
National Park Service
Cultural Landscapes Inventory
2004



Road to Paradise
Mount Rainier National Park



CULTURAL LANDSCAPES INVENTORY (CLI) PROGRAM
2010 Condition Assessment Update for:

Road to Paradise
Mount Rainier National Park

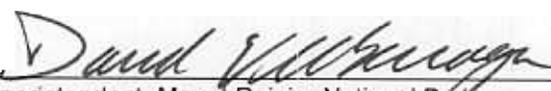
Mount Rainier National Park concurs with the condition assessment update for the Road to Paradise as identified below:

CONDITION ASSESSMENT: **FAIR**

Good: indicates the landscape shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The landscape's cultural and natural values are as well preserved as can be expected under the given environmental conditions. No immediate corrective action is required to maintain its current condition.

Fair: indicates the landscape shows clear evidence of minor disturbance and deterioration by natural and/or human forces, and some degree of corrective action is needed within 3-5 years to prevent further harm to its cultural and/or natural values. If left to continue without appropriate corrective action, the cumulative effect of the deterioration of many of the landscape characteristics will cause the landscape to degrade to a poor condition.

Poor: indicates the landscape shows clear evidence of major disturbance and rapid deterioration by natural and/or human forces. Immediate corrective action is required to protect and preserve the remaining cultural and natural values.


Superintendent, Mount Rainier National Park

9/21/10

Date

Please return to:
Vida Germano
CLI Coordinator
National Park Service
Pacific West Regional Office
1111 Jackson Street, Suite 700
Oakland, CA 94607-4807
(510) 817-1407
(510) 817-1484 (fax)

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Archaeology and
Historic Preservation

ROAD TO PARADISE
MOUNT RAINIER NATIONAL PARK

Washington SHPO Eligibility Determination

Section 110 Actions Requested:

- 1) SHPO concurrence with the Setting description.

I concur, **I do not concur** that the **Setting** as described in the Cultural Landscape Inventory (CLI) contributes to the Road to Paradise (The 1997 National Historic Landmark Nomination describes the general setting of the NHLD. This CLI describes specifically, the setting of the Road to Paradise including: spatial organization, natural systems and features, land use, circulation, topography, vegetation, and views and vistas. See the Analysis and Evaluation section.).

The following structures, located within the historic district, are already listed on the National Register as contributing elements of the Road to Paradise:

LCS number	Structure Name
(No number)	Nisqually Road (The listing of the road includes "all historic structures associated with the road construction, including ditches, swales, culverts, and retaining walls" (NHLD 1997, 85).

Reasons/comments why any 'Do Not Concur' blocks were checked:

Gregory Duff

for Washington State Historic Preservation Officer DSHPO

6/18/04
Date

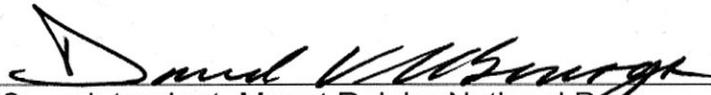
Please return forms to the attention of:
Erica Owens
CLI Co-coordinator
National Park Service
Pacific West Regional Office-Seattle
909 1st Ave, Floor 5
Seattle, WA 98104
(206) 220-4128
erica_owens@nps.gov

**National Park Service
Cultural Landscape Inventory
1998**

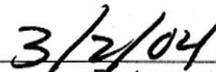
**Road to Paradise
Mount Rainier National Park**

Mount Rainier National Park concurs with the management category and condition assessment identified by this CLI Level II report, as given below:

MANAGEMENT CATEGORY: **Must be preserved and maintained**
CONDITION ASSESSMENT: **Fair**



Superintendent, Mount Rainier National Park



Date

Please return to:

Erica Owens
Historical Landscape Architect
National Park Service
Pacific West Regional Office
909 First Avenue
Seattle, WA 98104-1060



STATE OF WASHINGTON

Office of Archaeology and Historic Preservation

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
(Mailing Address) PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 Fax Number (360) 586-3067

June 18, 2004

Dr. Stephanie Toothman, Chief
National Park Service, Pacific West Region
909 First Avenue, Fifth Floor
Seattle, Washington 98104-1060

In future correspondence please refer to:

Log: 061804-52-NPS

Property: Mt. Rainier, Olympic, and North Cascades National Parks

Re: Formal Concurrence on 12 Cultural Landscape Inventory and List of Classified Structures

Dear Dr. Toothman:

Thank you for contacting the Washington State Office of Archaeology and Historic Preservation (OAHP). The above referenced properties have been reviewed on behalf of the State Historic Preservation Officer (SHPO) under provisions of Section 106 of the National Historic Preservation Act of 1966 (as amended) and 36 CFR Part 800.

Based upon your documentation, I understand that the National Park Service (NPS) requests formal concurrence from the SHPO in order to certify that the Cultural Landscape Inventory (CLI) and List of Classified Structures (LCS) is complete. My review is based upon documentation contained in your documentation.

In response, you will find our concurrence on the 12 CLIs and associated LCS located in Mount Rainier, Olympic and North Cascades National Parks. The documentation prepared for this review will be retained in the Washington State Inventory of Cultural Resources for future reference and research.

Again, thank you for the opportunity to review and comment on these reviews as well as for the assistance and work of Erica Owens. Should you have any questions please feel free to contact me at 360-586-3073 or gregg@cted.wa.gov.

Sincerely,



Gregory Griffith
Deputy State Historic Preservation Officer

Enclosures ✓

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Executive Summary

General Introduction to the CLI

The Cultural Landscapes Inventory (CLI) is a comprehensive inventory of all historically significant landscapes within the National Park System. This evaluated inventory identifies and documents each landscape's location, physical development, significance, National Register of Historic Places eligibility, condition, as well as other valuable information for park management. Inventoried landscapes are listed on, or eligible for, the National Register of Historic Places, or otherwise treated as cultural resources. To automate the inventory, the Cultural Landscapes Automated Inventory Management System (CLAIMS) database was created in 1996. CLAIMS provides an analytical tool for querying information associated with the CLI.

The CLI, like the List of Classified Structures (LCS), assists the National Park Service (NPS) in its efforts to fulfill the identification and management requirements associated with Section 110(a) of the National Historic Preservation Act, NPS Management Policies (2001), and Director's Order #28: Cultural Resource Management (1998). Since launching the CLI nationwide, the NPS, in response to the Government Performance and Results Act (GPRA), is required to report on an annual performance plan that is tied to 6-year strategic plan. The NPS strategic plan has two goals related to cultural landscapes: condition (1a7) and progress on the CLI (1b2b). Because the CLI is the baseline of cultural landscapes in the National Park System, it serves as the vehicle for tracking these goals.

For these reasons, the Park Cultural Landscapes Program considers the completion of the CLI to be a servicewide priority. The information in the CLI is useful at all levels of the park service. At the national and regional levels it is used to inform planning efforts and budget decisions. At the park level, the CLI assists managers to plan, program, and prioritize funds. It is a record of cultural landscape treatment and management decisions and the physical narrative may be used to enhance interpretation programs.

Implementation of the CLI is coordinated on the Region/Support Office level. Each Region/Support Office creates a priority list for CLI work based on park planning needs, proposed development projects, lack of landscape documentation (which adversely affects the preservation or management of the resource), baseline information needs and Region/Support office priorities. This list is updated annually to respond to changing needs and priorities. Completed CLI records are uploaded at the end of the fiscal year to the National Center for Cultural Resources, Park Cultural Landscapes Program in Washington, DC. Only data officially entered into the National Center's CLI database is considered "certified data" for GPRA reporting.

The CLI is completed in a multi-level process with each level corresponding to a specific degree of effort and detail. From Level 0: Park Reconnaissance Survey through Level II: Landscape Analysis and Evaluation, additional information is collected, prior information is refined, and decisions are made regarding if and how to proceed. The relationship between Level 0, I, and II is direct and the CLI for a landscape or component landscape inventory unit is not considered finished until Level II is complete.

A number of steps are involved in completing a Level II inventory record. The process begins when the CLI team meets with park management and staff to clarify the purpose of the CLI and is followed by historical research, documentation, and fieldwork. Information is derived from two efforts: secondary sources that are usually available in the park's or regions' files, libraries, and archives and on-site landscape investigation(s). This information is entered into CLI database as text or graphics. A park report is generated from the database and becomes the vehicle for consultation with the park and the

SHPO/TPO.

Level III: Feature Inventory and Assessment is a distinct inventory level in the CLI and is optional. This level provides an opportunity to inventory and evaluate important landscape features identified at Level II as contributing to the significance of a landscape or component landscape, not listed on the LCS. This level allows for an individual landscape feature to be assessed and the costs associated with treatment recorded.

The ultimate goal of the Park Cultural Landscapes Program is a complete inventory of landscapes, component landscapes, and where appropriate, associated landscape features in the National Park System. The end result, when combined with the LCS, will be an inventory of all physical aspects of any given property.

Relationship between the CLI and a CLR

While there are some similarities, the CLI Level II is not the same as a Cultural Landscape Report (CLR). Using secondary sources, the CLI Level II provides information to establish historic significance by determining whether there are sufficient extant features to convey the property's historic appearance and function. The CLI includes the preliminary identification and analysis to define contributing features, but does not provide the more definitive detail contained within a CLR, which involves more in-depth research, using primary rather than secondary source material.

The CLR is a treatment document and presents recommendations on how to preserve, restore, or rehabilitate the significant landscape and its contributing features based on historical documentation, analysis of existing conditions, and the Secretary of the Interior's standards and guidelines as they apply to the treatment of historic landscapes. The CLI, on the other hand, records impacts to the landscape and condition (good, fair, poor) in consultation with park management. Stabilization costs associated with mitigating impacts may be recorded in the CLI and therefore the CLI may advise on simple and appropriate stabilization measures associated with these costs if that information is not provided elsewhere.

When the park decides to manage and treat an identified cultural landscape, a CLR may be necessary to work through the treatment options and set priorities. A historical landscape architect can assist the park in deciding the appropriate scope of work and an approach for accomplishing the CLR. When minor actions are necessary, a CLI Level II park report may provide sufficient documentation to support the Section 106 compliance process.

Park Information

Park Name: Mount Rainier National Park
Administrative Unit: Mount Rainier National Park
Park Organization Code: 9450
Park Alpha Code: MORA

Property Level And CLI Number

Property Level: Landscape
Name: Road to Paradise
CLI Identification Number: 400002
Parent Landscape CLI ID Number: 400002

Inventory Summary

Inventory Level: Level II

Completion Status:

Level 0

Date Data Collected - Level 0: 1/1/1992
Level 0 Recorder: C. Gilbert
Date Level 0 Entered: 1/1/1992
Level 0 Data Entry Recorder: C. Gilbert
Level 0 Site Visit: Yes

Level I

Date Level I Data Collected: 7/26/1994
Level I Data Collection: C. Gilbert, Norwaad and Thorson Dodroe
Date Level I Entered: 7/26/1994
Level I Data Entry Recorder: C. Gilbert, Norwaad and Thorson Dodroe
Level I Site Visit: Yes

Level II

Date Level II Data Collected: 4/1/1998
Level II Data Collection: S. Dolan
Date Level II Entered: 4/1/1998
Level II Data Entry Recorder: S. Dolan
Level II Site Visit: Yes
Date of Concurrence: 3/2/2004

Explanatory Narrative:

The 18.4-mile Road to Paradise was the first road built in Mount Rainier National Park and it remains the park's busiest road. The road is characterized by a gentle gradient and curvilinear alignment as it ascends several thousand feet up the southwest flank of Mount Rainier. Crenelated guardwalls of native stone, masonry veneered concrete bridges, and frequent scenic overlooks are part of the historic design vocabulary for the road. The road rises from the park's main entrance at the Nisqually Entrance Arch, through the old growth forests typical of the lower elevations in the area, to the developed area of Longmire at 2,757 feet. The road then climbs across the southern slopes of the mountain, passing by and over numerous waterfalls and streams, and regularly providing scenic mountain vistas. The road reaches what was the historic location of the snout of the Nisqually Glacier near the present-day Nisqually Glacier Bridge. From there, the road proceeds up to the developed area of Paradise at 5,557 feet, without ever reaching a five percent gradient.

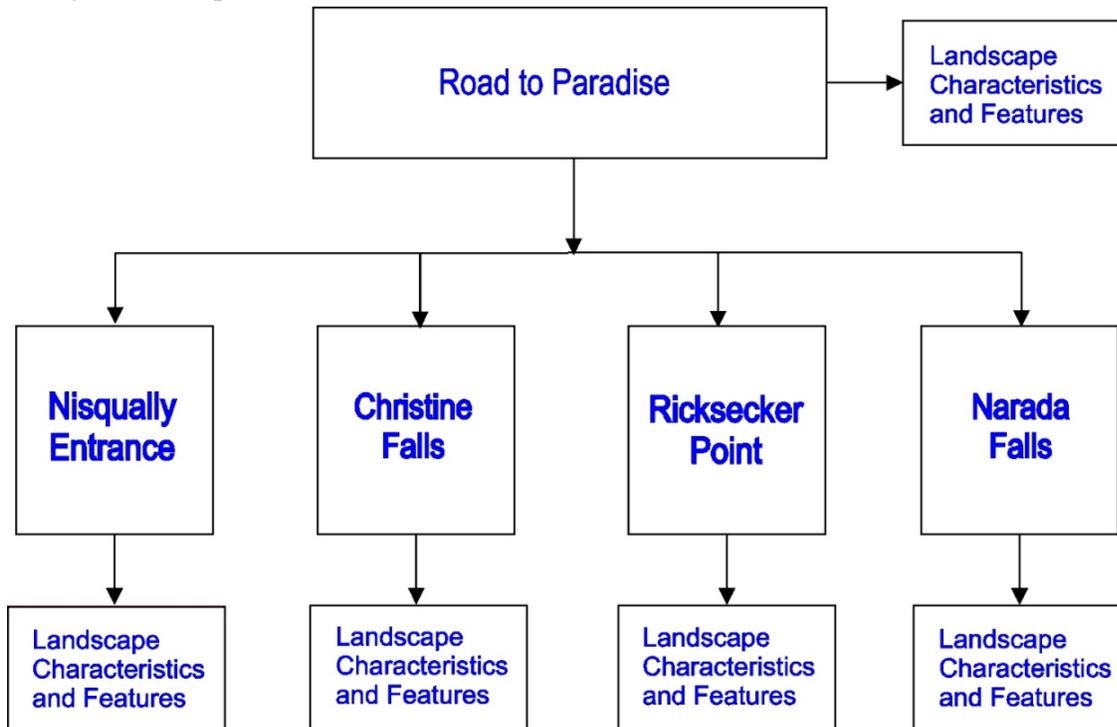
Built between 1904 and 1915, the road was reconstructed in 1918, and was further reconstructed between 1925 and 1941, when many of its most notable features were built. The road today largely adheres to the original alignment of the road completed in 1915, and retains many of the landscape features designed and implemented in the 1920s and 1930s.

Landscape Description

The Road to Paradise is a 18.4-mile linear landscape that climbs from the Nisqually Entrance of Mount Rainier National Park at 2002 feet, to Paradise, a subalpine developed area at 5,400 feet. The road was designed as a pleasure route for the enjoyment of people, and to make the national park more accessible. Began in 1904, the road was made to fit gracefully into the forested mountain landscape, and was aligned to gently curve and take in views of spectacular scenery. Construction details for the road included a palette of materials and structures that attempted to harmonize the road with the natural landscape and to emphasize picturesque qualities of the surrounding landscape. A series of nineteen bridges of stone or wood, and a system of overlooks and pullouts with varying degrees of development, all constituted a pleasurable experience for the visitor that sought to present the natural landscape in the most favorable and memorable terms. The Road to Paradise is a historic designed landscape, significant as an example of an early pleasure road in a national park, and distinguished by outstanding engineering achievements and features of naturalistic design. There are four component landscapes of the road landscape: Nisqually Entrance, Christine Falls, Ricksecker Point, and Narada Falls. Each component landscape is individually analyzed and evaluated within a separate CLI report. Please refer to these reports for more information about each component landscape.

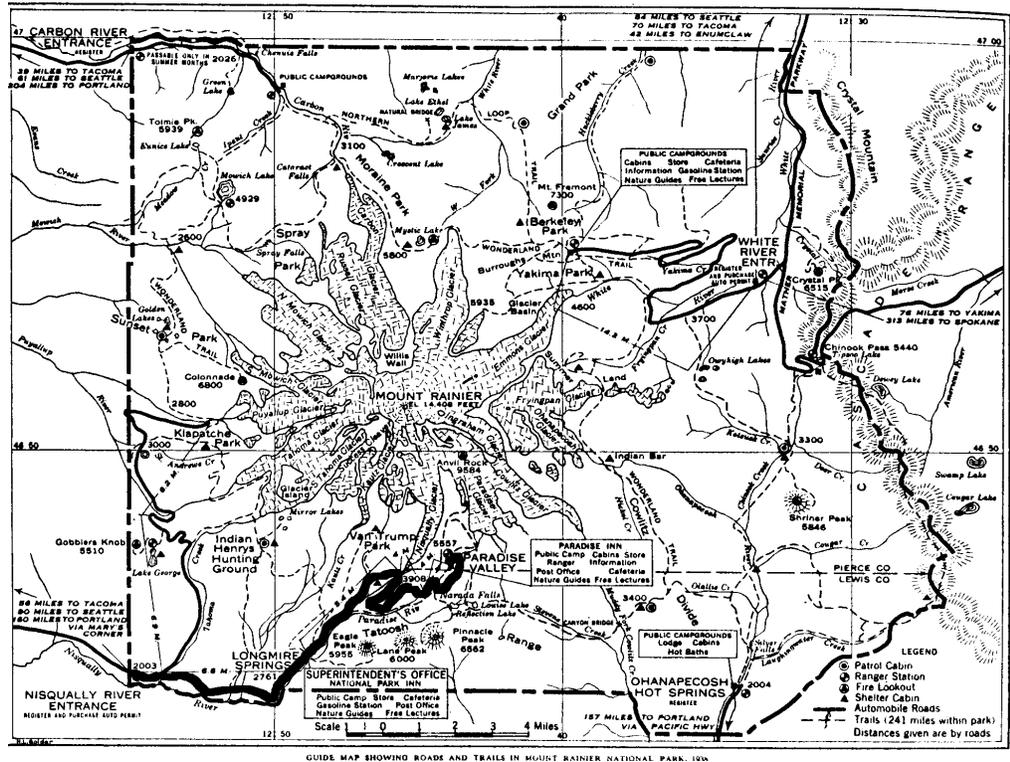
Cultural Landscapes Inventory Hierarchy Description

The Road to Paradise is a historic designed landscape with four component landscapes: Nisqually Entrance, Christine Falls, Ricksecker Point, and Narada Falls. These four landscapes were historically designed as discrete sites along the length of the road and while considered individual sites, they have a strong relationship to the road.



CLI hierarchy diagram, to show how the landscape Road to Paradise has four component landscapes Nisqually Entrance, Christine Falls, Ricksecker Point, and Narada Falls.

Location Map



1938 map of Mount Rainier National Park, modified to show the location of the Road to Paradise within the park.

Boundary Description

The boundary is defined by the National Historic Landmark nomination of 1997 as 30 feet on either side of the centerline of the road, for a distance of 18.4 miles, beginning at Nisqually Entrance Arch and terminating at the Paradise Developed Area. However, this boundary description suggests a more delineated and "tighter" boundary for the road than that which is perceived in the experience of the landscape. For example, in certain segments along the road, the physical boundaries may narrow, such as between a rock cliff on the inside and a steep down slope on the outside edge. In other segments, the apparent boundaries of the road broaden into the entire viewshed from the road. In other words, the "30 feet on either side of the centerline" definition may be arbitrary to the experience of driving the road.

