. The board widths are 4", 6", and 11". The weathered gray boards are face nailed with gaps of 1" to 1½" between the boards. The vertical face of the boards is 5' 2". (Note that the wide gap between the boards, the clearance between the boards, and the clearance between the bottom of the fence and the ground are important for air circulation.) Landscaping has been placed to soften but not obscure the fence. The screening of utility areas is necessary for the overall visual quality in the parkway's developed areas.

Gates

Mountain farmers were generally poor and could rarely afford sawn boards, iron hinges, or other expensive items that might be more available to a modern farmer. The extreme remoteness was also a factor because it was difficult to procure hardware, tools, etc. Mountain farmers were inventive and very resourceful. The fence gate illustrated below is at Humpback Rocks Mountain Farm (milepost 5.9) and is an example of mountain farmers' ingenuity. This gate illustrates what could be handcrafted from the native trees nearby. The handmade gate pivots on the single 12" diameter post and is counterbalanced by fieldstones placed inside a hollowed-out log. The gate is shown here in its open position. The fenceline connects behind the large post but is not illustrated. The National Park Service has preserved this gate as an important visual element of traditional mountain farms. Fifty years ago there were probably a few hundred gates of this character along the Blue Ridge Parkway corridor. Today, the remaining wooden gates could be counted on a single hand.



Original Wooden Gate. In the early years of the parkway, gates like this one were typical. Today lightweight metal gates have displaced the original wooden gates. Thus, much of the visual interest and traditional character of the scene adjacent to the parkway has been lost. As the landscape architects inspected the proposed parkway alignment before construction, they often paused to photograph the details of the 1930s landscape.

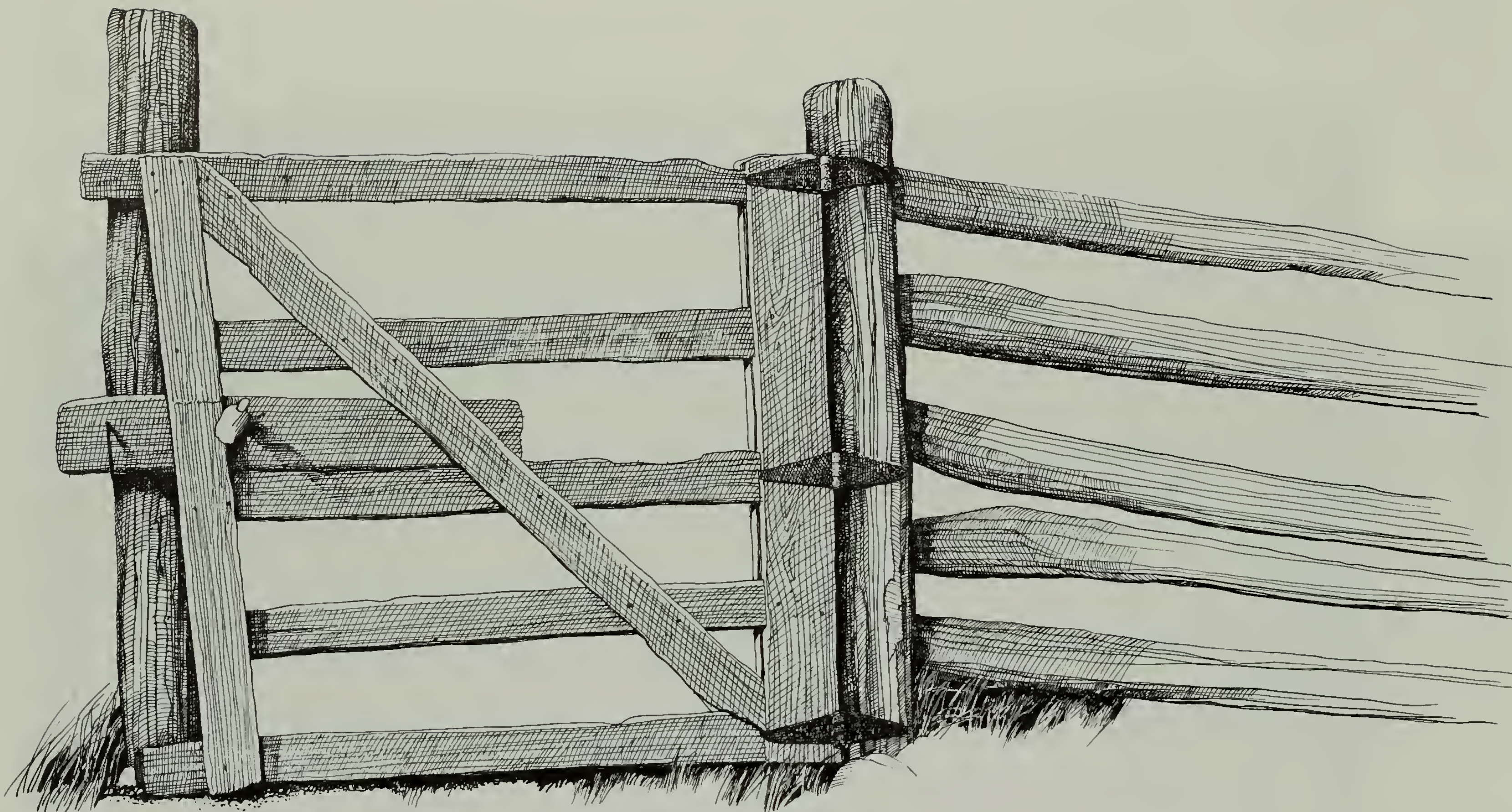
Painted Metal Farm Fence Gate. This is a typical metal farm fence gate located along a farm road that intersects the parkway at milepost 178.5. The parkway is visible in the background. This gate is 12' wide and 50" high. Its frame and horizontal bars are made of lightweight 2" diameter pipes that are welded together with additional support given to the center by the 2" wide metal straps. The wooden hinge post is 8" in diameter, and the latch post is 6½" in diameter. The wire fence that abuts the gate is diagonally braced with wire and wood in the plain of the gate. This gate has a black-painted finish that is starting to show rust here and there. The overall effect of the neutral color and height of the fence and gate is appropriate for this metal gate installation. The parkway's enduring visual beauty is a result of the design care given to these character-defining details.