Regional Context

Physiographic Context

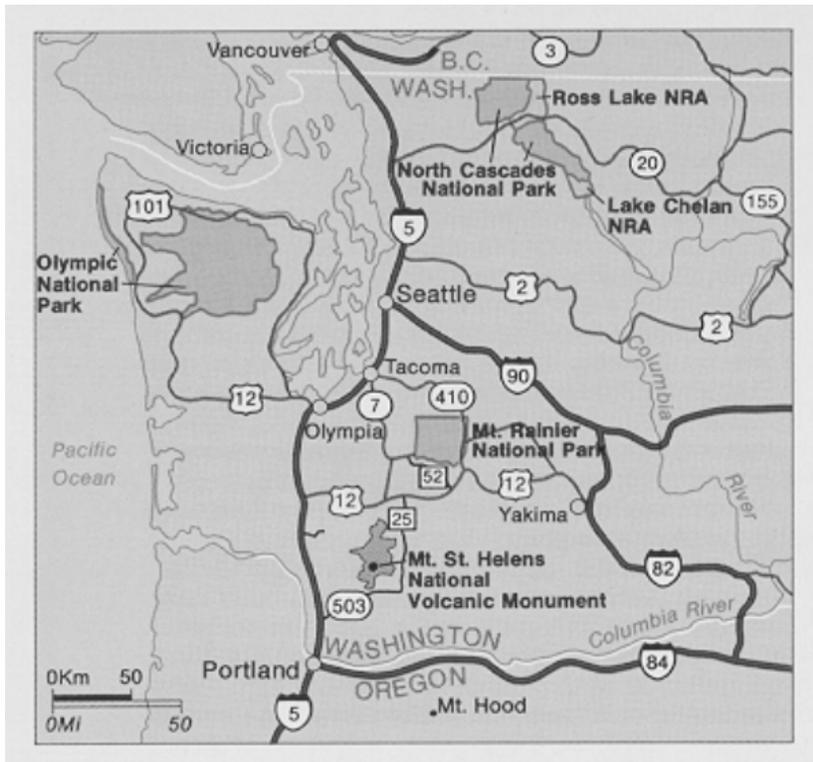
The Road to Paradise traverses the lower southwest slope of Mount Rainier, entering the park at the Nisqually Entrance (el. 2002 feet). The route generally follows the Nisqually River before heading northeast to Longmire. The landscape boundary on the north side of the road is created by a series of small peaks and ridges (Tohoma and Kautz). The road turns northeast to Longmire for 2 miles, bounded by the river and Rampart Ridge, and continues 4.5 miles further to Christine Falls, following ridges and river valleys through three primary forest communities, eventually reaching a high alpine plant community at Paradise (el. 5,400 feet).



Map illustrating the physiographic regional context of Mount Rainier National Park, where the Road to Paradise cultural landscape is located.

Political Context

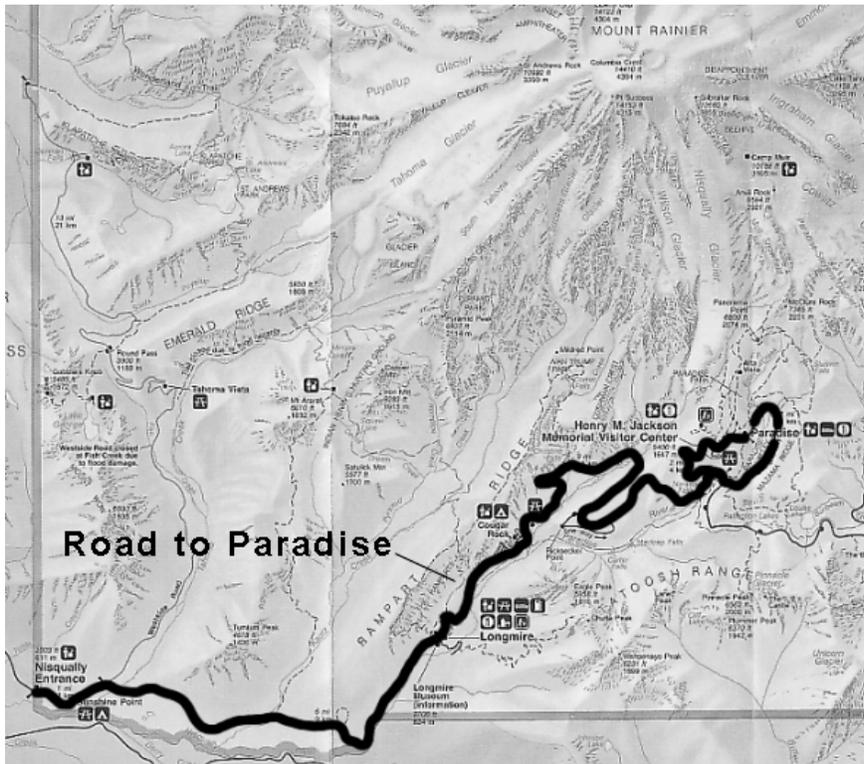
The entire Road to Paradise is within the boundaries of Mount Rainier National Park



Regional map indicating the political context of the Road to Paradise within Mount Rainier National Park.

Cultural Context

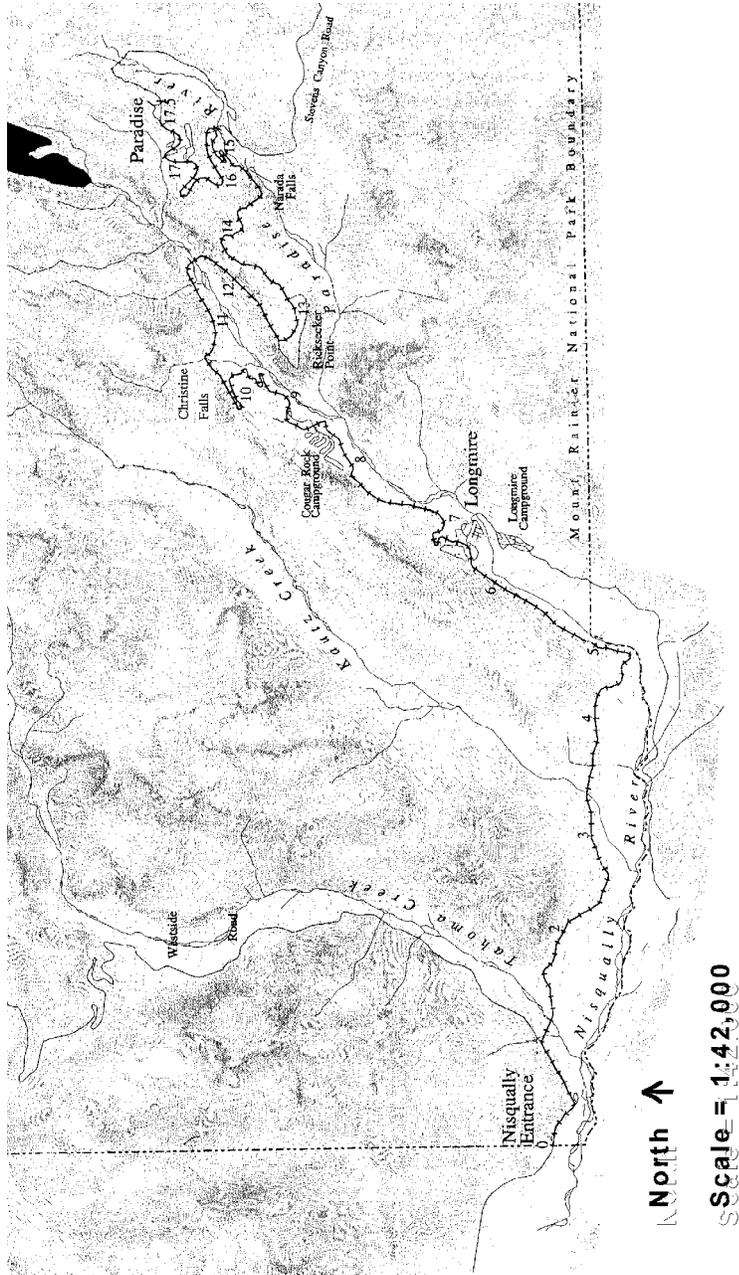
The Road to Paradise is a linear landscape with areas along the corridor where visitor services and waysides provide expanded boundaries for the road as a landscape system. These areas vary in size and type from large developed areas such as Longmire and Paradise, to informal pullouts and waysides along the road. Four primary designed landscapes are associated with the road: Nisqually Entrance, Christine Falls, Ricksecker Point, and Narada Falls. Longmire and Paradise are historically associated with the road, but are documented in the CLI as individual cultural landscapes.



Map illustrating the cultural context of the Road to Paradise within Mount Rainier National Park.

Site Plan

Site plan of the Road to Paradise, showing mileage increments along the road as far as Paradise at 17.5 miles. Note however, that the road continues to loop around to a total distance of 18.4 miles.



Chronology

Year	Event	Description
1885 AD	Developed	<p>James Longmire developed a rough trail from present-day Ashford to the Longmire meadow, and established a therapeutic resort within the meadow.</p> <p>Owner: James Longmire</p>
1890 - 1900 AD	Built	<p>The first roads were built within Yellowstone National Park. Construction work was overseen by Army Corps of Engineers Captain Hiram M. Chittenden.</p> <p>Engineer: Hiram M. Chittenden</p>
1893 AD	Built	<p>James Longmire and several Native Americans built a wagon road to Longmire Springs, and blazed a pack trail from Longmire to Paradise.</p>
1895 AD	Established	<p>The predecessor of the "Camp of the Clouds" at Paradise was established as a coffee shop and tent camp.</p>
1899 AD	Established	<p>Mount Rainier National Park was established.</p>
1900 AD	Expanded	<p>The Longmires' expanded their visitor accommodations at Longmire Springs, as visitation greatly increased.</p>
1903 AD	Designed	<p>Under public pressure to increase access to the mountain, Army Corps of Engineers' Eugene Ricksecker began to design the Road to Paradise. The route was aligned through the Nisqually River valley, was 24.5 miles long, with a maximum gradient of 4%.</p> <p>Designer: Eugene V. Ricksecker</p>

1904 - 1915 AD	Built	<p>The Road to Paradise was built under the supervision of the Army Corps of Engineers. The first road within the park had a width of 12 feet, with vegetation cleared to a width of 50 feet. During these 16 years, 19 wooden bridges were built.</p> <p>Engineer: Assistant Engineer Eugene V. Ricksecker Hiram M. Chittenden Captain Hiram M. Chittenden Eugene V. Ricksecker</p>
1906 AD	Established	<p>Captain Hiram M. Chittenden was established as the general supervisor of the road project, with Eugene Ricksecker still in charge of construction work.</p> <p>Engineer: Hiram M. Chittenden</p>
1907 AD	Built	<p>Construction of the Nisqually Entrance to Longmire span of the road was completed, and the road was opened to the public for the first time.</p> <p>Landscape Architect: Ernest A. Davidson</p>
1908 AD	Built	<p>Construction of the road was completed to the snout of Nisqually Glacier. The Road to Paradise was now the first road in the United States to reach a glacier.</p>
1910 AD	Built	<p>Construction of the road was completed as far as Camp of the Clouds at Paradise.</p>
1915 AD	Paved	<p>Paving of the road in cement-gravel was completed. The road was opened to automobiles for the entire length.</p>
1916 AD	Established	<p>The National Park Service was established through the Organic Act.</p>
1916 - 1924 AD	Expanded	<p>The width of the road was expanded by the National Park Service to accommodate a greater flow of traffic. The road was widened below Nisqually Glacier Bridge to 16 feet, the parking lot at Narada Falls was enlarged and the Paradise parking lot, graded.</p>

1922 AD	Built	A bypass road was built behind Ricksecker Point, and a second road was built from Narada Falls to Paradise, known as the Narada Cut-Off. The cut-off served down-hill traffic.
1925 AD	Expanded	The width of the road from Nisqually Entrance to Nisqually Glacier was enlarged from 16 feet to 24 feet; the road was realigned at Nisqually Entrance to increase traffic flow, and the Nisqually Entrance Arch was enlarged from 22 to 30 feet-wide.
1925 AD	Paved	The entire road was paved with bituminous asphalt.
1925 - 1941 AD	Reconstructed	Over the next 16 years, the entire road was reconstructed and improved by the National Park Service. The NPS added new features of naturalistic design, but did not change the overall alignment or character of Ricksecker's road.
1926 AD	Built	Old wooden bridges were replaced with new wooden bridges and bridges built of concrete.
1927 AD	Expanded	The Narada Cut-Off was expanded and became a two-way road.
1927 AD	Expanded	The part of the road from Nisqually Glacier to Paradise was widened and the curves were improved.
1928 AD	Built	A new bridge was built at Christine Falls and at Narada Falls. These bridges had concrete arches and stone veneer.
1929 AD	Reconstructed	The reconstruction of the road was largely complete, with most of the original wooden bridges replaced with concrete. Most concrete bridges were faced with stone.
1933 - 1941 AD	Built	The CCC built many features along the road that enhanced the naturalistic landscape design of the road. These features included masonry guardwalls, stone retaining walls and stone curbing.

1933 - 1941 AD	Expanded	The CCC expanded the parking lot at Narada Falls; built a new masonry retaining wall to hold up the side of the Falls overlook; and added stone curbs, a drinking fountain, a rustic-style comfort station and an equipment building.
1933 - 1941 AD	Naturalized	During the CCC-era, E.A. Davidson supervised the mass planting of trees and shrubs to naturalize the banks of the road, and the burying of log braces beneath the soil to prevent erosion.
1936 AD	Built	A reinforced concrete arch bridge was built at Nisqually Glacier to replace one of several bridges destroyed by flooding.
1947 AD	Built	A new stretch of road and a parking area was built at Kautz Creek, so that visitors could get their first view of the mountain's summit from the road, and view the devastation caused by former flooding.
1947 AD	Destroyed	A flood destroyed a 0.5-mile stretch of road at Kautz Creek and the bridge over the creek. A stretch of road just below Longmire was also destroyed.
1947 AD	Destroyed	The Nisqually Glacier Bridge was again destroyed by flooding, and once again replaced.
1950 AD	Built	A new reinforced concrete bridge was built at Kautz Creek.
1950 - 1960 AD	Maintained	The Road to Paradise was maintained by the National Park Service, and a few further modifications were made to the road: a new road was built from Narada Falls to Paradise Valley, and both the bridges at Kautz and Tahoma Creeks were replaced.
1961 AD	Built	A new, high-level concrete span bridge was built at Nisqually Glacier, to avoid further damage by flooding. The Road to Paradise was realigned along the 100-yard new approach to the bridge.

Statement Of Significance

The Road to Paradise is nationally significant for its design and construction (criterion C), and for its association with the events of the American Park Movement and early National Park Service (NPS) master planning (criterion A).

In association with significant design and construction, the Road to Paradise is an outstanding example of park landscape design, embodying the complimentary styles of rustic architecture and naturalistic landscape architecture. These styles were largely implemented during the period of road reconstruction, from 1925 until 1941, though the road had existed since 1905, and was conceived as a naturalistic design. The period 1925 to 1941 is defined as the period of significance, as most remaining landscape characteristics and features date from this time. During this period, the road design was refined in a partnership between NPS landscape architects and Bureau of Public Roads engineers. The product was a greater articulation of the naturalistic design of the existing scenic road, with more permanent rustic features and developed areas along its length. Implementation of the design partly involved the Civilian Conservation Corps, whose large workforce added labor-intensive features along the road. The NPS perpetuated the rustic style of architecture and naturalistic landscape architecture between the First and Second World Wars. Known by the end of the 1920s as the rustic and naturalistic styles, they were based on a combination of 18th-century picturesque and 19th-century naturalistic theories of design. They aimed to harmonize artifice and nature by minimizing the visual impact of constructed developments, while accentuating the picturesque qualities of nature. Indigenous rock, lumber, and native plants were the basic materials for these styles, so that park architecture and landscape architecture would appear to have evolved naturally within the landscape. Forms of the rustic and naturalistic styles were intended to be subordinate to the natural environment, irregular like naturally-occurring features, and to appear to be hand-crafted or primitive, as if created without the use of technology available at the time. This design-era coincides with the most significant period of development within NPS history, a time when the NPS created what is now recognized as the hallmark style for developments within natural areas, in order to preserve their scenic beauty. The Road to Paradise is an archetypal example of such rustic style architecture and naturalistic landscape architecture.

Before 1925, the Road to Paradise was already recognized as an engineering rarity. Beginning in 1904, it was planned as a pleasure road, which would conduct visitors through spectacular scenery in a manner most harmonious with the natural environment. So unique was the early road in its naturalistic alignment and magnificent viewpoints, that it helped establish a precedent for the design of future park roads. Although most remaining features are from the 1925-1941 period, the alignment of the road is largely the same as that created in the early 1900s.

In association with the events of the American Park Movement and early NPS master planning, the Road to Paradise is nationally significant as an integral part of the master plan of the park, as first developed in the 1920s. The initiation of the NPS master planning process at Mount Rainier National Park was a major advancement in the design and management of scenic reservations in the United States. The early park master plan and its associated developments are renowned as the most complete and significant example of early master planning within the National Parks.

Physical History

1904-1915

Motoring in Mount Rainier literally means on the mountain itself, for the park is the mountain, its boundaries fitting neatly around the granite foundation of the King of the Cascades. . . Higher and higher the road leads onward, broad and level. Occasionally a goose-neck leading into a 'mule-shoe' loop rises ahead of you, but. . . you will find your engine purring softly along, without demur or difficulty. While you are in the heart of the forest, perhaps the sound of falling waters will strike on your ear, and off in a miniature canyon at your left you will see a graceful cataract, a series of cascades and a laughing stream coming down from an unknown height and shooting under a rustic bridge. If a landscape architect with his very best degree under his arm had planned these choice bits, they could not have been more perfectly set.

-Carpenter Kendall, 1913

The enthusiasm Americans expressed for national parks was not limited to nature's beauties beyond the road, but included the experience of nature from the road itself. The age of the automobile had dawned by the second decade of this century, and auto tourists by the thousands enjoyed the natural splendors of parks from the front seat of motorized buggies. In this way, roads in the national parks differed from other roads. They traversed natural wonders of unequalled stature and were designed to present as well as protect these wonders. Landscape architects, it was said, routed roads through parks like paths through a garden, creating vistas and scenic pullouts so windshield tourists could encounter nature.

One of these roads was the Road to Paradise or Nisqually Road, in Mount Rainier National Park. It was the first road constructed in the park and it was completed between 1904 and 1915 under the supervision of the U.S. Army Corps of Engineers. Noted for its harmony with the rugged mountain environment, the road begins its rise on a gentle grade from the park's western entrance. After moving through the lowland forests and open meadow of Longmire, the road climbs the mountain's southern flank, passing rushing waterfalls and stunning vistas until it finally arrives at the lovely subalpine meadows of Paradise. This road, in an impressive feat for its day, was the first road in the nation to reach a glacier.

Longmire's Wagon Road

The Road to Paradise had humble beginnings. In 1883, James Longmire, an early pioneer, discovered the mineral springs and open meadow that would later bear his name. Both were on the south side of the mountain near the Nisqually River. He filed a claim on the springs, and, hoping to profit from his find, developed the springs as a resort. By 1885, he had cleared a rough trail up to the meadow from present-day Ashford, and he and his family began catering to a few adventuresome visitors who sought out the medicinal springs.

Beginning with a log cabin, Longmire's resort expanded over the next few years, and soon provided tourists with guest cabins, bathhouses, and a small, two-story hotel. Longmire continued to add to his operation by constructing barns and other outbuildings, and by opening an outfitting service for campers and climbers on their way up to Paradise Park. To further his business interests, Longmire and several Indians built a wagon road to Longmire Springs by 1893. About this same time, and for similar reasons, the opportunistic resort owner extended the road -- a rough foot and pack trail -- to Paradise Park, with the assistance of Henry Carter. Longmire's work eventually paid dividends. By the early 1900s, visitation increased so much that he and his family had to build an addition to the Longmire Springs

Hotel.

Most visitors in the 1890s and early 1900s were not satisfied with seeing only Longmire Springs or even the impressive Nisqually Glacier. They wanted to see the panoramic vistas above the timberline and the wildflower fields for which Paradise was renowned. The trip to Paradise was popular enough to give rise to two small business ventures in 1895: a tent camp, and a coffee shop. A few years later John L. Reese combined both of these into one operation that he named the Camp of the Clouds. It was located on Theosophy Ridge. A rough index of the popularity of Paradise can be seen in the expansion of Reese's facilities. In 1903, he owned seven tents and one cook tent. Ten years later, he had increased the number of tents ten fold, and built two wood-frame buildings for the kitchen and dining room.

The Government Road

By the turn of the century, both Longmire Springs and Paradise were favorite tourist destinations in Mount Rainier National Park. But access was difficult. James Longmire's wagon road, the only road into the park when it was established in 1899, was a primitive six-mile track of stumps and ruts. Similarly, Longmire's trail up to Paradise was the only way to reach this wonderful spot. Washington residents generally agreed that the most pressing need of the new park was building a good road to Paradise Park.

At the behest of Washington State's Representative Francis W. Cushman, the U.S. Geological Survey made a preliminary road survey and cost estimate in the fall of 1900. The USGS report suggested that a road could be built from the southwest corner of the park to Paradise Park for \$90,000. Cushman submitted the report to the Secretary of the Interior and suggested that the department seek funding for the road in the next sundry civil appropriation bill. The Sundry Civil Act of March 3, 1903 included authorization for the project. The bill authorized the Secretary of War to survey and construct the most practicable wagon road into Mount Rainier National Park, and provided \$10,000 for the project.

Because the Department of the Interior did not have the staff to design and build park roads, the Army Corps of Engineers constructed many of the early roads in national parks such as Yosemite and Yellowstone. At first, the Army engineers concentrated on the practical aspects of constructing roads in rugged mountain terrain. Later, they turned their attention to the importance of preserving park scenery by limiting the length of roads and by making landscape improvements after construction. Engineers like Captain Hiram M. Chittenden, who oversaw the construction of Yellowstone's roads in the 1890s and early 1900s, placed a great importance on a program that would "perfect and embellish the road system." In the long run, he believed, the roads themselves would become "one of the interesting features in this most interesting region."

Major John Millis of the Army Corps of Engineers was placed in charge of the Mount Rainier road project, although general supervision of the project and design of the road itself went to Assistant Engineer Eugene V. Ricksecker. Ricksecker was a dedicated public servant and an engineer with a rather extraordinary sensitivity toward the natural environment for his time. Stationed in Tacoma, Ricksecker's first order of business centered on finding a route for the new road. The legislation authorizing the road project did not stipulate where the road was to be located. In May 1903, the engineer solicited the suggestions of local citizens about the best route into the park. Although other routes were proposed, he easily decided on the Nisqually River Valley. Ricksecker provided several reasons for this choice: 1) it was the main connection with Tacoma, the largest city near the park; 2) it was the most popular route chosen by tourists visiting the mountain because a road and trail already existed to Longmire and Paradise Park; and 3) it was the approach climbers chose most often, since it led to the south side of the mountain, considered the easiest route to the summit.

Ricksecker then set out to survey the route of the proposed road from the park's western boundary through Longmire and up the Nisqually River drainage to Paradise Valley. The survey was completed by November, 1903. The route covered twenty-four and one-half miles and gained 2,700 feet between Longmire Springs and Paradise Park through a series of meandering switchbacks. The road, Ricksecker instructed, should pass several points of outstanding scenery. These were the foot of the Nisqually Glacier, Narada Falls, and the upper and lower sections of the Paradise Valley, as well as other interesting points along the way. These other scenic sights included Christine Falls and an impressive view of the Tatoosh Range from "Gap Point," later renamed Ricksecker Point, in honor of the engineer.

By emphasizing the scenic component of the road's location, Ricksecker thereby identified the purpose of the road. It was "not designed for commercial purposes," he wrote, for it was not intended to be the shortest practicable route between two terminals. Quite the opposite was true. It was designed "solely as a pleasure road." In this way, it would serve the "enjoyment of the people," and make the summit of Mount Rainier and its "surrounding grandness" more accessible.

A pleasure road which provided all of this was an engineering rarity in the early 1900s. It was also a statement about how roads in national parks provided a unique experience. Ricksecker's design plans showed an interest in both preserving and presenting the mountain's scenic grandeur. The road curves, he explained, would "generally follow the graceful curves of the natural surface of the ground," for these were "most pleasing and far less distracting than the regular curves laid with mathematical precision." By keeping the number of "mathematical" curves to a minimum, Ricksecker believed that the "traveler will thus be kept in a keen state of expectancy as to the new pleasures held in store at the next turn."

Concern for gradient played an important role in the road plan, especially in determining the final alignment. In order to make traveling the road a pleasurable experience, Ricksecker selected a gentle gradient of 4%. He based his decision on standard engineering works, his own observations, and the work performed by Army engineers in Yellowstone. He was particularly indebted to Hiram Chittenden, who was assigned to head the Mount Rainier road project in 1906. Ricksecker's emphasis on a low gradient also reflected his intention that wagons and other motorless vehicles would use the road. As he stated:

"It is generally conceded that about a 4 percent gradient is the steepest up which teams can trot; that they will walk almost as rapidly ascending an 8 percent gradient as a 4 percent; that the descent of grades steeper than 8 percent becomes rapidly more dangerous as the gradient increases. Grades steeper than 5 percent cannot be ascended with reasonable effort by cycles."

The desire to have a gentle grade influenced which scenic features were seen from the road. While Ricksecker noted the importance of routing the road through as much scenery as possible, he recognized that to maintain the interest of wagon-bound travelers, changes in scenery "should be kaleidoscopic. Steep stretches where teams must walk soon become monotonous and a pall upon the senses. Light grades offer no excuses for the teamster to walk his horses and insinuate 'Here's a good place to walk.' "

In the final outcome, this principle contributed to lengthening the road considerably, especially when it was necessary to add switchbacks to reach important points of natural beauty. The road followed the route of the existing wagon road, beginning at today's Nisqually Entrance and progressing to Longmire Springs. From the springs, Ricksecker's road reached Paradise Park by a series of curving switchbacks. It climbed to Christine Falls -- "a very pretty series of falls" -- and from there traveled to the foot of the Nisqually Glacier, then on to Gap Point (Ricksecker Point). Along this section of the route, there were splendid views of the mountain. Climbing from there to Gap Point, the road traversed an exposed

mountain side and provided views that were "grand in the extreme." It was here that Ricksecker gave some valuable insight into his thinking for the road's design:

"An extended view of the lower Nisqually country opens up; the first close view of the mountain and its Southeasterly slopes is obtained, and a superb view of the top of Nisqually Glacier. . . The trees are sparse, just thick enough to keep one alert to obtain the best views. It is probably the longest straight stretch on the route, but interest is not allowed to wane for the panorama continues to expand as progress is made."

Rounding Gap Point, the road offered the first view of Paradise River, as well as views of the Tatoosh Range. (Tatoosh and Carter Falls were hidden below in the trees, but Ricksecker hoped cutting would expose them. This never happened.) After a looping stretch in an open forest, the road reached the end of the loop and Narada Falls burst into full view. Beyond the falls, the road led through a more park-like setting as it traversed the lower Paradise Valley, past Madcap Falls, and then up a series of short loops to upper Paradise Valley. At the head of the valley, the road passed below Sluiskin Falls, then eventually doubled back over open, rolling country to the Camp of the Clouds. Each foot of elevation gain, Ricksecker concluded, created a more expansive view of the mountain and surrounding terrain.

More than scenery went into creating a pleasure road. Construction details were important, too. As already mentioned, Ricksecker called for graceful curves that followed the natural topography of the mountain in order to ensure unexpected views of outstanding alpine scenery. The engineer specified that the road should be cleared to a width of sixty feet, the same width Chittenden found desirable in Yellowstone. That generous clearing was to serve as a general rule which would allow for the road to be opened early. The wide corridor would expose the road surface to sunshine, thereby melting winter snows and drying water left from sudden summer rains. But at some points, such as sidehills, it would be necessary to extend the road width. Aesthetics were also a factor. To diminish the sense of barrenness and artificiality that this swath would create through tracts of heavy timber, Ricksecker directed that a few of the finest trees be left standing. A fortunate byproduct of this approach was that the large trees would shade sections of the road and keep it from drying out and turning dusty. Both functional and visual considerations would provide greater comfort for the tourist.

Ricksecker's other construction specifications combined the practical with the pleasurable. In level country, the roadway would be sixteen feet wide, with three feet of shoulder on either side. To avoid dangerous situations on hillsides, he expanded the roadway width to eighteen and one-half feet. In grading the road, earth cuts would have a slope of one to one (1:1), increasing for vertical walls in hard rock areas, and embankments would maintain a slope of one to one-and-one-half (1:1 1/2). No unsightly borrow pits were to be made; the cuts would exceed the fill areas slightly and would be used to expand the road bed.

Ricksecker recommended surfacing the road with "volcanic ejectamenta," a course material readily found in large quantities along the road route. It packed well and held its shape, yet flexed enough "to make driving a pleasure." Wherever possible, drainage would be achieved with ditches running along the road to some natural stream or depression rather than by constructing numerous culverts.

Retaining walls and guard rails were important safety elements of the road. Retaining walls were needed to support the lower side of the road along the steepest hillsides. Both logs and native stone were available materials, but the engineer preferred rocks because they lasted longer and could be "made safer and neater in appearance." As a construction detail, walls built of native rubble were capped with a constructed rock parapet to guard against accidents.

Finally, bridges made up the last of the construction requirements. There were nineteen in all, seven principal bridges and twelve secondary bridges. Ricksecker recommended that they be built inexpensively from wood, except for the bridges at Christine Falls (Van Trump Creek) and Narada Falls (first Paradise Bridge). These, he noted, were the most important and preferably should be constructed from a combination of steel and concrete.

Construction of the road to Paradise road began in 1904, soon after Ricksecker's survey, and continued until 1910. Additional improvements were made over the next five years. Construction of the road was a sobering process compared to the original plan. To begin with, Ricksecker seriously underestimated the cost of construction. The engineer's original estimate was \$183,000, but the road cost \$240,000 to complete. Even with this additional funding, Ricksecker was forced to reduce the width of the road from sixteen to twelve feet in most areas, and to ten feet in some places. Moreover, the road was still unsurfaced. One inspection report predicted that it would cost an additional \$325,000 to widen and macadamize the road to meet Ricksecker's original standards.

Reasons for these shortcomings can be seen in Ricksecker's inability to initiate the construction. Contractors experienced greater difficulty than they anticipated on the five-mile length of road leading out of Longmire. After the 1905 season, they completed only one mile. In addition, contractors spent more time and money repairing the existing wagon road to Longmire Springs, which diverted attention away from new construction.

To correct the slow progress, Captain Hiram Chittenden was assigned to the Seattle District to take over the general supervision of the Mount Rainier road project. Chittenden, builder of the Yellowstone road system, made three significant changes to Ricksecker's plan. First, he stressed that the reconstruction of the existing wagon road be made a top priority over all other construction. (Chittenden thought this stretch of road "the worst I have ever travelled over.") Second, Chittenden maintained that the cost of the road's construction per mile had to be sharply reduced. The system of berms and drains used on the lower portion of the road, was, he claimed, entirely too elaborate and refined for a park road in a wild and rough country; and it was better suited to a city highway. This method of construction would be impossible to continue for the entire length of the road, so Chittenden ordered the roadway width reduced from sixteen to twelve feet. Third, Chittenden decided to do without contracts and placed Ricksecker directly in charge of the construction. This was similar to the system under which Chittenden conducted the work in Yellowstone.

The new approach paid off. By 1907, the road from the park entrance to Longmire Springs was completed, and the Department of the Interior allowed automobiles to enter the park for the first time. In 1908, the road was opened as far as the snout of Nisqually Glacier. (The glacier has since retreated.) In 1909, the road was advanced to within several miles of Paradise Park, and in 1910, after construction of the last difficult stretch above Narada Falls, the road was completed to the Camp of the Clouds.

Acting Superintendent G.F. Allen applauded Ricksecker's work, stating that the carefully constructed road "passes all points of interests" and enthusiastically proclaimed it "one of the best scenic routes in America." Visitation rose dramatically, a telling sign of the new road's popularity. Another sign was that, while the Road to Paradise had been designed for wagons, automobiles quickly outnumbered horse-drawn vehicles. Though this popularity signaled the opening of the automobile era in the park, it also underscored the need for considerable road improvements if automobiles were to be the main source of transportation for park visitors.

Upon completion of the road, automobiles could drive only as far as Narada Falls. In 1911, President Taft's automobile was dragged to Paradise by a team of mules, making it the first automobile to arrive in

the lovely valley. Taft's touring party, like hundreds of other park visitors that year, entered the park through a new "archway of rustic design." The structure, made of massive peeled western red cedar logs, stood at the park's western entrance. By 1912, the first car reached Paradise under its own power, but the stretch of road above Narada Falls was so narrow that it was not regularly open to automobiles for another three years.

By 1915, the Department of the Interior improved the Road to Paradise considerably. As Superintendent E.S. Hall stated in 1911, the road was "well-located, but in places narrow and poorly drained." As part of the attempt to reconstruct the road, Hall requested that the jurisdiction of the road be transferred from the Department of War to the Department of the Interior. In that way the road could be placed under the management of the park superintendent, and appropriations for its maintenance and repair could be made from within the department.

E.A. Keys, an inspector for the department, looked over the road in the fall of that year, and indicated that a large project awaited the Interior Department. He noted that only half of the work had been completed in making this "a first-class macadam road." The road also needed to be widened, (the desired width was sixteen feet.) Finally, all of the bridges were constructed of wood, when more permanent materials had been originally recommended for Christine and Narada Falls. Keys suggested that reinforced concrete or steel be used to replace the wood structures when needed. The cost of these improvements, Keys concluded, would be substantial.

The motivation to place the jurisdiction of Road to Paradise under the Interior Department (and more closely under the supervision of the park superintendent) also came from concern for the road's scenic quality. Ricksecker had designed his road to lay lightly on the landscape. It purposely avoided a grove of immense cedars on the lower section of the road; the trees were considered to be the most outstanding example in the park. To the shock of park officials and concerned citizens, a contractor hired to clean up dead and downed timber along the new road instead cleared a three-mile stretch of these giant trees before he could be stopped.

In the fall of 1912, the Secretary of the Interior accepted the transfer of the road from the Department of War to the Department of the Interior. By 1915, park crews had improved the Nisqually Road so that it was open to automobiles for its entire length. These improvements included widening and surfacing the road with a layer of cement gravel, edging it with timber or stone guardwalls, and building dry-laid retaining walls to support steep, dangerous sections. In addition to this main road repair, crews also constructed a new bridge of reinforced concrete across Tahoma Creek. However "improved" the Road to Paradise was by 1915, the road above Narada Falls to Paradise Valley was still too narrow for two lanes, and automobiles traveled up and down in convoys using a one-way control system.

Despite its various shortcomings, the Nisqually Road accomplished Ricksecker's design intent. Observers consistently praised his road for its great contribution to Mount Rainier for two important reasons. The first was its location: it demonstrated that Ricksecker was one of the country's first engineers to appreciate the importance of presenting, if not preserving, the scenery through which a road passed. The second was its construction: it equally demonstrated that he was able to build the road and adhere to engineering principles while simultaneously taking advantage of scenic attractions. Testimony to this achievement was the fact that Ricksecker's original location has been changed little despite modern improvements.



Historic photograph of a tourist motorcade along the Road to Paradise. No date, MORA photo files.



Photograph of early visitors to Mount Rainier National Park motoring along the Road To Paradise. No date.

1916-1924

"To meet the mandate of Congress of preserving unmodified the parks while providing for their present use, the National Park Service has established as one of its most important administrative functions a Division of Landscape Architecture, which is charged with the responsibility of preserving natural conditions in the various reservations. Roads and all other improvements for the comfort and convenience of visitors must be so designed that they will not obtrude or spoil the natural beauty of the scenery."

-Owen A. Tomlinson, Superintendent of Mount Rainier National Park, 1934.

In the 1920s and 1930s, the National Park Service reconstructed the Road To Paradise, employing the principles of naturalistic design, a design philosophy which sought to fit man-made works into the natural setting. Reconstruction changed the appearance of the road considerably but generally preserved the original route, and in doing so, preserved and enhanced for motorists the viewpoints, vistas, and close contact with the mountain environment that the original road provided.

More extensive renovations were still necessary to turn Nisqually Road into a first-rate automobile touring road. Traffic on the road to Paradise was heavy and congested. The road continued to be too narrow in places and offered too few parking spaces at scenic points. It also frequently washed out after heavy winter snows melted, and posed other driving hazards that demanded improvements. From 1915 to 1924, the Park Service accomplished piecemeal improvements after receiving modest appropriations. During this period, park crews widened the road below the Nisqually Glacier bridge to sixteen feet; they enlarged the parking lot at Narada Falls by one-half its original size; and they graded and surfaced the parking area at Paradise. They also constructed rock and log retaining walls along the road's steep sections above the glacier. Other general improvements included the construction of wooden and concrete culverts, the construction and repair of wooden and concrete bridges, roadside cleanup, and gravel surfacing.

Some of the more significant road renovations relieved congestion and dangerous driving on the upper section of the road. By 1922, the Park Service built a bypass road behind Ricksecker Point, freeing up a bottleneck and avoiding a stretch of road frequently closed by rock slides. Next, park crews widened the road at Oh My! Point and around the precipitous cliff at Ricksecker Point. Finally, crews constructed a second road from Narada Falls to Paradise. This road, known as the Narada Cut-Off, bypassed the tortuous switchbacks between the falls and Inspiration Point. Uphill traffic continued to use the original road and downhill traffic used the new road. This new road was officially opened to the public in 1924.

Another important element influencing the improvement of the road occurred during this period. The National Park Service was created in 1916 to administer the national park system. Under the leadership of the first director, Stephen T. Mather, roads were built more systematically to provide access to the parks and to harmonize with park landscapes. A 1918 policy statement emphasized this position, and by the late 1920s and early 1930s the Park Service, in consultation with landscape engineers, civil engineers, and other professionals, had worked out construction standards designed to blend park roads with park scenery in a way that did not diminish the parks' natural beauty. In general, the development of roads required the protection of natural features and scenic beauty. This was accomplished through the control of the construction process and careful attention to the appearance of the road and its structures such as bridges, tunnels, and guard rails. This approach to naturalistic landscape design was most commonly associated with the rustic style of architecture in national parks, whereby structures were harmonized with the landscape through the use of native materials in their construction and a sensitive eye to their careful placement in the natural setting.



Photograph of the Road to Paradise looking south, with the Tatoosh Range in the background. CCSO, 1994.

1925-1941

Naturalistic Design and the Reconstruction of the Road to Paradise

To appreciate the design of park roads, it is helpful to see the work as a collaboration between civil engineering and landscape architecture, with civil engineering providing the construction expertise and landscape architecture supplying the guiding design principles. The physical construction of roads involved several steps beginning with the clearing trees and shrubs along the chosen route, followed by grubbing, which removed stumps and snags left from clearing. Next came excavation to remove soil and rock that covered the route of the roadway. In some cases this was accomplished through grading, but in most cases through blasting with explosives and power equipment. Quite often, excavation required cuts and fills (slopes above and below the roadbed) to create a route for the road through steep terrain. Natural materials (soil and stone) removed during excavation were often used in other parts of the roadway as subsurface material, embankments, and retaining walls. Grading, or shaping the roadbed, followed excavation and cleared the route. Graders, or blade machines, then created a crowned road surface.

Construction of the road also required proper drainage through the introduction of roadside ditches and culverts to carry away damaging snow melt and rain. One of the final construction activities was finishing or surfacing. Early roads were usually surfaced with dirt, river gravel, or, in the case of Mount Rainier, volcanic ash. By the 1920s, bituminous asphalt was the material of choice for surfacing. Roadside cleanup followed completion of the road, which primarily involved clearing away log piles.

Beautifying the road after construction, while important, was not the first appearance of landscape architecture in a road project: it was there from the start. In the construction of park roads, landscape architects served as stewards of the national parks, designing roads to lay gently on the land. To do this, they located roads along the natural contours of the park terrain and selected routes that would take advantage of scenic views, providing access to outstanding scenery without damaging the natural beauty or important natural features of the park.

Landscape architects required that construction practices be carried out with as little harm as possible to the landscape. They specified that contractors confine their operations to the road right-of-way. During clearing and grubbing, special care was to be taken so that only trees and shrubs were removed from the right-of-way; the burning of debris was restricted; and stump holes were to be back-filled. Blasting, as a general rule, was to be controlled and done on a small scale in order to prevent large slides and scars to the landscape. Charges were to be aimed toward the right-of-way, and natural features were to be protected as much as possible. In some cases, for example, crews covered trees with wood planks to prevent flying rocks from shredding limbs and leaves. Landscape architects further stressed that borrow pits be located out of view from the road, that roads be built with a minimum of cut and fill, and that slopes be graded to blend with existing grades. Design requirements also eliminated steep grades, sharp turns and switchbacks, and introduced radial curves and superelevated or banked, turns.