Galvanized Steel Farm Fence Gate. Galvanized steel fence gates are commonly used along the parkway corridor. The gate pictured below is 9' 8" wide and 48" high. It is hinged at the large post on the left and attached by a chain to the smaller post on the right. This gate is located in the rear corner of a leased-back pasture that abuts the parkway and can be seen in the distance. The gate's dull gray, weathered, galvanized finish and placement among the trees help to lessen the visual impact that the modern gate may otherwise have had on the scene. (Note that all posts are made of rustic wood.) Metal gateposts and machine-turned wooden posts are not appropriate to the rustic visual character of the traditional parkway fences.

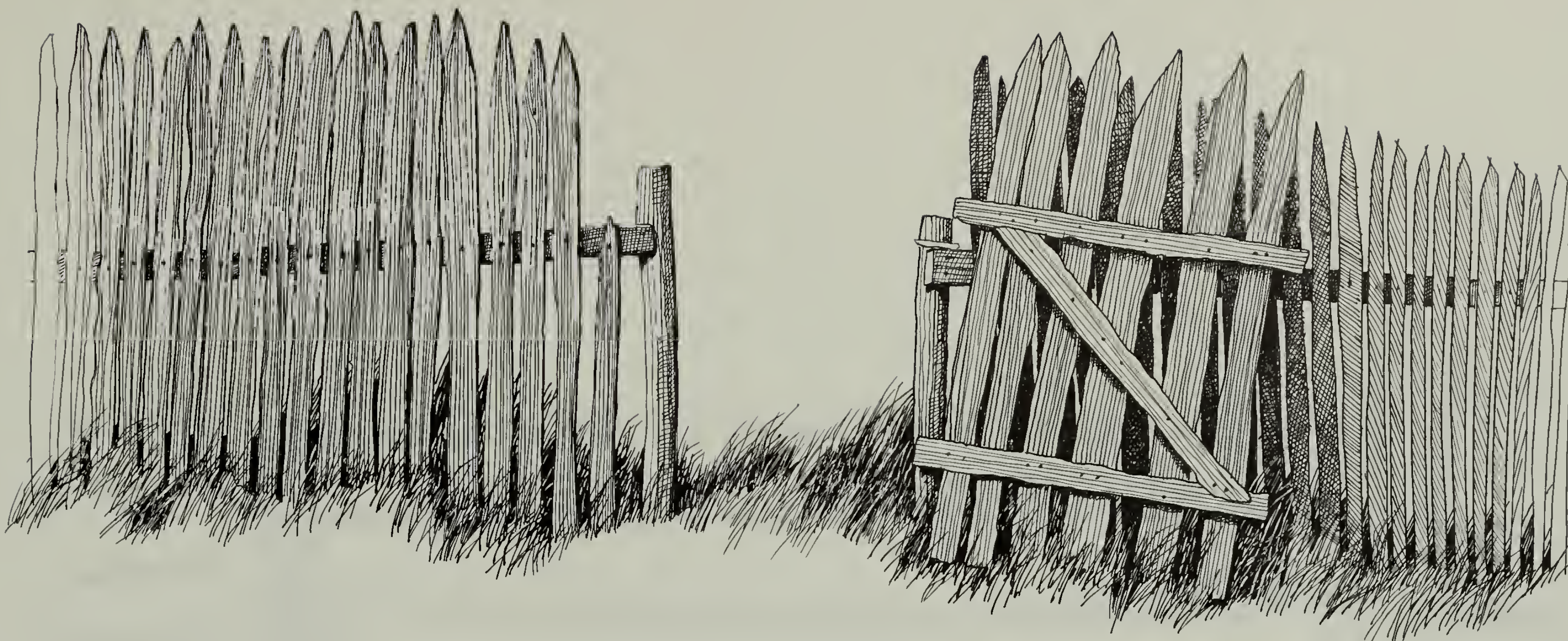
In the early days of the Blue Ridge Parkway, the wooden fences along the corridor had wooden gates. Today, only a few large wooden farm gates remain. Some can be found at interpretive areas such as the farm at Humpback Rocks (milepost 5.8) and Groundhog Mountain (milepost 188.8) where the National Park Service maintains the gates as part of the traditional, historic landscape. In recent years, wooden farm gates have been replaced by premanufactured, strong, inexpensive, simple-to-install, metal gates that are available in several colors and sizes at the local farm supply store. For the most part, the National Park Service has been successful in downplaying the adverse impact of modern metal gates by placing them carefully. Gray metal gates located among trees in remote pasture corners have less visual impact than a red gate located along an open fenceline adjacent to the parkway. While it is not practical to limit prefabricated metal gates, it is possible to control their color, placement, and landscape setting.

Picnic Ground Entrance Gate. This is the standard parkway entrance gate used at picnic areas and campgrounds. The silver-gray stained gate has two leaves that are sited so that they swing back into the area to be accessed. The gates are constructed of solid wood timbers. The anchor post is 10" square, 46" high, and is set in concrete that is flush with the ground. Painted, galvanized steel straps made of 3/8" thick steel attach to 3/8" steel plates at the top and bottom of the anchor posts. Steel rods at the top and bottom of the vertical 6" x 6" vertical member of the gate act as pivot hinges. The top member of the gate is made from a 4" x 6" board and is 13' 10" long. The gate members are thru-bolted at their intersections. The top of the gate is 40" above the ground. A wood post supports the gate at its cantilevered end when in the open position. Unlike most farm gates along the parkway, the picnic gates are seen by more visitors when they are open. Therefore, the placement of adjacent fencelines, landscaping and land shapes are all part of the visual aesthetics of the gate. The gate design coordination with the adjoining fence height and post spacing is important for an integrated visual effect.

The five-rail fence is preferred for containing livestock such as cattle. This fence is stepping up with the grade. The uphill top rail overlaps the downhill rail. The posts are in a line, which allows for easy mowing by modern tractors. (Note that all of the wooden fence members are rustic and are not milled or machine cut.)