In designing and building a road, it was more than the scenic quality viewed from the road that mattered. The view of the road from a distance mattered as well. Landscape architects attempted to route and design a road with the natural environment when it was visible from other points along the road, such as at pullouts and viewpoints. Ideally, the location of the road and sensitive construction techniques would accomplish this. When these failed, supplementary grading and planting on fill slopes was used to stabilize and integrate the road with the surrounding landscape.

Naturalization techniques also included the use of customized colors for the materials used for road surfacing. In other instances, structures such as bridges, guardwalls, retaining walls, and the headwalls of culverts, were built using stone or logs designed to match the existing natural terrain. For example, guardwalls constructed of native stone edged the roadside like the outcropping of a mountainside over which the road passed. But it was not enough to edge the road with a rock wall; the wall itself was designed to have an irregular stonework pattern topped with crenulations to relieve monotony. In this way, it seemed to be a part of the landscape and not a man-made intrusion built for public safety. Similarly, bridges were faced with weathered stone to match the surrounding rocks. They curved with the topography, and with a graceful arch spanned a waterfall, stream, or ravine. At their best, bridges framed a picturesque scene.

By the late 1920s and early 1930s, national park road standards were fully developed based on these principles of landscape design and construction practice, largely based on the work carried out in western parks like Mount Rainier.

The Road to Paradise showed the full range of park road design standards after its reconstruction in the 1920s and 1930s. Until this time, the Park Service could neither afford nor carry out a road development program for the entire system of parks, let alone the Road to Paradise. Two events contributed to a second round of construction on the Road to Paradise. First, the Park Service received increased appropriations for road improvements under the National Park Highway Act of 1924, which provided funding on an annual basis. Second, in 1926, the National Park Service and the Bureau of Public Roads (BPR) entered into an agreement for the construction and improvement of park road and trails. Thenceforth, the bureau assumed responsibilities for all contracts and surveys, and Park Service officials -- superintendents and landscape architects (engineers) -- assumed responsibility for surveys, plans, specifications, and estimates. The Park Service worked in cooperation with the BPR to ensure that park roads would be modern, that they would have the best location, design, construction, and improvement available, and that they would have an overall harmony in terms of standards. Ultimately, the Park Service retained final control of projects, and landscape architects controlled aesthetic and preservation issues, mostly through contract specifications.

Initial work to widen and surface the Nisqually Road began in 1925. The following year, the BPR took charge of the project. In the course of modernizing the road, crews realigned the road at the Nisqually Entrance, which led to widening the rustic entrance arch from twenty-two feet to thirty feet (to accommodate larger cars). A new entrance station, modeled after the one at Yosemite (a structure built by the side of the road, rather than over the road) was also constructed. By 1926, several new log and concrete bridges were built, along with a number of culverts.

By 1927, the entire length of road -- from the entrance to the Nisqually Glacier -- was widened to twenty-four feet. The viewpoints at Ricksecker and Inspiration points were also widened and parking areas provided. Evidently, the road above Narada Falls was widened during reconstruction and routed so that it followed the old Narada cut-off, avoiding the lower switchbacks above the falls. (These switchbacks can still be seen.) Similarly, the road leading up Paradise Valley to the Inn was widened and improved. This type of work involved the elimination of sharp turns and switchbacks and the construction of radial curves. Superintendent Owen A. Tomlinson reported that this was the "first modern road" available to motorists who enjoyed driving the "wide curves, easy grades, and smooth crushed rock surface."

In 1928, two new bridges were constructed, one crossing Van Trump Creek at Christine Falls and the other crossing the Paradise River at Narada Falls. These bridges were especially important because they harmonized so well with the environment, they showcased the picturesque falls, and their graceful concrete arches and stone veneers blended well with the surrounding rocks. The road leading to both

bridges contributed to this feeling because it was superelevated, providing the motorist with a smooth ride and the sense that the bridges were part of the mountainous terrain. This design was enhanced further at Christine Falls where "the flanking walls were curved to flow continuously with the radius curve of the roadway and a superelevation was built into the side of [the] deck."

In 1929, reconstruction of the Road to Paradise was complete. One of the final projects was the construction of a spur road to the new site of the new Paradise Lodge. Park crews were careful to preserve the sensitive alpine meadow, protect important side hills and vegetation, and prevent unsightly erosion and rock slides. The road was now a standard road of eighteen feet (width sizes vary possibly because the road surface and the roadway were not specifically called out) and surfaced with crushed rock. Most of the original wood bridges were replaced with concrete structures, nearly all of which were faced with stone.

The Park Service continued to make improvements to the Nisqually Road throughout the 1930s. In the early 1930s, rock slides in the areas of Inspiration and Ricksecker points forced the agency to reconstruct the Ricksecker cutoff and the Narada cutoff. Park crews, led by park landscape architect Ernest A. Davidson, also began naturalization programs such as roadside cleanup. Emergency Conservation Work programs during the Depression greatly assisted these programs. By the mid-1930s, for example, crews from the Civilian Conservation Corps (CCC) engaged in roadside cleanup and planted trees and shrubs to hide obliterated roadways. They also planted trees and shrubs along sections of the road at bridges and slopes to blend the natural vegetation and control erosion. In addition, they helped control slope erosion by burying log braces below the soil, which were covered and planted. By the late 1930s and early 1940s, CCC crews also helped construct a larger parking area at Narada Falls, including a high rock masonry wall, rock-faced drinking fountains, stone curbing, sidewalks, a rustic style comfort station, and utility shed for snow removal equipment.

Around this same time, road crews concentrated on re-sloping and stabilizing sections of the road prone to natural disasters, such as rock slides. They also built masonry guardwalls along the steeper stretches of road above Nisqually Glacier (between the Nisqually River and Paradise Valley) and extended them to viewpoints such as Ricksecker Point. At viewpoints and parking areas, stone curbing was laid at the base of stone walls, and at viewpoints, such as Narada Falls, stone curbs lined sidewalks in a single unified design. One of the final touches to the road's reconstruction of the road was surfacing. By 1937, the entire road from the Nisqually Entrance to Paradise had been paved with asphalt or a bituminous material. World War II effectively ended any further improvements to the road.

Changes in the Road

Although officially "finished", some parts of the road continued to change. Floods from the Nisqually Glacier washed out the Nisqually Glacier Bridge several times over the history of the road. In 1936, another reinforced concrete arch bridge was built where the previous bridge had been destroyed about a year earlier. A flood also damaged the Christine Falls Bridge in 1940. Seven years later, a massive debris flow rushed down Kautz Creek and destroyed about a half-mile of road, burying the Kautz Creek Bridge and isolating Longmire in the process. Adding to the destruction, the Nisqually River also flooded, wiping out a stretch of road just below Longmire and damaging the Nisqually Glacier Bridge once again. Repairs followed soon after, and a new parking area was constructed at Kautz Creek so visitors could view the destruction; the first view of the mountain was also obtained from this point on the road. In the mid-1950s, park crews reconstructed the Kautz Creek Bridge, but once again flood waters washed away the Nisqually Glacier Bridge, prompting the Park Service to build a new high-level concrete span. The new bridge was located a hundred yards below the original bridge site, which required the reconstruction of the road's approaches to the bridge. The bridge was finished in 1961.

In the late 1950s and 1960s, the Park Service continued to maintain the road, often repairing sections of it, but also constructing entirely new sections. In 1958, to relieve congestion from heavy traffic, the agency constructed a new road from Frog Heaven, near Narada Falls, to Paradise Valley. It also repaved the entire road with asphalt, widened the road near the new Cougar Rock Campground, reconstructed the road from Nisqually Glacier Bridge to Oh My! Point, replaced the bridges across Kautz and Tahoma creeks, and stabilized and seeded slopes on upper sections of the road.

Ricksecker's Legacy

The Road to Paradise was the first road constructed in Mount Rainier National Park and continues to be the most popular drive. It enters the park through its southwest corner at the Nisqually entrance, passes through the rustic arch and moves past the collection of Park Service buildings. From there it winds through the forest to Longmire Springs and then climbs the mountain at a gentle grade to the delightful Paradise Valley. Although it roughly follows James Longmire's primitive wagon road and trail from the 1880s, it more closely follows the route of Eugene V. Ricksecker's Government Road.

Ricksecker designed his road for pleasure. He routed it so that it would not intrude on the natural scenery while it provided the tourist with views of the mountain's wondrous environment. Constructed between 1904 and 1915, the road takes in old-growth forests, waterfalls, a retreating glacier, magnificent mountain views, and the alpine meadows of Paradise. It is both a feat of engineering and a marvel of design, sensitive to preserving natural scenery. The road's reconstruction in the 1920s and modifications in the 1930s retained the road's original route, except for the elimination of the switchbacks above Narada Falls and the construction of a new loop road to serve Paradise Park. Renovations during the 1920s and 1930s, however, introduced the principles of Park Service naturalistic design which visibly changed, but did not detract from, the original road to Paradise.



Road to Paradise
Mount Rainier National Park

Photograph of the Road to Paradise as it climbs through high elevation forest at the upper reaches of the Paradise Valley. CCSO, 1994.

Analysis And Evaluation

Summary

The Road to Paradise retains integrity in the following landscape characteristics: natural systems and features; spatial organization; land use; topography; vegetation; circulation; buildings and structures; views and vistas; and small scale features. These landscape characteristics and their associated features still convey the physical character of the road as it was designed and constructed between 1925 and 1941.

Landscape Characteristics And Features

Buildings And Structures

Structures historically built in conjunction with development of the road such as bridges, buildings, rock walls, and drainage features, are a unifying element in defining the landscape character along the entire road corridor. While the Bureau of Public Roads engineered the road, the NPS landscape architects were charged with the aesthetic and scenic design decisions, ranging from the design of individual buildings to the materials used to construct culverts. All structures along the road were constructed using native materials and built to a scale designed to blend with, rather than detract from, the scenery.

In addition to the extensive use of native materials at Mount Rainier, strict design principles and construction standards were employed. For example, rough-cut stones were placed in horizontal courses, avoiding the unnatural character of straight lines and right angles. The use of stone with a weathered appearance and a color matching natural rock outcrops and surrounding terrain was required. Standards for mortar joints were set at one inch wide, with a three-fourths-inch minimum standard, and two-and-one-half-inch the maximum width. All joints were to be recessed to give the wall a more rustic, or natural appearance. Dry-laid retaining walls were usually battered to add stability and to tie better visually with adjacent landforms. Some stone guard rails along the road were crenelated to avoid monotonous stretches of horizontal lines. This design element became a standard for all rock walls in the 1930s.

Bridge spans, particularly those crossing narrow cuts such as Christine Falls, were aligned to follow the contour, so as not to interrupt the driving experience with abrupt angles. Rock-veneer bridges were simple in design, with little ornamentation, and often were built larger than was structurally necessary, giving a sense of bulk and strength in keeping with the scale of the surrounding landscape. Edith Creek, the fourth Paradise crossing, Christine Falls, and Narada Falls bridges were all constructed in the 1920s according to these guidelines.

In 1927, a concrete bridge with rock extension walls was built at the first Paradise crossing. Rock parapet walls and guard rails were built to similar standards, which specified height, width, size of rock, and direction of mortar joints in the top course. In addition to the safety function, these structures helped visually integrate the road into the slope when viewed from a distance. Subject to frequent destruction, the Nisqually Glacier bridge was reconstructed twice in this period, in 1933 and 1936. Both versions were designed as modern concrete spans, unusual to the park. Masonry guard walls were constructed on both ends. In addition, the 1936 bridge had restrooms built into the abutments.

The only buildings directly associated with construction of the road are the Nisqually Entrance Station, the Longmire gas station (1929), and the Narada Falls comfort station.

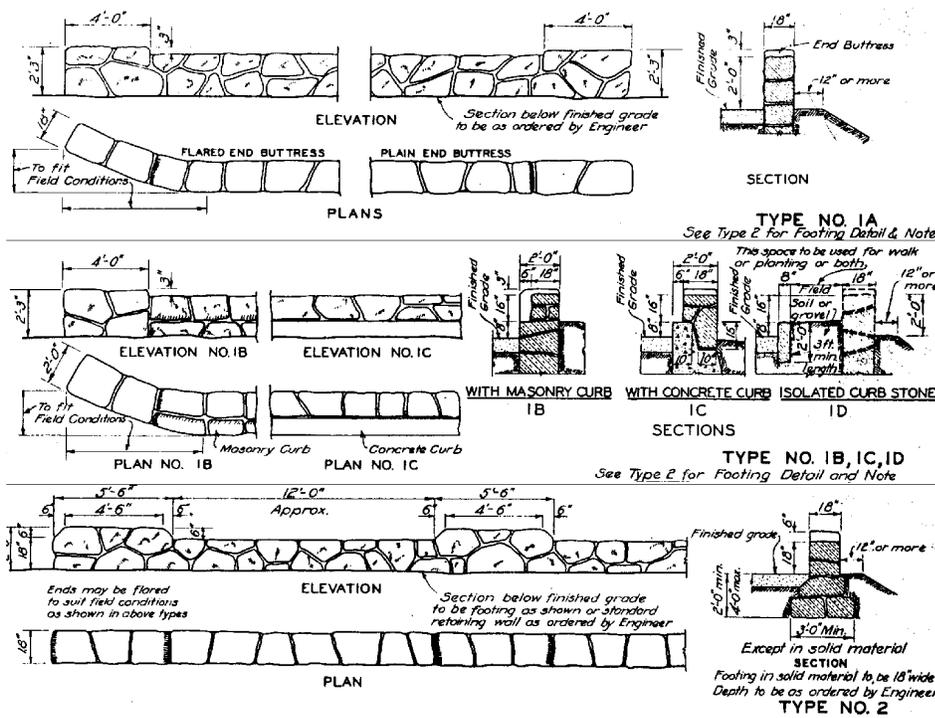
Today, the bridge at Edith Creek, Narada Falls, Christine Falls, and the first and fourth Paradise bridges

all remain in excellent condition. Original stonework on the walls is generally intact, although some repair work is evident. In some areas, the repair work lacks the quality of the earlier work. Tahoma Creek and Kautz Creek bridges have been replaced several times, most recently in the 1960s, by modern concrete and steel spans. A rare road realignment placed the newest Nisqually Glacier bridge (1961), three hundred feet downstream and much higher than the earlier bridges. Also a modern style bridge, it can be seen from a great distance.

Masonry retaining walls, guard rails, and parapet walls are found in generally good condition throughout the length of the road. Many rock guard rails and parapet walls have been repaired and extended since the 1920s, and while the quality of masonry work varies somewhat, most of the later work is sympathetic in material and character to the existing walls. This presents a unified expression of historic design principles.



Photograph of Christine Falls bridge, looking north from the scenic overlook. CCSO, 1994.



Standard detail drawings for rock walls, developed by the Bureau of Public Roads and the NPS, and used extensively along the road. This drawing dates from 1935.



Photograph of the concrete bridge at the first crossing of the Paradise River, which was constructed in 1927 and still remains today. CCSO, 1994.



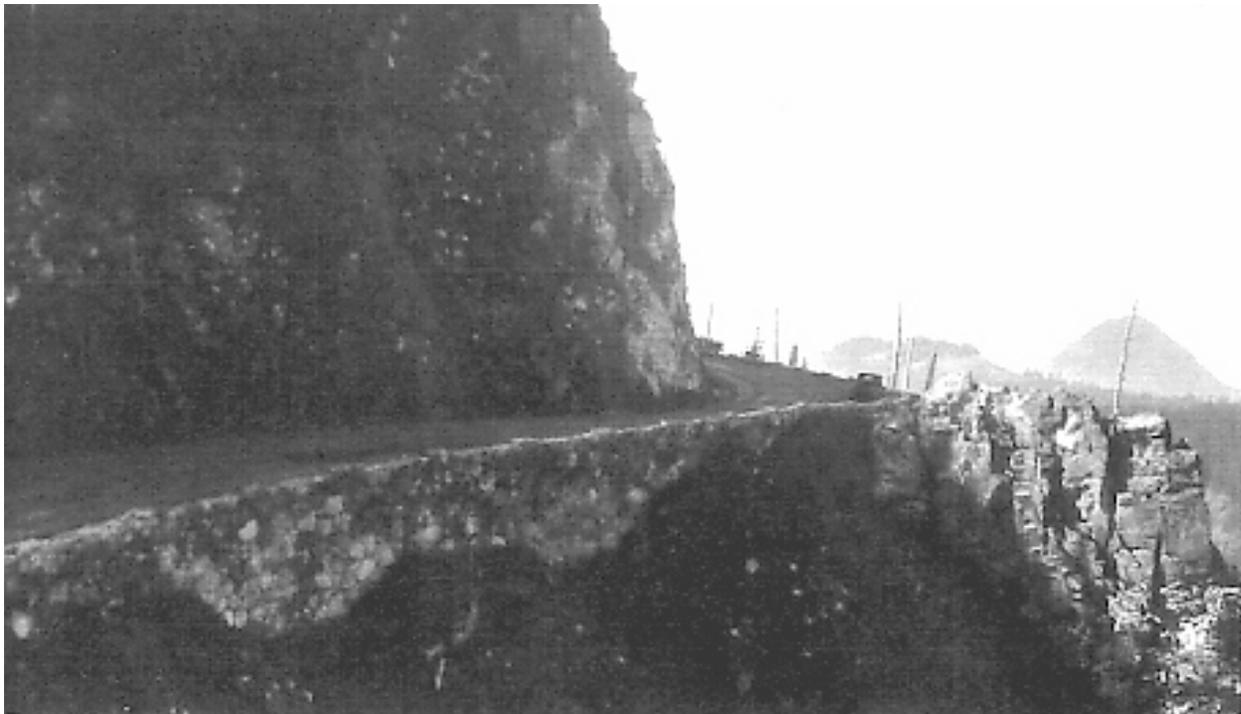
Close-up photograph of the 1927 concrete bridge at the first crossing of the Paradise River. CCSO, 1994.



Photograph of the rock abutment at Edith Creek bridge, which retains a fill-area, and serves as a pullout for vehicles. CCSO, 1994.



Photograph of the vehicular pullout retained by a rock abutment at Edith Creek bridge. CCSO, 1994.



Photograph of the masonry retaining wall along the Road to Paradise at Ricksecker Point, constructed in the 1920s. MORA photo files, neg. 1484.



Photograph of the bridge at the fourth crossing of the Paradise River in 1927. MORA photo files, neg. 1298.



Photograph of the original bridge at the fourth crossing of the Paradise River, looking north. CCSO, 1994.



Historic photograph of the Nisqually River bridge, which was constructed in 1933. MORA photo files, neg. 2913.



Photograph of the Nisqually River bridge constructed in 1936. This bridge was damaged in a 1947 flood, and finally destroyed in the late 1950s. MORA photo file, neg. 2265.



Photograph of the current Nisqually River bridge, which was constructed in 1961. This bridge is located approximately 300 feet downstream from the original bridge site, and is considerably higher. CCSO, 1994.

Circulation

General Design Principles

Collaboration between landscape architects and civil engineers working on the Road to Paradise began in the 1920s. For the most part, civil engineers dealt with the technical aspects of the road such as grading, drainage, slope stabilization, structural aspects of bridge design, and surfacing. The landscape architect's role was to define and integrate a variety of aesthetic qualities associated with the selection of viewpoints and waysides, and the protection of natural features. They were also primarily responsible for developing appropriate designs for a variety of structural features along the road such as bridges, buildings, tunnels, culverts, and guard rails. The combination of these two perspectives greatly enhanced the overall character of the road by improving the five major developed areas-Nisqually Entrance, Christine Falls, Nisqually Glacier, Ricksecker Point, and Narada Falls-with new trails, guard rails, parking areas, revegetation, and general repairs to existing structures. This collaboration also led to road alignments and elevations that afforded a visitor access to the most spectacular features along the road, while maintaining a safe and manageable driving experience.

Scenic Viewpoints and Pullouts

Historically, pullouts for automobiles along the road were no more than shoulders which accommodated one or two cars. Viewpoints, which were often larger than pullouts, varied in size and often had associated structures such as parking lots, guard rails, wayside exhibits, and drinking fountains. The amount of structural development and the size of the viewpoint was most dependent on the relative importance of the view or feature, and the ability of the site to accommodate that use. Parking along the side of the road was very common. Viewpoints and pullouts designed after 1940, (especially the segments above Christine Falls), tend to provide relatively wide pullouts and large parking spaces, merging the principles of the more simple design for pullouts with the more developed viewpoint sites.