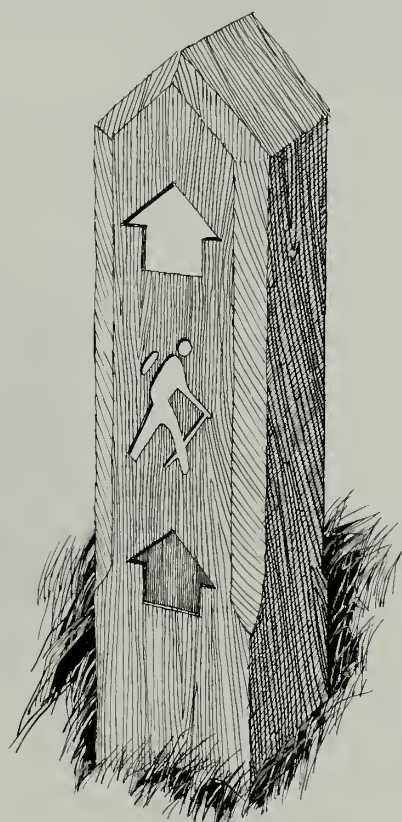


Barnyard Gate. This gate passes through a fence adjacent to the Johnson Farm barn. (Note that the gate is diagonally braced from the bottom hinged corner to the opposite tree corner.) Three simple strap hinges attach the gate to the post. The gate swings out from the barnyard, and a wood latch slides through the double boards of the gate into a crudely fashioned metal angle on the post. The Johnson Farm is at milepost 85.9 just west of the Peaks of Otter developed area.



Picket Fence Gate. This fence was typical for use around domestic sites where the intent was to keep small animals out of vegetable gardens. It has one horizontal rail, and the bottoms of the pickets were set into the ground. The pickets were typically made of split oak. Fence heights varied from 40" to 48". Today, there are few examples of this fence type left, and most of the gates have disappeared from the scene.

Site Details and Signs

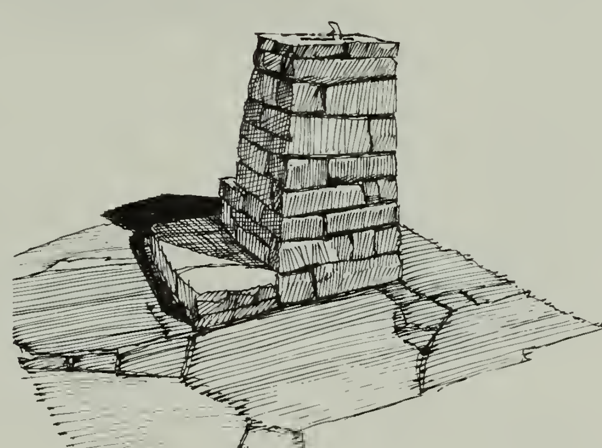


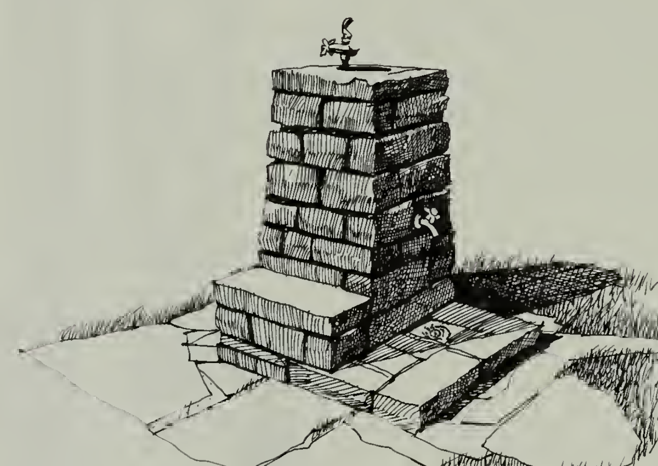
Site Amenities

Site details are small features on the landscape. They combine to give the parkway its refined touch. Careful scrutiny in the design of site details, their placement, and construction is evident and essential, as each plays an important part in the aesthetic character of the parkway.

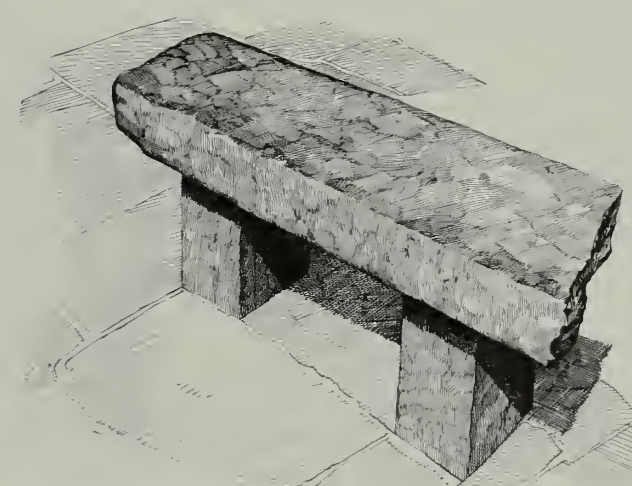
The signs illustrated on this page are examples of routed wood signs. The sign on the left is a trail marker. The sign above is a directional sign.

Drinking Fountains. The parkway designers continued their theme of rustic architecture into all the constructed details of the parkway. Even the drinking fountains were of stone and were constructed with the same care as that of a bridge, a tunnel face, a chimney, or a wall. All of these things became the visual glue that held the parkway's design theme together. The three drinking fountains shown on this page are from the parkway's early construction. The unusual detail illustrated below is located at the parking area overlook at the Brinegar Cabin at milepost 238.5. In this instance, the designers have actually incorporated the drinking fountain into the end of the stone wall that edges the parking area. The two drinking fountains (bottom left and right) are typical of those built in the late 1930s and in the 1940s at Rocky Knob, Cumberland Knob, and at Doughton Park. Drinking fountains constructed today must conform to the Americans with Disabilities Act standards for visitors with disabilities.



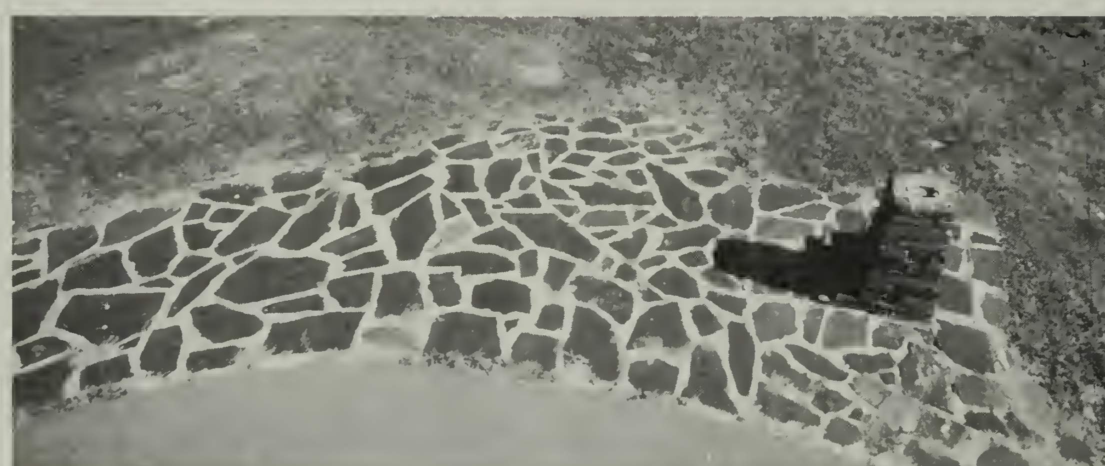


Park Benches. The Blue Ridge Parkway does not have a standard type of park bench, and there are few benches along the route. The major reason that there are few traditional benches is that there are miles of stone seatwalls at parking areas and at overlooks. There are, however, a few special benches that can be found, each having its own unique character that adds variety or "spice" to the parkway. The bench above is in Doughton Park near Wildcat Rocks overlook parking area at milepost 241.1. The stone bench (bottom illustration) is in front of Humpback Rocks Mountain Farm visitor center at milepost 5.8.



Stone Paving Patterns

The paving stones above are at Mabry Mill. The area of paving stones with grass has been placed in an area of high pedestrian use where visitors stop to take photographs of the mill. The photograph (upper right) is an example of a paved island at a parkway overlook.