Although many views to the river, rock formations, and other features remain available from the car, existing viewpoints and pullouts along the road continue to provide the visitor with the opportunity to leave the car, rest, take photos, read interpretive material, or go for a hike. Historically configured as a circular drive off the main road, pullouts today continue to provide an option for those who choose to drive the road more slowly; others are allowed to pass and those who have stopped can rejoin the main road without difficulty, contributing to the overall fluidity of traffic flow.

Trails

As park-wide planning began in the 1920 and 1930s, the Road to Paradise became the first link in a system of roads and trails encircling the mountain. Separation of circulation routes with different functions became an important design consideration, keeping the number of visual interruptions and intersections along the main road to a minimum. Foot trails and equestrian trails are still found along the road. Most of the trails are physically separated from the road by landforms (earthen banks) and visually screened by vegetation.

Loop Roads

Historically, the use of one-way loop roads was an efficient way to move visitors and provide more view points along the road without disrupting traffic. This principle was particularly employed on the upper reaches of the road between Narada Falls and Paradise, before the road was widened to two lanes. Today, the one-way descending loop road from Paradise is one of only three single-lane loop segments

of the road remaining, and the most intact in terms of scenery and circulation. The other two loop roads are at Nisqually Entrance and Ricksecker Point.

Intersections

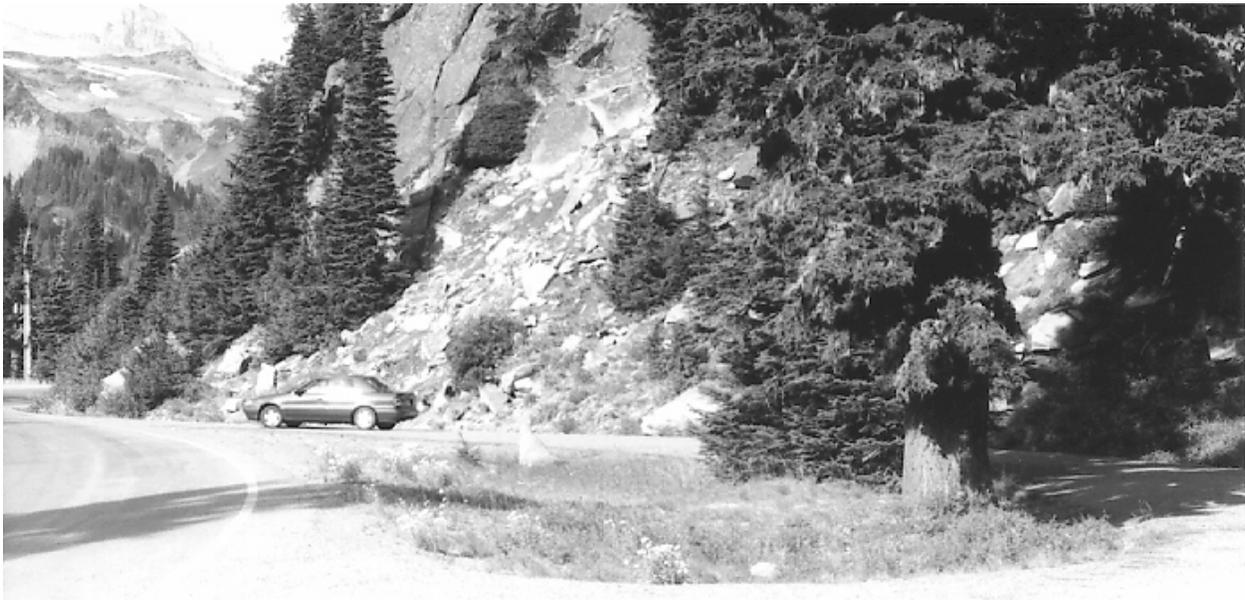
Avoiding right angle intersections was of paramount concern to road designers. Use of the wye intersection permitted leaving and rejoining the main road without making a stop or a sharp turn. Historically, this was used to connect the switchbacks above Narada Falls to the main road. This design principle is still evident in the turnoff to west side road, the connection of the Paradise loop road with the Stevens Canyon road, and at the Ricksecker Point cutoff. However, this principle was not used in the reconstruction of the new road segment from the Stevens Canyon cutoff to Paradise (1958).

Traffic Control/Speed

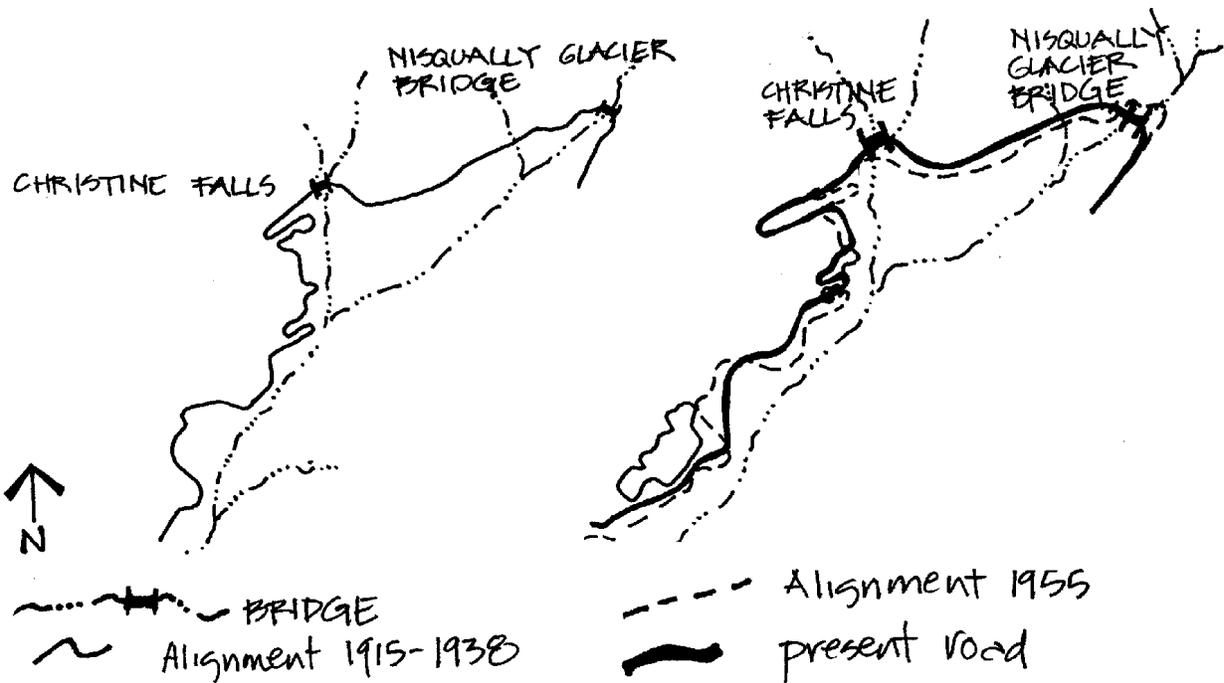
Controlling the speed of traffic along the road is important to the overall experience of driving the road, both in terms of safety, and as a tool for creating opportunities to enjoy scenery. During the early development of the road, before it was widened for two-way traffic above Nisqually Glacier, traffic was controlled at several checkpoints: the Nisqually Entrance, Nisqually Glacier, Narada Falls, and Paradise. Today the only mandatory stopping points are at the Nisqually Entrance and at the Stevens Canyon Road cutoff where the one-way loop from Paradise joins the main road.

Over the years the road has been widened and all of the severe switchbacks have been removed to improve safety. As early as the 1920s, sharp turns on switchbacks were largely replaced by radial curves. During the 1930s changes were made to include "spiral transitional" curves and superelevations to facilitate an even smoother ride. These changes can be seen in the road alignment around Christine Falls and Narada Falls.

Although the road along the first segment (Nisqually Entrance to Longmire) was also straightened at points, the curves are still frequent and tight enough to keep traffic speed low (average speed is about thirty mph.) Above the Nisqually Glacier the steep grade becomes another control factor for speed.



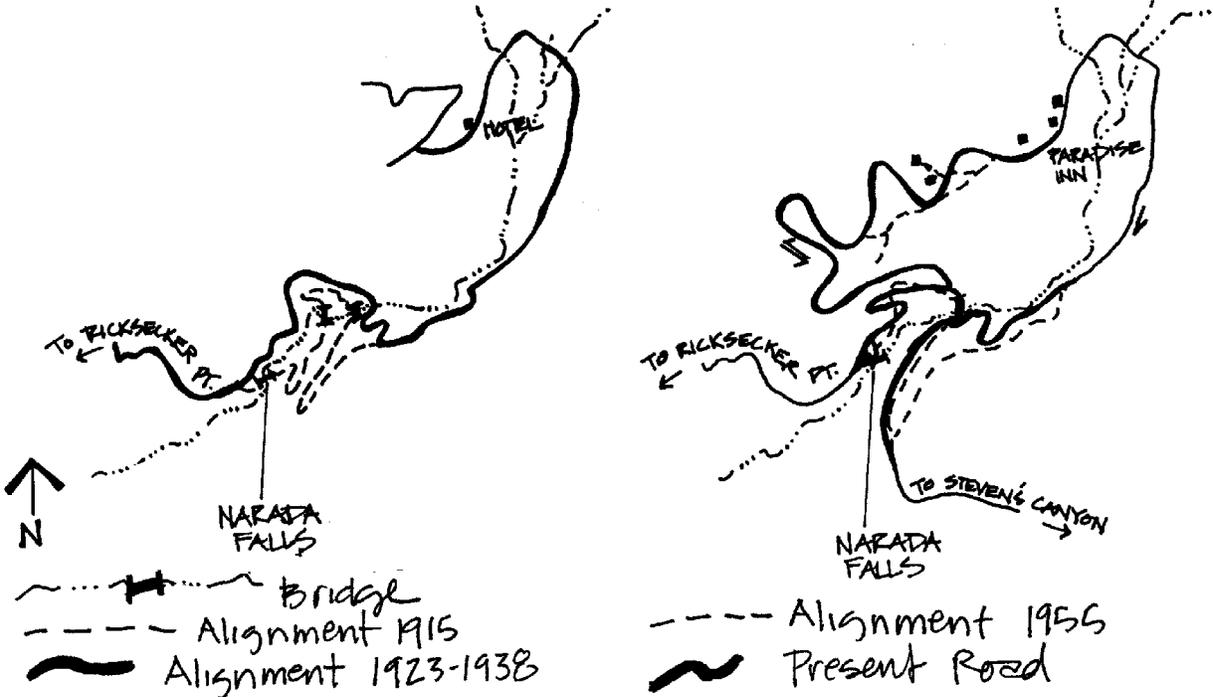
Photograph of a loop turnout on the old Paradise access road, with a planting bed designed to integrate the developed area with the larger landscape. CCSO, 1994.



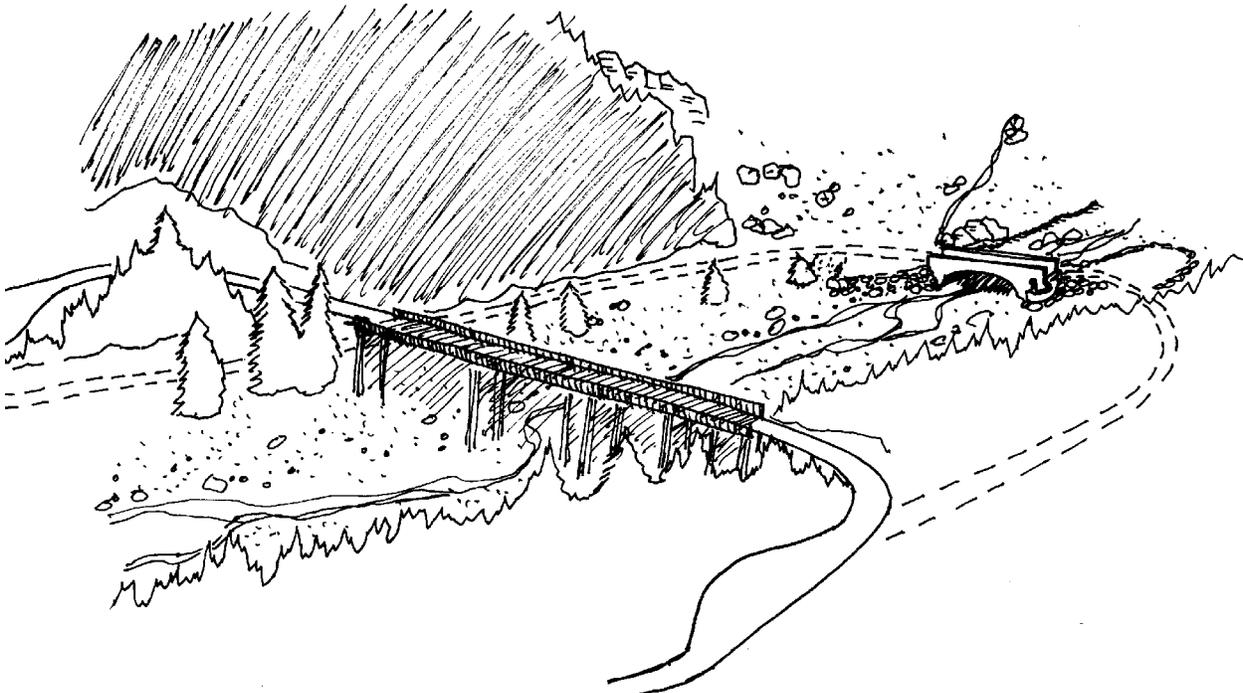
Diagrams indicating circulation changes in road alignment at the Christine Falls approach and Nisqually Glacier bridge, between 1915 and present day.



Photograph of an informal pullout on the road shoulder, historically designed to provide a variety of viewing-places. Many original pullouts have been paved, but they remain in the same location. CCSO, 1994.



Diagrams indicating circulation changes in road alignment from Narada Falls to Paradise, between 1915 and present day.



Sketch showing the location and approximate alignment of the early road and bridge across the Nisqually River Valley.

Land Use

Patterns of land use along the Road to Paradise, delineated in the early master plans and retained in the redevelopment of the road through the 1930s, are largely evident today. In general, land use patterns emphasize a strong and clear separation between public use and park operations. Within these general land use categories, a variety of more specific uses occur. For example within the general category of public use are several land use activities, such as camping, picnicking, day use, and lodging. Within the category of park operations are the land use activities of administration, visitor services, maintenance, and interpretation/education. Historically these patterns were predicated on the goal of reducing the impact of development and park operations (service roads, quarry sites, utilities, and buildings), and screening any impact of development from the public view. This goal was especially important along the road, in order to provide a sequential experience, with opportunities for services and activities in a contained space (the road corridor).

In addition to the principle of separating park operations and visitor use for aesthetic reasons, there were several pragmatic considerations for locating both visitor activities and park operations within the primary road corridor, such as costs, physical obstacles, and the objective of minimizing disturbances. This strategy created a hierarchy of land use patterns where facilities were often sited in relation to the road and often reflected a gradation of development moving away from the road, with more minimal development close to the road, and more complex development set away from the road corridor. For example, along most of the road, a visitor has the option to turn off of the main road, park, and walk to a wayside or viewpoint located a short distance away. In some cases, picnic areas are associated with these focal points, allowing leisure time and day use activities in a concentrated area. Access back to the road is often no more than crossing a road shoulder or using a short, one-way loop path. Other areas located further off of the road were more extensively developed, often providing more services and recreational opportunities. For example, the developed area at Longmire provides a variety of visitor services located relatively close to the road, such as interpretation and education, hiking trails (Trail of Shadows), picnicking, and lodging. Further away from the road corridor, south toward the core of the district, are park administration buildings, residential areas, and the maintenance complex for the park. This hierarchy was developed by design and, for the entire length of the road, this pattern of land use is evident.

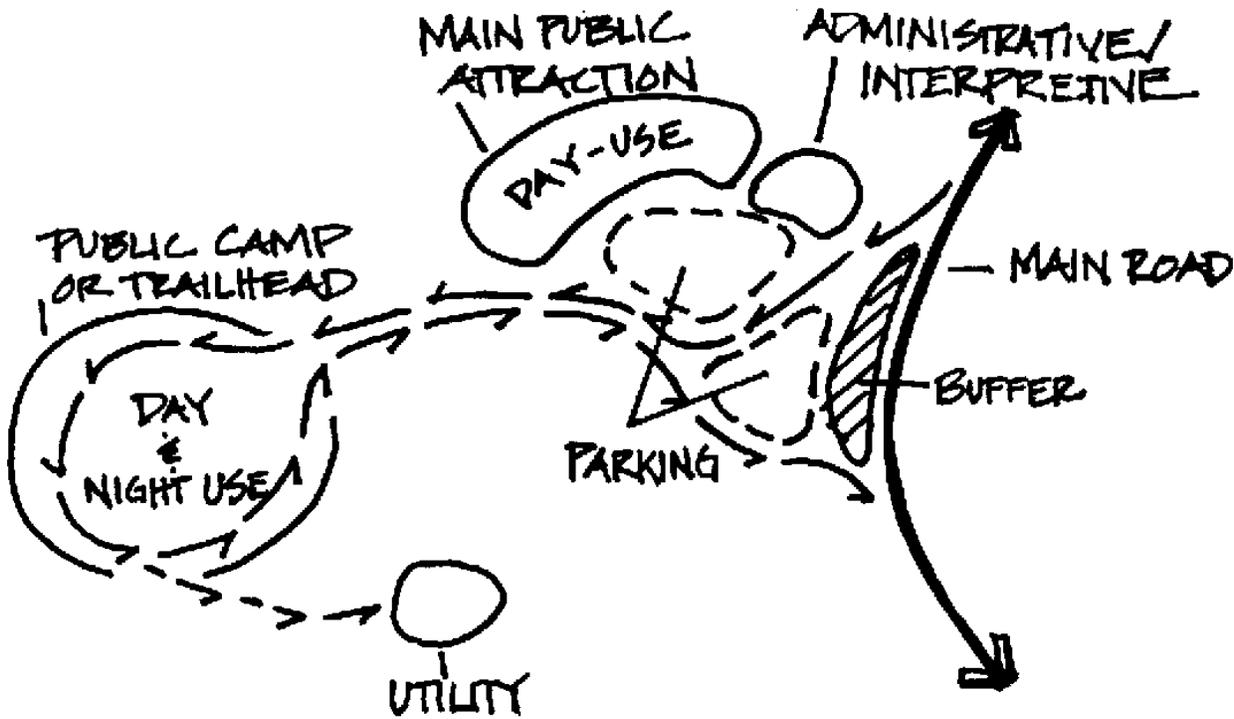


Diagram showing the spatial distribution of land uses in relation to the Road to Paradise.

Natural Systems And Features

The early government road from the Nisqually Entrance to Paradise was constructed as a pleasure route for the visitor, and as such, it was designed to provide a unique driving experience while incorporating safe and easy access up the mountain to a variety of natural features, important views, and vistas.

When the early road was re-addressed in the late 1920s and 1930s, the entire corridor and associated developed areas were designed in response to natural features in the landscape, and with concern for protection and enjoyment of these features. Although portions of the original road were widened and straightened in the 1920s and 1930s, the overall design philosophy of having the road "fit" the landscape was retained. Cut and fill was kept to a minimum, with slopes graded and contoured to blend into the hillsides. In areas where the road corridor skirted the face of cliffs and rock slopes, special methods of excavation were developed to minimize scarring and rock-fall. Where steep slopes could not be avoided, and construction required a severe cut, an attempt was made to rehabilitate the disturbed area by simulating natural features using rock and vegetation.