The walkway above is in front of the restaurant at Doughton Park in North Carolina. Because the walkway is along vehicular pavement, the stones are thicker. The paving stones (photograph left) are at the entrance to the Peaks of Otter Lodge. (Note that the paving stones on the edge are more rectangular.) The narrow joints in this paving are preferred, as large joints tend to crack. The mortar color should be in the dark gray range and not white like the mortar in the photograph at the bottom of the opposite page.

Parkway Signs

The Blue Ridge Parkway is a man-made element in a unique natural environment. From the beginning, the original parkway designers were very careful to minimize the intrusion of man-made improvements that would visually clutter the scene. Therefore, signs were simple and crafted to add to the rustic weathered gray wood theme of the parkway corridor, but signs are necessary for traffic control, general information, and interpretation. The original sections of the parkway all had routed wooden signs. Over the years, changes in the NPS and FHWA standards caused the conversion of traffic and general information signs to a more sustainable vinyl overlay system. However, many of the wooden signs were retained. The park entrance signs, gunboard signs, overlook signs, and some other specialty signs are still made in wood. All signs are made by the sign shop at the parkway maintenance area in Roanoke, Virginia. Three full-time employees make both the routed wood and the vinyl overlay signs in a 2,000-square-foot shop area. There are thousands of signs along the parkway, and at certain times production at the shop is quite high. For example, in the first six months of 1994, the shop produced over 1,000 signs, a number of which were special advisory signs made necessary by severe ice storms. Today's sign production is aided by computers that store and print out sign templates. Over the years, the National Park Service has stood firm against the intrusion of unnecessary signs. It is important that the tradition of design simplicity be retained as much as possible along the parkway while remaining within the limits required for traffic safety.

Park Entrance Signs. This sign is the standard parkway entrance sign. They are placed at major points of entry into the park and measure 5' 6" high by 9' 4" wide. The posts are 6' x 6' treated southern yellow pine. The signboard is constructed of 2" thick boards that are glued together to make a larger surface. The overall sign background and back are an applied oil-based solid stain. The lettering is deep blue oil paint. The signs, which are painted every two years, generally last 15 years. These signs, which are unique to the Blue Ridge Parkway, are very important to the establishment of the visual character, and establish the parkway's colors: gray, white, and dark blue.

The Gunboard Signs. These signs have been located where an interpretive message helps to connect the park visitors to a cultural or natural point of interest. They are unique to the Blue Ridge Parkway and contribute to the overall design theme. The weathered gray background and routed lettering is consistent with other wood signs in the park. Sometimes, these signs can be found at overlooks, such as The Saddle at milepost 168 near Rocky Knob or at pioneer structures, such as Mabry Mill at milepost 176.2.

This is the typical American stop sign, except that it has a sustainable weathering steel post, and the back of the sign has been painted a dark brown to match the post to which it is attached. The whole effect of these changes is to make it blend into the natural environment when seen from the back.

The Linville Falls sign in the photograph on the right is 7' wide by 2½' high. The top of the sign is 8' above the grade on the left and 7' above the grade on the right. The weathering steel posts are 2½" by 4". The signpost is 9' from the travelway. The letter *F* in the word *Falls* measures 6" high.

General Traffic Signs. Because the Blue Ridge Parkway is a motor travelway and a federal road, all traffic signs must comply with FHWA standards. Typically, most of these signs have a signboard of sheet metal or plywood that is covered with a vinyl overlay system that is applied by heat or pressure-sensitive film. Posts are wood or weathering steel with a breakaway attachment at the base. General traffic signs are installed 5' away from the travelway. The signboard is 5' above the nearest road surface. The original park designers put great emphasis on the character of the parkway signs. In general, there are few signs along the parkway, but those that do exist are an integral part of the design character and visual experience.

Because the Blue Ridge Parkway was more park-like than its predecessors, typical parkway structure design concepts were extended from those devices serving primarily traffic to all man-made structures within parkway borders – interpretive markers, visitor centers, fences, and administrative facilities. Thus was born the concept of a park-like architectural theme, in this case harmoniously capturing the flavor of a two-state mountain area. Editorially I might note that recent years have witnessed an unfortunate erosion of this design theme, particularly in parkway signs; the new ones are more akin to a highway environment than to a park. The reason for this successful design is that the Blue Ridge Parkway didn't simply mimic earlier parkway structures, but rather adopted the concept of park-like structures and harmonized the concept to the southern Appalachian landscape through use of indigenous forms, materials, and colors. As we have seen the parkway's bridges, guardrails, signs, every man-made object – reflects the character of its environment.

– J. W. Bright, 1986

Mileposts. The Blue Ridge Parkway is a 469-mile-long linear park. The parkway itself is a continuous ribbon that threads through the mountains of Virginia and North Carolina without interruption. Milepost 0 is at Rockfish Gap, the parkway's beginning at Shenandoah National Park. Milepost 469 is at the Oconaluftee River near the parkway's end in the Great Smoky Mountains National Park in North Carolina. There is no milepost 470, although the parkway is close to that length. The old-timers will tell you that the extra distance lies up around Grandfather Mountain where the last section of the Blue Ridge Parkway was built. The park administration, maintenance staff, and visitors depend on the mileposts for a frame of reference. The posts are located 5' off the road pavement at every mile. They are constructed of precast concrete with recessed numbers.

Old Rustic Sign. The rustic sign above is an original sign type of the parkway. The oversized wooden post, the weathered gray color, and the routed lettering were typical of the original signs, most of which have been displaced by more modern sustainable signs. This sign can be seen in front of the Bluff's Lodge at Doughton Park at milepost 241.1.

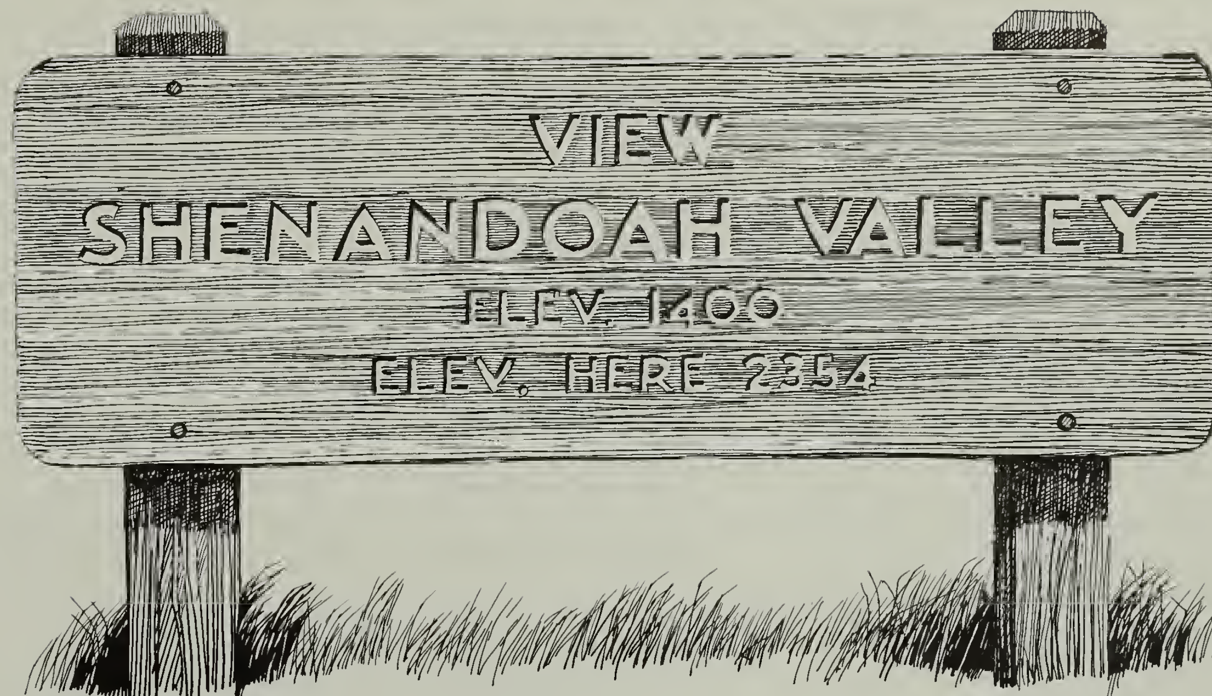
The Rocky Knob Sign. This sign type has been discontinued from use. New brown signs have replaced them (see page 291). The parkway seal, a lone pine tree next to a road passing through the mountains, as shown on the sign above, was designed in 1939. The seal was originally round but in 1949 it was adapted to a rectangular format that is shown on the major entrance signs (see pages 290 and 291). Today you will find the seal on baseball cups, mugs, and lapel pins.