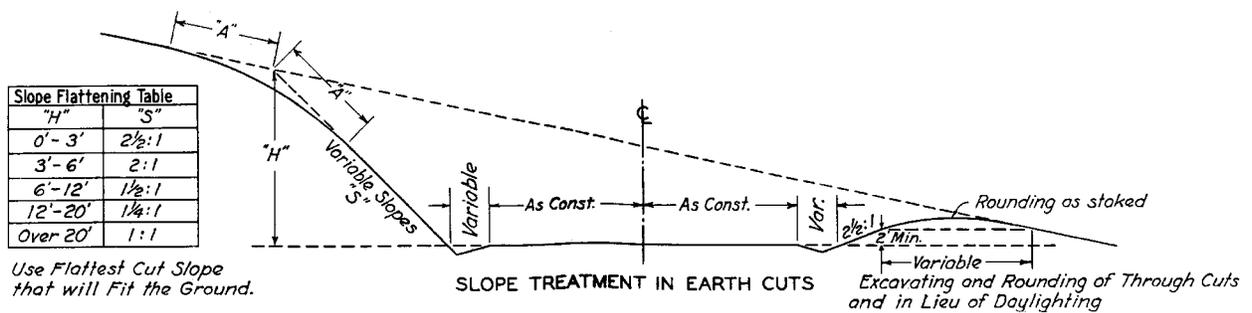
Methods of bank stabilization included a variety of construction technologies, such as shoring the subsurface with logs placed in a grid, then covering with soil and vegetation. More traditional techniques—the construction of stone retaining walls and revegetation of disturbed areas using native plant materials—were also used. Large trees at the edge of the road were saved when possible, particularly in the section of the road from the entrance to Longmire. Trees damaged during construction were pruned or removed if they posed a safety hazard. Also during the redevelopment of the road, access to Narada Falls and Christine Falls was improved, and associated site structures were constructed using stone and wood, designed to blend into the landscape.

Today, the road corridor and many of the original pullouts and waysides remain from the historic period. Large specimen cedar trees and Douglas fir trees still stand at the edge of the road, and in many areas old construction scars have disappeared into the vegetation. Slope instability on cut faces continues to be a problem. Although many unstable and disturbed slopes were rehabilitated with vegetation, evidence of slipping is seen in bare soil, exposed roots, "jayed" trees, and loose rock. Such measures as wire mesh boulder retaining walls, and the use of hay bales for protection of stone walls have all been employed to mitigate damage, with varying degrees of success and appropriateness.

Flooding of the Nisqually River, Tahoma Creek, and Kautz Creek has caused numerous bridge washouts over the years, requiring replacement. Following destruction of the Glacier Bridge in 1955, a new bridge was designed and built 100 yards downstream from the earlier one. Historically, pullouts and waysides were strongly integrated into the character of the natural landscape in order to present a variety of spectacular natural features and views. New pullouts tend to be located more in response to the increased number of vehicles using the road and the higher speeds of the automobiles, which, in turn, has had an effect on the overall experience of the road. In spite of these changes, the road as a whole retains its overall historic character and landscape scale, as well as its relationship to the natural landscape and many of its designed structures, patterns, and features.



Photograph illustrating the rounding-off of cut and fill slopes at the side of the road. CCSO, 1994.



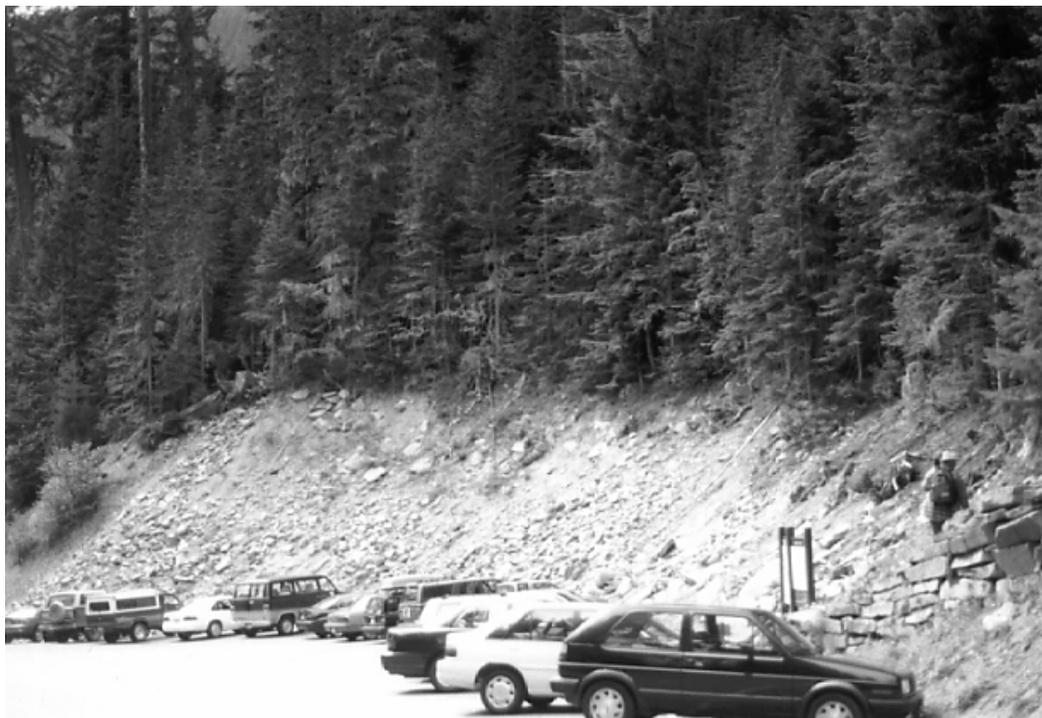
Cut and fill slopes along the road were graded to blend with the landscape. (MORA, no date.)



Another photograph illustrating the rounding-off of cut and fill slopes on a segment of the road above Longmire. CCSO, 1994.



Photograph illustrating how the design of the road followed natural contours, in order to minimize the need for cut and fill, and further intrusions into the natural environment. CCSO, 1994.



Photograph showing a steep slope at the Comet Falls trailhead, where slope stabilization is a concern to park managers. The trailhead was built in 1985. CCSO, 1994.



Historic photograph showing a view of the Road to Paradise below Longmire in 1928. MORA photo files, neg. 4075.



Photograph of the Road to Paradise below Longmire in 1994, showing the road winding through the lowland forest. CCSO, 1994.

Small Scale Features

Small-scale features, like larger landscape elements, were designed and constructed in the 1930s as part of the overall effort to blend human development with the surroundings. In addition, all materials had to be sturdy, appropriate in scale and proportion, locally available, and require as little maintenance as possible. For example, wood curbing and guard rails, used early in the development of the road, were taken out in the 1930s, and replaced with stone because the stone required less maintenance. In terms of materials, the granite obtained from quarries within the park was preferred and used for virtually all structures along the Road to Paradise.

Barriers

Although many of the guard walls that exist today have been reconstructed many times, the sections generally blend together from a "windshield" standpoint, and in most cases follow the 1930s design guidelines developed by the NPS. Guard walls were well-built, and were designed specifically to avoid monotony in pattern and dimension. This meant that in some areas the walls had crenelations, while in other areas the walls were uncrenelated, with coping stones of varying height. This design detail was used to create a landscape element "much more in the rhythm of Nature" than one precisely measured. Excessive detail and ornamentation was also to be avoided.

Individual barrier stones, also placed to create the effect of varying height and distance from one another, were used in pullouts and parking areas, or to prevent the creation of unwanted pullouts. These are more common along the lower portions of the road where there are more flat areas for pullouts.

Walkways and Pedestrian Railings

In primary developed areas along the road, pedestrian walkways were historically paved with asphalt. Cut-stone curbs were placed to define the edge of the walk and separate it from the parking area, allowing pedestrians to more safely move through the site. These walks were built and remain at Christine Falls, Narada Falls, and on the uppermost portion of road near Paradise Inn. Wood railings for pedestrian trails and overlooks are also common, and are found in these areas, and at Kautz Creek.

Culverts

Culverts were historically constructed in many places along the road to channel both perennial and intermittent streams. They also carry and direct flow from shallow swales that parallel the road in most places. Unlike bridges, culverts were seen as utility structures and were well-camouflaged. In many cases, mortared stone headwalls were constructed to mask the concrete or galvanized iron pipes, inside. Although the headwall did not usually extend above grade, plantings were often established to hide it.

Signs

During the historic period, signs were used sparingly, and consisted of small, treated wood plaques with routed and painted lettering. Most of these signs have been removed and replaced with steel and fiberglass interpretive signs, which are integrated with the stone walls at major points of interest. Trailhead signs are small, engraved steel plates, bolted to steel posts about 3 feet in height. Other signs include standard reflective highway signs warning of tight turns and road conditions.



Photograph showing a stone wall with a weep hole. This is a typical detail in a wall near Paradise. (CCSO, 1994.)



Photograph showing a stone curb along the edge of the road near Paradise. (CCSO, 1994.)



Photograph showing a contemporary wayside exhibit along the road near Ricksecker Point. (CCSO, 1994.)



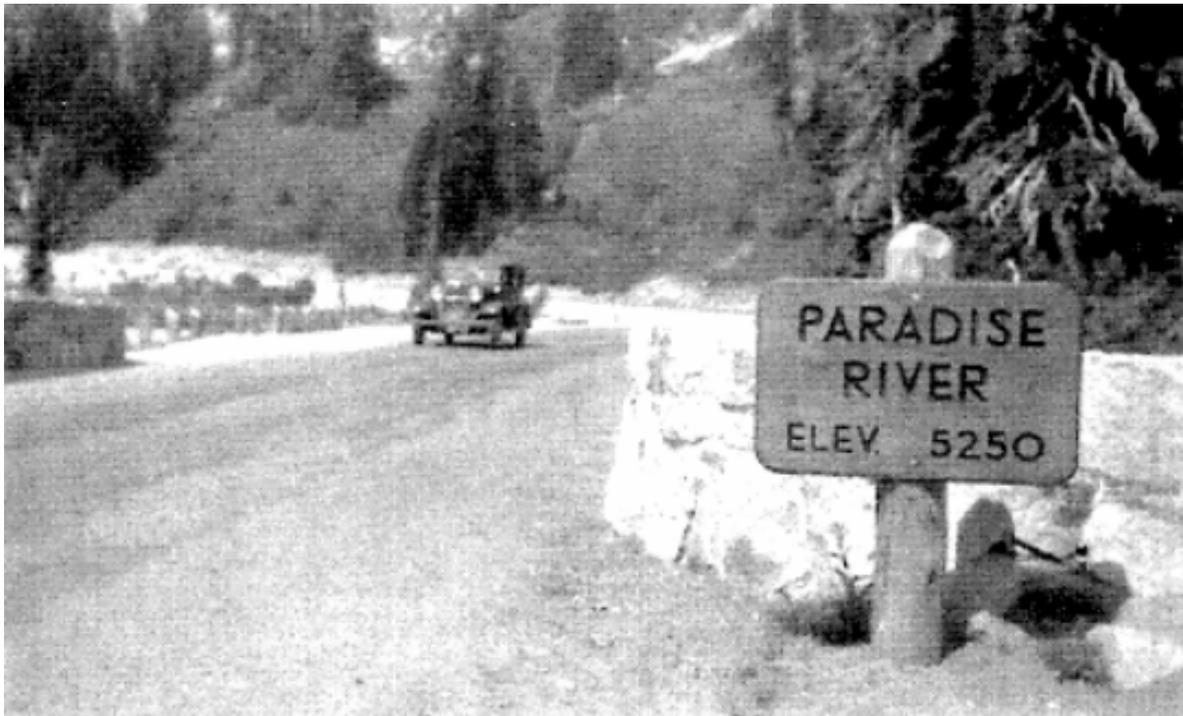
Photograph showing a stone guardrail with crenelations at the edge of the road near Paradise.



Photograph showing a stone culvert along the lower portion of the road, between Nisqually Entrance and Longmire. (CCSO, 1994.)



Photograph showing a stone culvert, drainage wall, and stairs leading to Paradise area footpaths from the west end of the main parking lot. (CCSO, 1994.)



Photograph showing an example of a road sign during the historic period. (MORA, Neg. 2309.)



Photograph showing an example of a contemporary, engraved metal trail sign. (CCSO, 1994.)

Spatial Organization

The Road to Paradise, as a whole, is an integrated landscape system of physical features and experiential attributes, organized within a horizontal and vertical plane, and experienced sequentially. The original government road was a remarkable feat of engineering, which allowed access to some of the park's most spectacular natural features and views. This early road provided the physical framework and philosophical context for redevelopment and rehabilitation of the road into a modern one, specifically designed for pleasurable, easy travel by automobile.

The road is organized as an alternating series of "rests" and "ascents," with points of interest marking the transition between each segment. The first segment, between the Nisqually Entrance and the Longmire Historic District, follows the course of the Nisqually River. Characterized by a mild grade, the road follows a series of gentle, flowing curves aligned along the contours of the lower valley. Between Longmire and Christine Falls the road ascends, in some places quite rapidly, through a series of radial curves. This alignment was constructed in the 1920s to replace the narrow and dangerous switchbacks of the original road. In the short segment from Christine Falls to the Nisqually Glacier Bridge, the road straightens and flattens. In 1927, these three sections of the road were widened from dimensions ranging from sixteen to twenty feet, to a standard twenty-four-foot width. From the Nisqually Glacier Bridge, the road climbs to Ricksecker Point at a 4% grade, with a steep drop-off on the west side of the road, and cut banks on the east slope to accommodate the roadbed. From Ricksecker Point, the slope decreases and the alignment follows a series of gentle curves to Narada Falls. Although a series of switchbacks constructed above Narada Falls was eliminated in the 1920s, several tight, steep curves are still required to make the ascent to Paradise. The final segment of the road is a steady sweep around the Paradise Valley, culminating near the Paradise Inn. These upper road sections were widened to twenty-four feet in 1922.

Today, a large portion of the historic road alignment is intact, although individual segments have been altered or modified over the years. With the exception of the one-way segment (descending from the Paradise Inn), and those portions of the road widened in the 1920s, all remaining portions of the road were paved with asphalt to a standard width of 24 feet in the 1960s. In several areas, superelevations were added and outside lanes widened on curves to facilitate speed of travel. At the Cougar Rock Campground the road was significantly widened to accommodate turning vehicles. In spite of these changes, and the increased numbers of vehicles travelling at faster speeds, the road as a whole retains its original organization and character. When travelling through each section, the visitor is provided with very much the same driving route and visual experience as was had during the historic period.

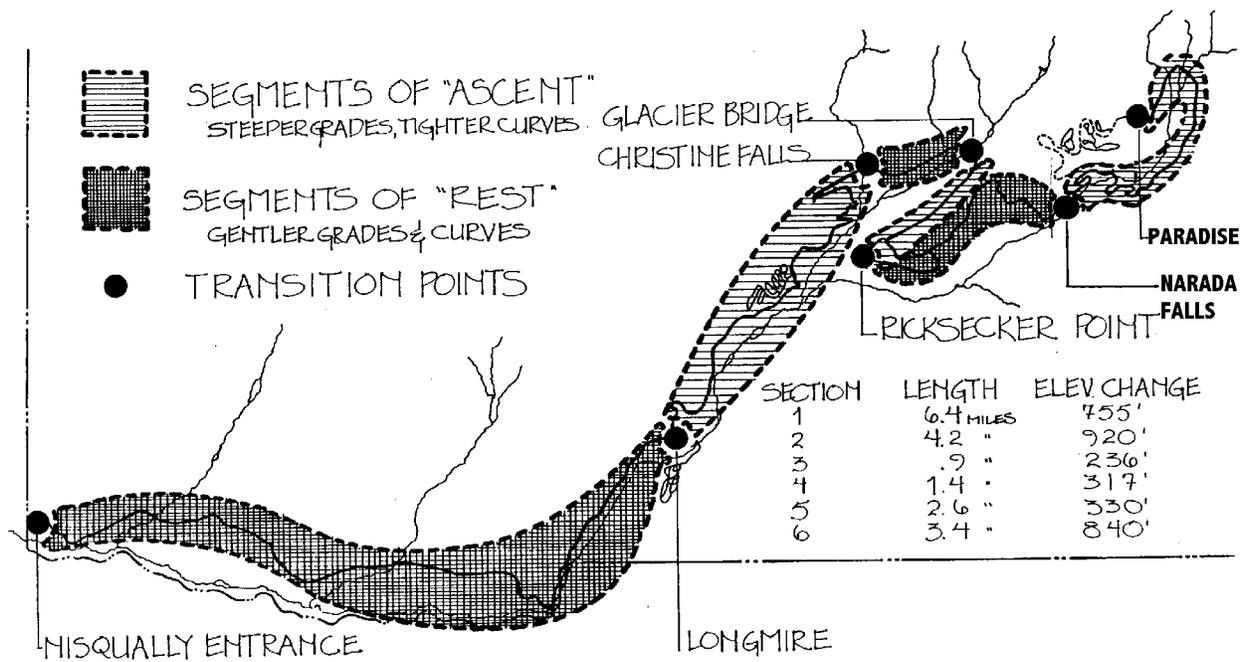


Diagram showing the spatial organization of the Road to Paradise including the four component landscapes: Nisqually Entrance, Christine Falls, Ricksecker Point and Narada Falls; and the progression of "ascent" and "rest" areas in the road gradient.

Topography

The Road to Paradise was historically designed to have a maximum overall grade of 3.5% to 4.3% to facilitate horse teams and later, safe travel by automobile. Whenever possible, this principle was followed in redevelopment of the road in the 1920s and 1930s. In some cases, this required rerouting the road to eliminate unsafe switchbacks. In other cases, cuts and fills were added to allow the grade to be met over greater distances. Specific gradients are as follows:

Section 1: Nisqually Entrance to Longmire

The road rises very slowly along the north bank of the Nisqually River from the park entrance (el. 2000 feet), approximately 700 feet in 6.4 miles, at an average grade of 2.2%.

Section 2: Longmire to Christine Falls

The road steepens slightly, gaining 920 feet in 4.4 miles using a few tight curves, an average grade of 4.2%.

Section 3-4: Christine Falls to Ricksecker Point

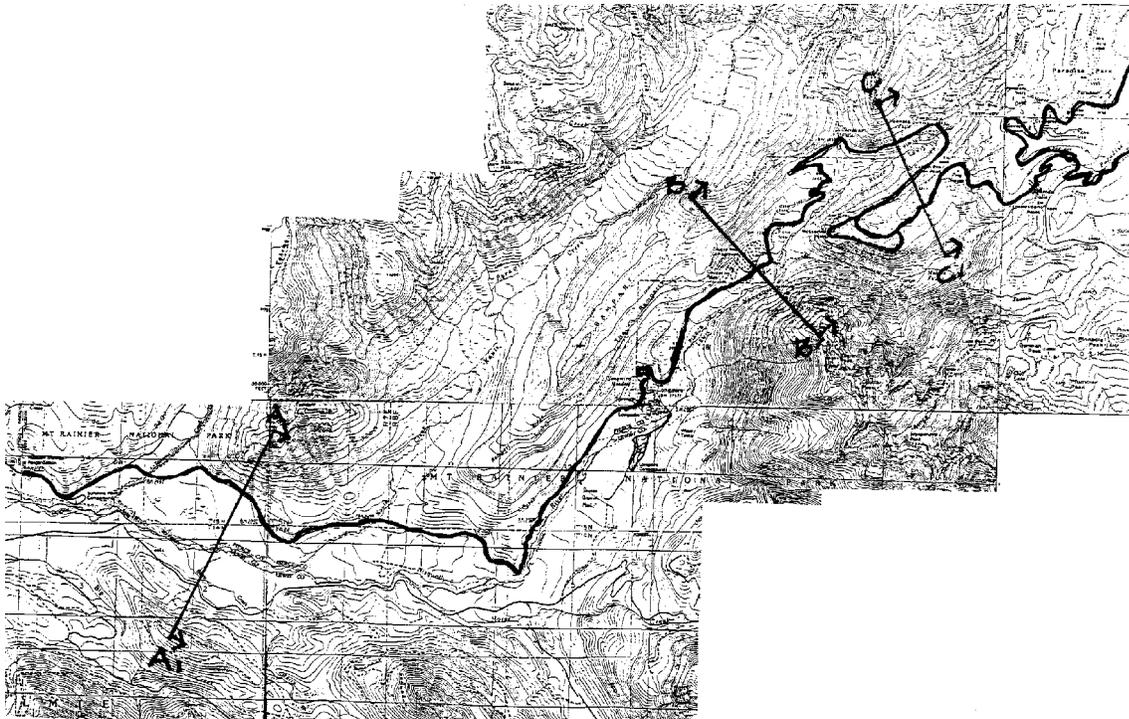
This brief stretch rises 200 feet, passing over the Nisqually Glacier Bridge, on the way to Ricksecker Point. The road passes relatively close to the base of the glacier, and crosses the glacial valley which is defined by high ridges on either side (Cushman Crest, 5,200 feet, and Ricksecker Point, 4,500 feet). The road climbs in a steady grade to Ricksecker Point, (el. 4,300 feet) at a 4.3% grade.

Section 5: Ricksecker Point to Narada Falls

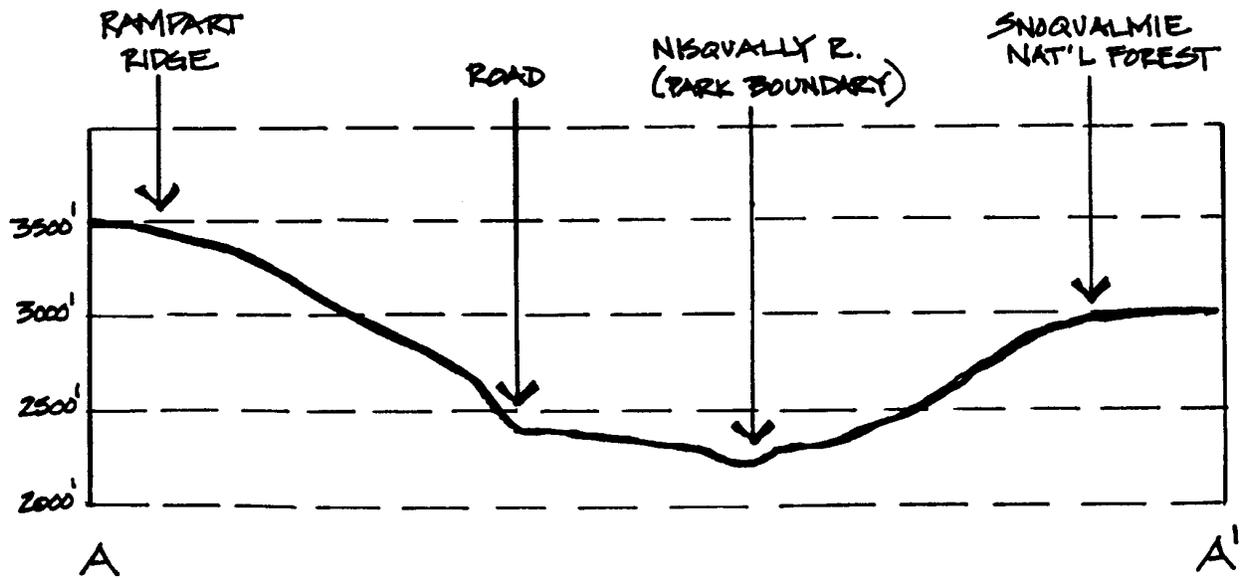
From Ricksecker Point the road climbs slightly to Frog Heaven, then takes a slight decent for 3 miles, at a grade of 2.4%, to Oh My! Point and Narada Falls.

Section 6: Narada Falls to Paradise

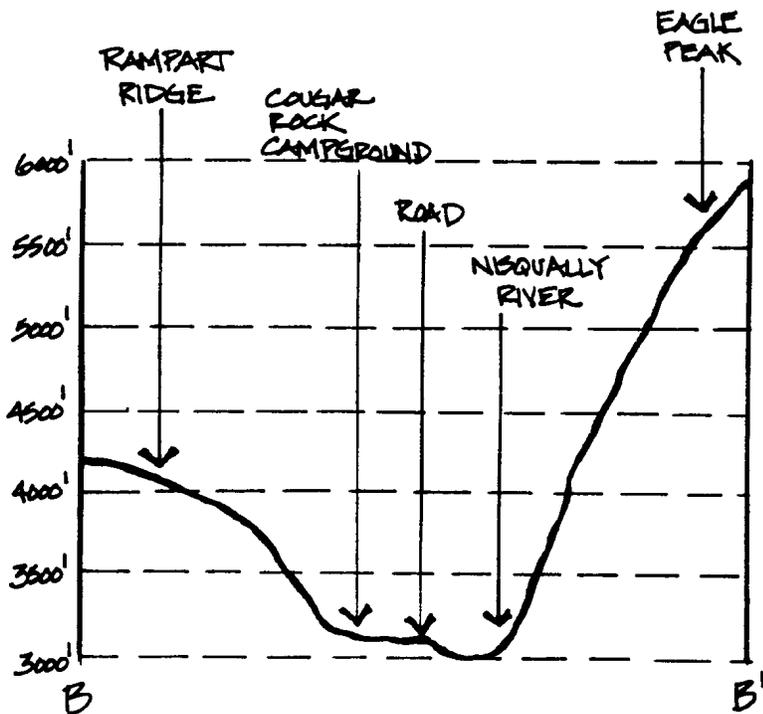
The road makes the climb towards the Paradise Valley in tight curves, crossing the Paradise River (for the second time) reaching the intersection with the Stevens Canyon Road. At this point the historic road (now a one-way loop down from the Paradise Lodge) begins its gentle climb to Paradise, at 5,400 feet. The distance from Narada Falls to Paradise is approximately 3.4 miles, and the road averages a grade of 4.6%.



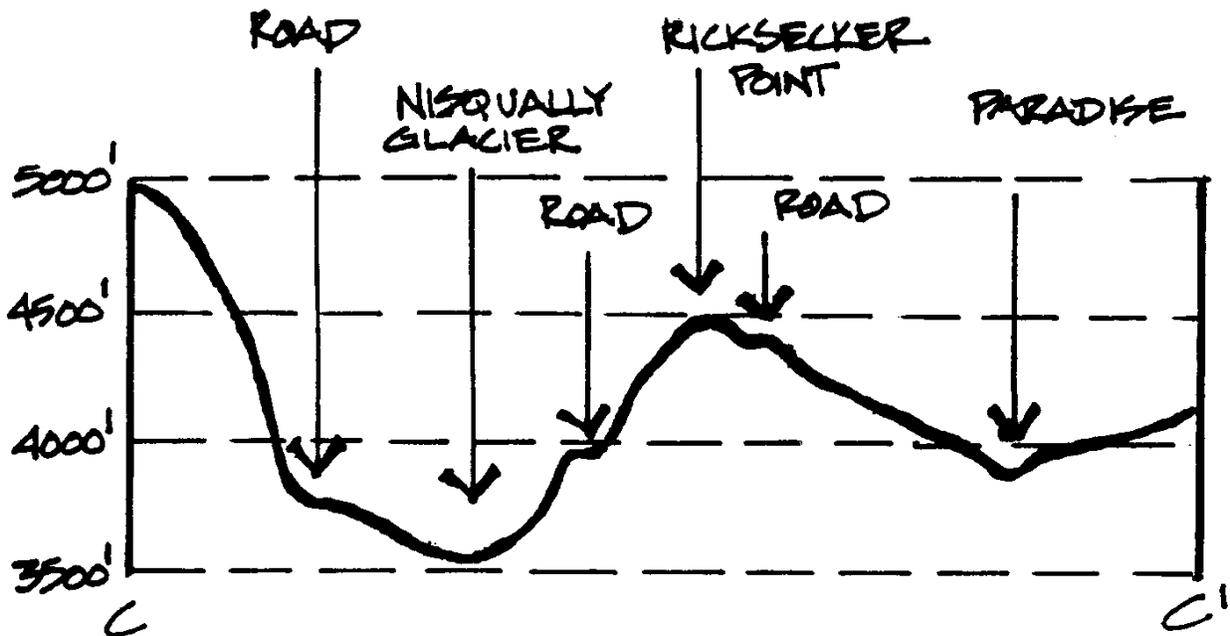
Plan of the Road to Paradise indicating the topography of the road. Three cross sections following this plan, A-C, are keyed.



Cross section A-A', indicating the topography surrounding the Road to Paradise at a point not far from the Nisqually Entrance, where the road is following along the Nisqually River valley.



Cross section B-B', indicating the topography surrounding the Road to Paradise near Cougar Rock Campground, where the road follows along the Nisqually River valley, between Rampart Ridge and Eagle Peak.



Cross section C-C', indicating the topography surrounding the Road to Paradise where the road winds around Ricksecker Point.

Vegetation

A diverse of vegetation is found along the road from the Nisqually Entrance to Paradise. This diversity is due to the dramatic change in slope and aspect, as well as the character of the terrain, microclimate, and elevation. Three primary forest types are encountered along the road as it moves up the west side of the mountain.

Lowland Forest

Western hemlock is the dominant species in the lowland forest, which extends from the Nisqually Entrance to an area just beyond Longmire. Strong associations include Douglas fir and western red cedar. Old growth trees are found throughout this area with some trees between 700 and 1000 years old. In moist areas along the Nisqually River corridor, a well-developed shrub layer of vine maple and devil's club dominates, with a variety of herbaceous materials filling out the river washes and gravel bars. In most areas throughout this forest, the understory is less diverse, with sword fern as a dominant species. Other plant communities exist within this framework, influenced by soils, hydrology, and microclimates. For example, a well protected boggy area located near the entrance station creates a relatively large wetland community with red alder and skunk cabbage. In another area--near Kautz Creek--a totally different community, the result of large-scale (historic) disturbances, has left a large area dominated by snags, colonizing alder trees, and young conifers in an open setting.

Intermediate Forest

Past Longmire the road steepens into the intermediate forest, found as high as 4500 feet elevation. The climax species of this association is silver fir, with strong representation by Alaska yellow cedar, noble fir, and western hemlock. The section to Christine Falls contains a well-developed shrub layer dominated by Alaska huckleberry, typical of areas lacking extremes in moisture and temperature. Near the Cougar Rock Campground, an area of rocky soils creates an environment for temperate understory plants such as Oregon grape, salal, and common beargrass. Between Christine Falls and the Nisqually Glacier Bridge there is a large stand of noble fir. To this point the canopy along the road has generally been open with views to the crest of Mt. Rainier and surrounding peaks. Between the Nisqually Glacier Bridge and Narada Falls the road passes through a younger forest, generally less than 100 years old. The smaller size of the trees and the steep climb allow for wide, open views in many directions.

High Elevation Forest And Alpine Meadow

Shortly before Narada Falls, the high elevation forest begins. Soils are generally moist to wet, with a heavy snowpack often lasting late into the summer. In this harsh environment trees tend to have a shorter, more stunted stature than those at lower elevations. Dominant trees include silver fir, Alaska yellow cedar, and alpine hemlock. The understory includes dominant species of Cascades azalea and several species of huckleberry. The section of the road through the upper Paradise Valley to Paradise, generally above 5000 feet, is dominated by a zone of alpine flowering plants. These "parklands" are characterized by open meadows with scattered clusters of alpine hemlock and subalpine fir on higher spots where snow melts occur early in the spring. Dominant in this landscape are the extensive meadows containing numerous species of wildflowers. The very brief growing season means that July and August feature the spectacular display, which historically was a principle inspiration for bringing the road to Paradise.

Protection and management of vegetation was a major consideration during redevelopment of the road in the 1920s and early 1930s. For example, when the road was widened from eighteen feet to a standard

twenty-four feet, a minimum of clearing was done with particular care given to key trees along the edge of the road. During the 1930s, a major task of the CCC was laying sod, planting, and seeding bank cuts for both stabilization and aesthetics. Roadside cleanup was also performed to eliminate the debris and scars created during construction. In the park annual report from 1934, landscape architect Ernest Davidson reported that many more rotted logs and snags were being removed than was warranted for fire protection and that overzealous work by crews was damaging the delicate understory vegetation. Protection of the silver forest, the site of an old burn near Narada Falls, was a priority. In addition, clearing trees to enhance and frame views of the mountain was done in 1935 (the location unspecified). Vegetation was allowed to grow along the roadside and in some drainage ditches as a way to integrate the road into its setting.

Today, the forest associations are the same, each contributing to the character of the road as they did during the historic period. One exception is the recovery area around the Kautz Creek Bridge. Here, huckleberry, bracken fern, salal, and successional alder trees and conifers grow among old snags, remnants of the forest which was destroyed in the 1947 Kautz Creek mud flow which swept through the valley. Current maintenance along the length of the road, such as mowing shoulder areas to keep vegetation low for safety, and removing hazardous trees, are common practices. In some places large rocks have been placed to discourage cars from pulling off and damaging the vegetation. Plans to selectively remove trees in order to restore views at Canyon Rim and below Longmire are tentatively set for 1995.

Vegetation Associated With Road Corridor (Franklin, et.al., 1988)

The following is a partial list of plant materials associated with the forest zones found along the road corridor from the Nisqually Entrance to Paradise.

<i>Abies amabilis</i>	pacific silver fir
<i>Abies lasiocarpa</i>	subalpine fir
<i>Abies procera</i>	noble fir
<i>Acer circinatum</i>	vine maple
<i>Alnus rubra</i>	red alder
<i>Berberis nervosa</i>	Oregon grape
<i>Chamaecyparis nootkatensis</i>	Alaska yellow cedar
<i>Gaultheria shallon</i>	salal
<i>Lysichitum americanum</i>	skunk cabbage
<i>Oplopanax horridum</i>	devil's club
<i>Polystichum munitum</i>	sword fern
<i>Pseudotsuga menziesii</i>	Douglas fir
<i>Rhododendron albiflorum</i>	Cascades azalea
<i>Thuja plicata</i>	western red cedar
<i>Tsuga heterophylla</i>	western hemlock
<i>Tsuga mertensiana</i>	alpine hemlock
<i>Vaccinium alaskaense</i>	Alaska huckleberry
<i>Xerophyllum tenax</i>	common beargrass

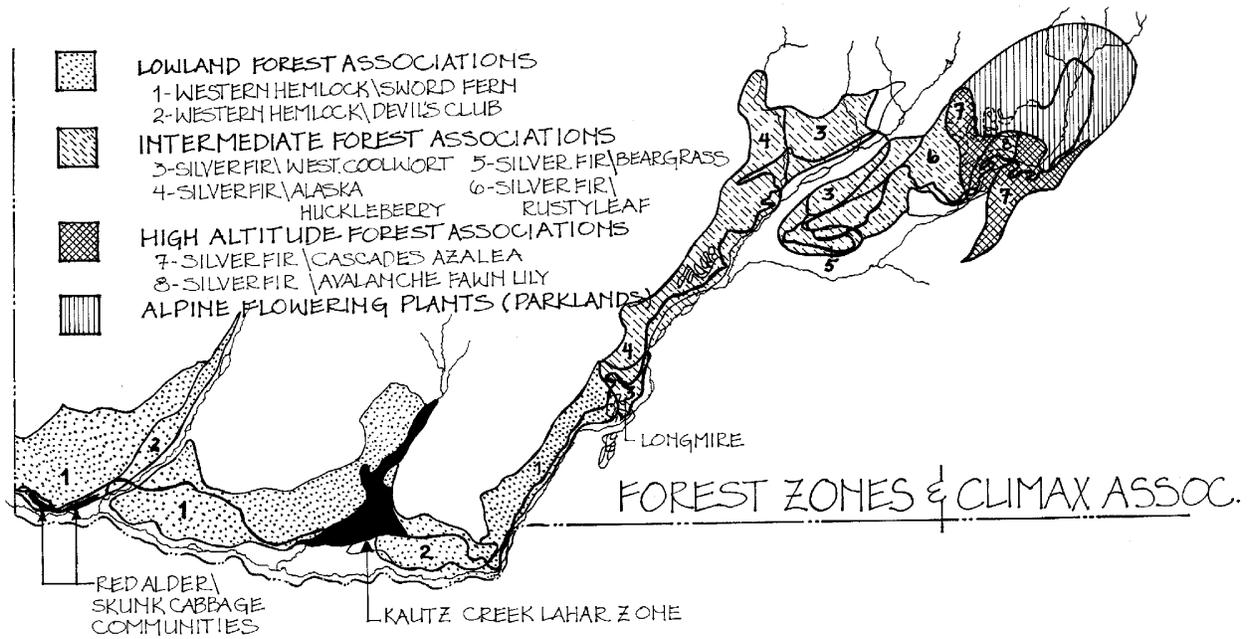


Diagram showing the four vegetation zones and associated climax species that the Road to Paradise penetrates en route from Nisqually Entrance to Paradise.

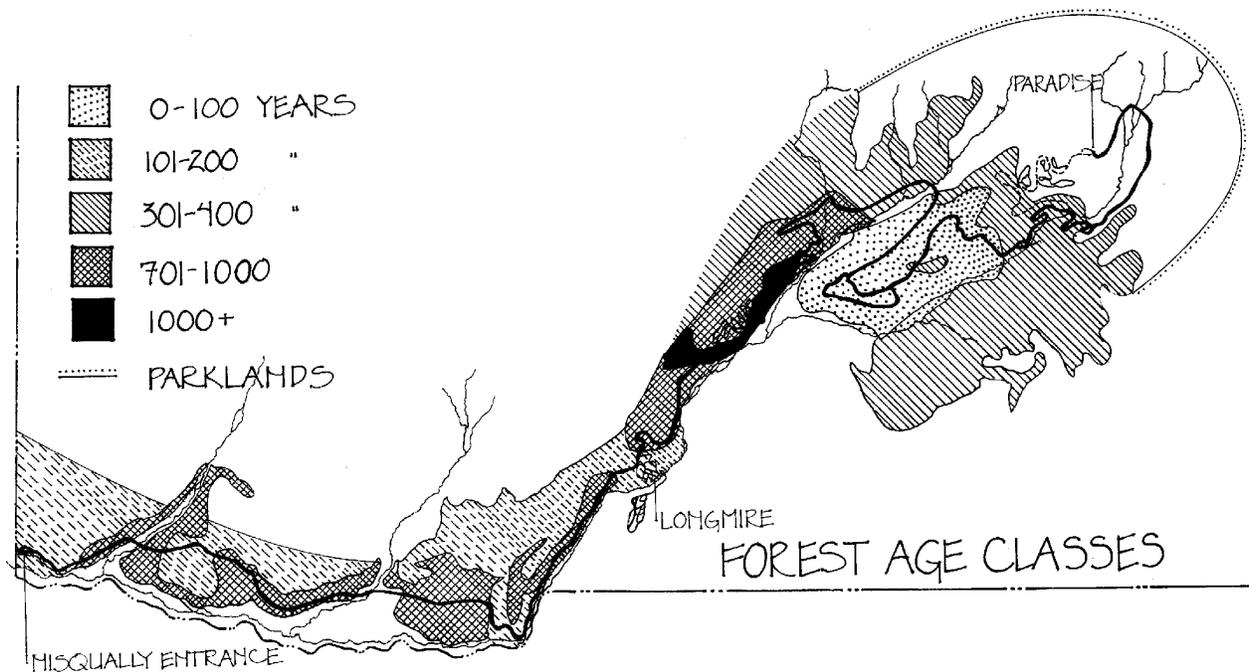


Diagram showing five age classes of forests penetrated by the Road to Paradise, enroute from Nisqually Entrance to Paradise.

Views And Vistas

A major component in the design and alignment of the road was the goal of providing the visitor exposure to the widest possible array of scenery, including glaciers, rock formations, waterfalls, rivers, valleys, a range of vegetation types, and of course, Mount Rainier itself.

Views were designed as part of the sequential experience of the road, becoming wider and more dramatic with the climb, and culminating at the meadows of Paradise. Changes in perspective were another important influence on the route. Areas with switchbacks, loop routes, and limited viewing distances kept the traveler "in a keen state of expectancy as to the new pleasures held in store at the next turn" (Ricksecker).

Throughout the construction period for the road, care was taken not to destroy views of interesting rock formations by blasting rock from the cliffside, thereby creating "drab talus slopes" (Davidson, 1927). During the 1930s, views were actively maintained by clearing vegetation or creating a frame within which the scene was gathered. The philosophy was to eliminate views of human development that could detract from the natural beauty along the road. Views which were acceptable in the earlier period (such as those of the road itself), were screened or camouflaged in the 1930s by the use of vegetation and stone walls.

Historic documentation describing views from the road is rarely specific to a locale, but is very illustrative of the features and experience the selected views were to give the visitor. Waysides and developed areas along the road, such as those at Christine Falls and Nisqually Glacier, are evidence of these ideas. For the purposes of this inventory, views and viewsheds are documented for each of the primary six road segments from Nisqually Entrance to Paradise.

Section 1. Nisqually Entrance to Longmire

During the historic period and prior to the 1947 Kautz Creek mud flow, the peak of Mount Rainier was first revealed at the Tahoma Creek crossing, and then not again until Longmire meadow. Historical records indicate that these views were maintained during the 1930s by clearing vegetation. Today the first major view of the mountain is at Kautz Creek. Although visitors catch glimpses of the Nisqually River and the Tatoosh Range through the trees at several points along this section, most views through this segment of the road are bound by dense old growth forest, which focuses attention on the road corridor itself.