Arrowhead Shield Sign. This sign type (photograph left) was designed and installed as part of the National Park Service's Mission 66 project. This particular sign is on NC 70 near an entrance onto the parkway in Asheville, North Carolina. The National Park Service shields on these signs are about 2" thick and are made of a dense sign foamboard that is routed out and then painted. The shield is also placed on buildings near the main entrances of ranger stations, visitor centers, and park headquarters. The Mission 66 design style was somewhat foreign to the already-established sign design style of the parkway. Today, the arrowhead shield signs have their own reference to national park history. It is doubtful that any more of these signs will be erected.

The sign depicted in the photograph to the right was formerly found at milepost 169 near Rocky Knob. This sign has been replaced by a modern brown park sign. The sign employed the parkway seal and routed lettering on the post and cross beam. The seal itself was surrounded by the words "Blue Ridge Parkway."

The overlook and parking area signs are similar. The letters for Linville River are recessed or routed about ¼" into the redwood. A gray stain that allows the natural wood grain to show through is utilized. The signs are set back from, but parallel to, the curb. These signs are simple and contribute to the uncluttered look of the parking areas.

The backs of the signs are treated simply with no exposed bolts. The placement of the posts, with respect to proportion of the sign, is an important design detail. All of the sign layouts along the parkway have the same attention to detail.



Overlook Signs. Each of the 275 overlooks along the Blue Ridge Parkway has at least one sign. These signs vary in width from 36" to 72" depending on the length of the message. The signboards are 19½" in height and are supported by two 6" x 6" treated southern pine posts that extend 2' into the ground. The posts are attached to the sign with a vandal-proof nickel-plated or galvanized lag bolt that is countersunk into the face of the signboard. The letters of the name are 3¼" high, the letters of the elevation number are 2" high. All letters are routed into the sign surface to a depth of 1/8" to 3/16". The signboard, back, and post are finished with an oil-based stain. The lettering is white. The overlooks along the parkway are very simple and have minimal improvements. Except for stone curbing, an occasional stone wall, and a waste can, the signs are what continue the parkway's design theme at the overlooks.

APPENDIX: BLUE RIDGE PARKWAY FACTS

Length: 469 miles (752 km)

Beginning Point: Milepost 0 is at Rockfish Gap in Virginia (elevation 1,900'). The parkway begins here at the southern end of Shenandoah National Park.

Ending Point: Milepost 469 is at the Oconaluftee River in North Carolina (elevation 2,020'). The parkway ends here at the entrance to the Great Smoky Mountains National Park.

Intersecting Interstate Highways: I-64, I-77, I-40, and I-26 with no interchanges. (I-81 comes near, but does not intersect the parkway.)

Initial Funding: Initial construction funding was allocated under the authority of the National Industrial Recovery Act (June 16, 1933).

Establishing Legislation: The act establishing the Blue Ridge Parkway under the U.S. Department of the Interior, National Park Service, passed on June 30, 1936. Boundary adjustments were made on June 30, 1961, and October 9, 1968.

Total Acreage:	85,954.83
Federal:	78,837.76
Nonfederal:	7,117.07
Scenic Easement:	2,022.00
Fee Simple:	77,092.00
Highest Elevation:	VA - 3,950' NC - 6,053'
Number of Bridges:	151
Number of Tunnels:	26
Number of Overlooks	275
Private/Public Road Crossings and Access:	270
Private:	109 (VA - 86; NC - 23)
Public:	161
Public Road Crossings with No Grade Separation:	NC - 63

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