Section 2. Longmire to Christine Falls

The tree canopy in the intermediate forest through this portion of the road is not as dominant as in the lower segment. Visible above the trees are Cougar Rock and Ricksecker Point, and the river can be seen at one or two places. Views approaching Christine Falls are somewhat obscured by the alignment of the road and the bridge, so it is not until after passing the falls that the feature is evident.

Section 3. Christine Falls to Nisqually Glacier Bridge

As the road approaches the Nisqually Glacier bridge, views open; the loop road to Ricksecker Point can be seen traversing the slope on the adjacent ridge. Photographs from the 1930s show this area along the road clear of tall trees. Today, the trees have grown and block the view in several places. Historically, the Nisqually Glacier bridge was a major stopping place and scenic overlook. At that time the small bridge was located only 1000 feet from the foot of the glacier. The glacier has since retreated, and in

1958 the existing bridge was sited several hundred feet south of the original crossing. Although parking areas are located on the west side of the bridge, views to the glacier from the area are not possible. However, panoramic views of the glacier valley and surrounding slopes remain.

Section 4. Nisqually Glacier Bridge to Ricksecker Point

Ricksecker Point, a major viewpoint, offers panoramic vistas of the mountain and its meadows, the Nisqually River Valley and the Tatoosh Range. During most of the historic period this was the only way to experience the drive, and it was described as a major turning point. Views directed primarily upward during the first half of the drive were transformed by a newfound capability to gaze down along the Paradise and Nisqually River basins. Today, although this is an optional loop road on the way to Paradise, it still retains the same feeling of sudden elevation and panoramic scenery.

Section 5. Ricksecker Point to Narada Falls

Prior to the 1920s, accounts describe the approach to Narada Falls as passing through the "silver forest," an old burn area that offered views across Paradise Valley to the Tatoosh Range, and across the area now known as Frog Heaven. During the reconstruction period efforts were made to maintain the silver forest, although today it is no longer evident. One particular overlook at the curve in the road just before Narada Falls--known in the 1930s as Oh My! Point--still presents views of the Tatoosh Range.

Section 6. Narada Falls to Paradise

Changes in the route of the road as it approaches Paradise creates very different views today than during the historic period. Historically, views along this section were obscured somewhat by trees as the road climbed up past Narada Falls, then began to reveal stunning meadows punctuated by white waterfalls and dark-green conifers. Views extended across the small, oval-shaped lower Paradise Valley. At the crest of the western slope was the Paradise Inn, and above the crest, the mountain itself. Similar views can still be enjoyed in the reverse by taking the main road to Paradise, continuing east past the Inn to the one-way loop and descending via the Lower Paradise Valley. The views along the present-day approach are quite enclosed and contained by comparison.

One of the visual amenities of the road as a whole is the lack of visible power lines. The master plans of the 1930s depict a complicated network of power lines, often crossing the road, and occasionally mounted on trees through the road corridor. By 1940, master plans indicate a simplified network, crossing only four times: once at the turn off for the West Side Road, the next midway to Longmire from the entrance, then again at Longmire, and lastly at the Narada Falls cutoff area. Between Narada Falls and Paradise, utility lines were placed underground (based on Davidson's demands). All the lines are now either buried or located out of sight of the road.

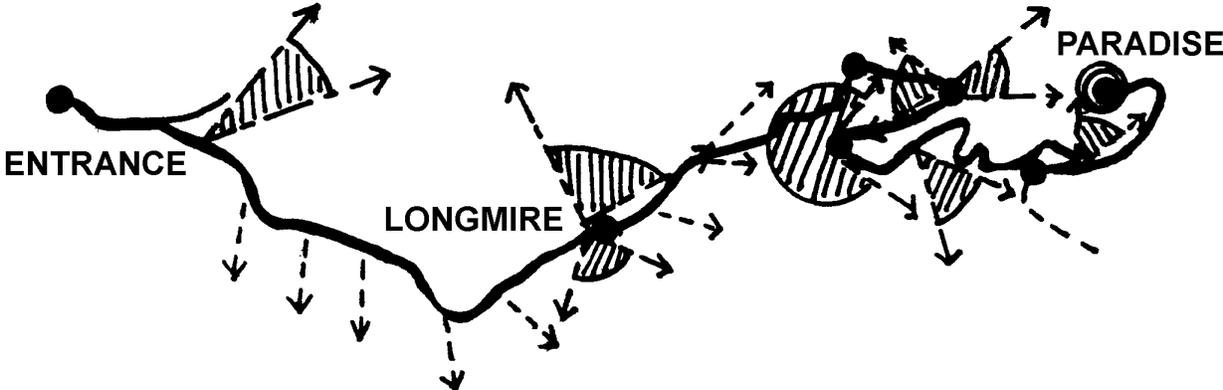


Diagram showing the primary, historic viewpoints from the Road to Paradise.

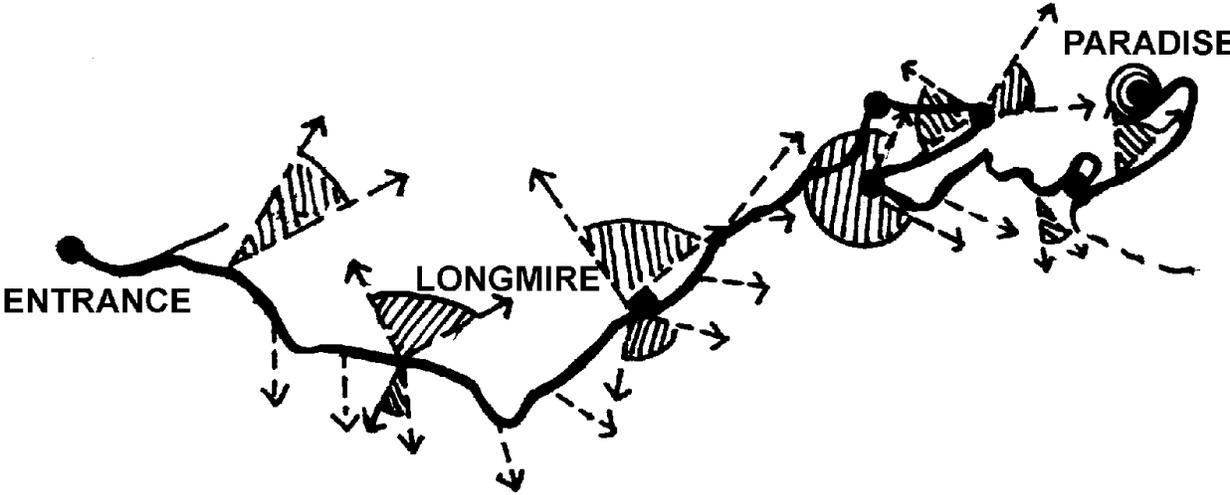


Diagram showing the primary, existing viewpoints from the Road to Paradise.



Photograph of the view of the upper Paradise Valley from the road. (CCSO, 1994.)



Photograph of the view from Paradise Inn, looking southwest to the old approach road. (CCSO, 1994.)



Photograph of the view of Edith Creek Bridge in the upper Paradise Valley from the road, looking southwest. (CCSO, 1994.)

Management Information

Descriptive And Geographic Information

Historic Name(s):	Government Road
Management Unit:	NA
Tract Numbers:	NA
State and County:	Lewis County, WA
State and County:	Pierce County, WA
Size (acres):	134.00

Boundary UTM

Boundary UTM(s):	Source	Type	Datum	Zone	Easting	Northing
	USGS Map 1:24,000	Line	NAD 27	10	596290	5181743
	USGS Map 1:24,000	Line	NAD 27	10	596750	5181902
	USGS Map 1:24,000	Line	NAD 27	10	589377	5176142
	USGS Map 1:24,000	Line	NAD 27	10	588425	5176166
	USGS Map 1:24,000	Line	NAD 27	10	586863	5176247
	USGS Map 1:24,000	Line	NAD 27	10	585574	5176637
	USGS Map 1:24,000	Line	NAD 27	10	582721	5176779
	USGS Map 1:24,000	Line	NAD 27	10	584125	5176923
	USGS Map 1:24,000	Line	NAD 27	10	590245	5177461
	USGS Map 1:24,000	Line	NAD 27	10	590981	5178183
	USGS Map 1:24,000	Line	NAD 27	10	591776	5179380
	USGS Map 1:24,000	Line	NAD 27	10	593259	5180086
	USGS Map 1:24,000	Line	NAD 27	10	592693	5180216
	USGS Map 1:24,000	Line	NAD 27	10	594377	5180507
	USGS Map 1:24,000	Line	NAD 27	10	595323	5180722

USGS Map 1:24,000	Line	NAD 27	10	594355	5180980
USGS Map 1:24,000	Line	NAD 27	10	592864	5180991
USGS Map 1:24,000	Line	NAD 27	10	593704	5181208
USGS Map 1:24,000	Line	NAD 27	10	596146	5181233
USGS Map 1:24,000	Line	NAD 27	10	595510	5181535

GIS File Name:

GIS File Description:

National Register Information

National Register Documentation: Entered -- Inadequately Documented

Explanatory Narrative:

Formerly, some of the structures located within the boundary of the Road to Paradise were listed on the National Register of Historic Places as part of a multiple property nomination (of 1990). In 1997, the Road to Paradise was included in the National Historic Landmark nomination of 1997. The road and its associated features and surrounding landscape were described in the National Historic Landmark District nomination. This CLI expands the description of the road's setting.

NRIS Information:

NRIS Number:	97000344
Primary Certification:	Listed In The National Register
Primary Certification Date:	2/18/1997
Other Certifications:	Designated National Landmark
Other Certification Date:	2/19/1997
Name In National Register:	Mount Rainier National Park
NRIS Number:	91000208
Primary Certification:	Listed In The National Register
Primary Certification Date:	3/13/1991
Other Certifications:	Date Received/Pending Nomination
Other Certification Date:	1/29/1991
Name In National Register:	Narada Falls Comfort Station
Other Names In National Register:	P-010

NRIS Number: 91000197
Primary Certification: Listed In The National Register
Primary Certification Date: 3/13/1991
Other Certifications: Date Received/Pending
Nomination
Other Certification Date: 1/29/1991
Name In National Register: Narada Falls Bridge

NRIS Number: 91000196
Primary Certification: Listed In The National Register
Primary Certification Date: 3/13/1991
Other Certifications: Date Received/Pending
Nomination
Other Certification Date: 1/29/1991
Name In National Register: Christine Falls Bridge

NRIS Number: 91000172
Primary Certification: Listed In The National Register
Primary Certification Date: 3/13/1991
Other Certifications: Date Received/Pending
Nomination
Other Certification Date: 1/29/1991
Name In National Register: Nisqually Entrance Historic District

National Register Eligibility:

Explanatory Narrative:

Date of Eligibility Determination:

National Register Classification: District

Significance Level: National

Contributing/Individual: Individual

Significance Criteria: A -- Inventory Unit is associated with events that have made a significant contribution to the broad patterns of our history
C -- Inventory Unit embodies distinctive characteristics of type/period/method of construction; or represents work of master; or possesses high artistic values; or represents significant/distinguishable entity whose components lack individual distinction

Period Of Significance

Time Period: 1925 - 1941 AD

Historic Context Theme:	Creating Social Institutions and Movements
Historic Context Subtheme:	Recreation
Historic Context Facet:	General Recreation
Historic Context Theme:	Expressing Cultural Values
Historic Context Subtheme:	Landscape Architecture
Historic Context Facet:	The 1930's: Era Of Public Works
Historic Context Theme:	Expressing Cultural Values
Historic Context Subtheme:	Landscape Architecture
Historic Context Facet:	The Automobile Age And Suburban Development

Area Of Significance:

Category:	Landscape Architecture
Priority:	1
Category:	Architecture
Priority:	2
Category:	Engineering
Priority:	3

National Historic Landmark Information

National Historic Landmark Status:	Yes
Date Determined Landmark:	2/18/1997
Landmark Theme:	National Park Service landscape architecture, and National Park Service master planning.

World Heritage Site Information

World Heritage Site Status:	No
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Cultural Landscape Type and Use

Cultural Landscape Type:	Historic Designed Landscape
Current and Historic Use/Function:	

Use/Function Category:	Recreation/Culture
Use/Function:	Outdoor Recreation
Detailed Use/Function:	Outdoor Recreation-Other
Type Of Use/Function:	Both Current And Historic

Use/Function Category:	Landscape
Use/Function:	Parkway (Landscape)
Detailed Use/Function:	Parkway (Landscape)
Type Of Use/Function:	Both Current And Historic

Use/Function Category:	Landscape
Use/Function:	Functional Landscape
Detailed Use/Function:	Vehicular Circulation
Type Of Use/Function:	Both Current And Historic

Ethnographic Information

Ethnographic Survey Conducted: No Survey Conducted

Associated Groups

Name of Peoples:	Native American, Klickitat and Nisqually
Type of Association:	Historic

Significance Description:

Existing documentation suggests that the southwest portion of Mount Rainier was used by American Indian groups for seasonal hunting and gathering. In 1857, a Native American (Klickitat and Nisqually) named Indian Henry, guided James Longmire and his party to the mountain and mineral springs. Local history suggests that Indian Henry befriended, guided, and traded with a number of white settlers including Longmire, Kautz, and Van Trump. Documentation also suggests that the "first road to Tacoma" followed an old hunting trail that led west from the Cowlitz River, along the base of the mountain, to Elbe. It is also possible that one of the early hunting trails used by these groups was used by James Longmire for the road he built in 1861. This road ran between Yelm Prairie and the mineral springs now known as Longmire.

Adjacent Lands Information

Do Adjacent Lands Contribute? Yes

Adjacent Lands Description:

Adjacent lands are within the viewshed of the upper reaches of the Road to Paradise, and contribute to the experience of the surrounding landscape from the road. Adjacent lands to the south and southwest are visible from the road, and are primarily National Forest Wilderness Areas. These lands are high in elevation, and are typically within montane forest, subalpine or

alpine vegetation zones.

General Management Information

Management Category: Must Be Preserved And Maintained

Management Category Date: 2/18/1997

Explanatory Narrative:

The Road to Paradise was determined to be a contributing structure within a National Historic Landmark District in February, 1997. The NHL theme for the district is National Park Service landscape architecture and National Park Service master planning. The landscape of the Road to Paradise retains numerous cultural resources which collectively exemplify the NHL theme. As part of a National Historic Landmark District, the landscape meets the criteria for this management category.

Maintenance Location Code: 13A-D

Condition Assessment And Impacts

The criteria for determining the condition of landscapes is consistent with the Resource Management Plan Guideline definitions (1994) and is decided with the concurrence of park management. Cultural landscape conditions are defined as follows:

Good: indicates the landscape shows no clear evidence of major negative disturbance and deterioration by natural and/or human forces. The landscape's cultural and natural values are as well preserved as can be expected under the given environmental conditions. No immediate corrective action is required to maintain its current condition.

Fair: indicates the landscape shows clear evidence of minor disturbances and deterioration by natural and/or human forces, and some degree of corrective action is needed within 3-5 years to prevent further harm to its cultural and/or natural values. If left to continue without the appropriate corrective action, the cumulative effect of the deterioration of many of the character-defining elements will cause the landscape to degrade to a poor condition.

Poor: indicates the landscape shows clear evidence of major disturbance and rapid deterioration by natural and/or human forces. Immediate corrective action is required to protect and preserve the remaining historical and natural values.

Undetermined: Not enough information available to make an evaluation.

Condition Assessment: Fair

Assessment Date: 09/30/1998

Date Recorded: 09/30/1998

Park Management Concurrence: Yes **Concurrence Date:** 3/2/2004

Level Of Impact Severity: Moderate

Stabilization Measures:

Impact:

Type of Impact: Exposure To Elements

Internal/External: Internal

Description:

Snow loading and risk of inundation by flood waters are among the various impacts of exposure to the mountain's climate upon the road.

Type of Impact: Other -- Geologic Hazard

Internal/External: Internal

Description:

Inundating mudflows caused by geologic activity within the mountain, are among the potential destructive impacts upon the road.

Type of Impact: Other -- Snow Plowing

Internal/External: Internal

Description:

Seasonal damage of masonry guardwalls and other structures by snow plows is a type of negative impact on the road.

Type of Impact: Visitation

Internal/External: Internal

Description:

As the primary and most travelled access road into the national park, the greatest overall impact on the road is constant wear by vehicular traffic.

Agreements, Legal Interest, and Access

Management Agreement:	None
Explanatory Narrative:	
NPS Legal Interest:	Fee Simple
Explanatory Narrative:	
Public Access:	Unrestricted

Treatment

Approved Treatment: Undetermined
Approved Treatment Document:
Document Date:
Explanatory Narrative:
Approved Treatment Completed: No

Approved Treatment Cost

LCS Structure Approved Treatment Cost: \$114,000
Landscape Approved Treatment Cost: \$0
Cost Date: January 1, 1993
Level of Estimate: C - Similar Facilities
Cost Estimator: Support Office
Explanatory Description: The following is the breakdown of LCS Approved Treatment Costs for the preservation of the buildings and structures along the Road to Paradise: Nisqually Entrance Arch \$30,500; Superintendent's Residence \$11,250; Ranger's Residence \$30,500; Oscar Brown Cabin \$15,000; Equipment Building \$5,000; Men's Comfort Station \$7,000; Women's Comfort Station \$13,000; Christine Falls Bridge \$0.00; Narada Falls Comfort Station \$22,500; Narada Falls Bridge \$0.00

Stabilization Costs

LCS Structure Stabilization Cost: \$0
Landscape Stabilization Costs: \$1,776,450
Cost Date: September 1, 1998
Level Of Estimate: C - Similar Facilities
Cost Estimator: Support Office
Explanatory Description: The following is a breakdown of the Other Stabilization

Cost for cultural landscape stabilization work on the Road to Paradise.

Grand total stabilization work (Road to Paradise + Component Landscapes) = 1,776,450

Total Nisqually Entrance stabilization work = 30,000

Total Christine Falls stabilization work = 7,000

Total Ricksecker Point stabilization work = 50,000 (+ 2,700,000 see bottom)

Total Narada Falls stabilization work = 400,000

Total Road to Paradise without component landscapes = 1,289,450

The costs listed below are for the entire Road to Paradise landscape and the component landscapes Nisqually Entrance, Christine Falls, Ricksecker Point, and Narada Falls. The costs are associated with stone wall repointing/rebuilding, slope stabilization with engineered systems where necessary, slope revegetation with indigenous plants, hazard tree removal, drainage problem corrections, and redelineation/vegetation removal from stone paths and dry-laid stone walls. These figures do not include the cost of stabilizing structures listed on the LCS. These are listed above. Unit costs for stone work were derived from Williamsport HPTC, slope stabilization costs were derived from the Class C Estimating Guide and from Federal Highways, and revegetation costs were derived from revegetation experts at CCSO and MORA.

Mile 0, (Nisqually Entrance) drainage problem correction = 18,000

Mile 0 (Nisqually Entrance) dry-laid rockery wall and path reset/vegetation removal = 6,500

Mile 0 (Nisqually Entrance) hazard tree removal = 5,500

Mile 4, 50 sq. yd. of reveg (medium intervention @ 250/sq. yd.) = 12,500

Mile 4.5, 5 sq. yd. of reveg (light intervention @ 130/sq. yd) = 650

Mile 5, 100sq yd. of reveg (medium intervention) = 25,000

Mile 6.7, 50 sq. yd. of reveg (light intervention) = 6,500

Mile 7.3, 160 sq. yd of reveg (medium intervention) = 40,000

Mile 7.8, 160 sq. yd. of reveg (medium intervention) = 40,000

Mile 8.3, 100 sq. yd. of reveg (heavy intervention @ 500/sq. yd.) = 50,000

Mile 10, 300 sq. yd. of reveg (medium intervention) = 75,000

Comet Falls Trailhead, 400 sq. yd. of reveg (heavy intervention) = 200,000

Christine Falls, minor repointing and missing capstone = 3,000

Christine Falls, 50 sq. yd. social trail reveg (@ 80/sq. yd.) = 4,000

Mile 11, 50 sq. yd. of reveg (light intervention) = 6,500

Mile 11.5, 100 sq. yd. of reveg (light intervention) = 13,000

Mile 11.7, 500 sq. yd. of reveg (medium intervention) = 125,000

Ricksecker Point, and upper road repointing and wall reconstruction = 50,000

Mile 14.5, 250 sq. yd. of reveg (light intervention) = 32,500

Mile 14.8, 60 sq. yd. of reveg (light intervention) = 7,800

Narada Falls, retaining wall reconstruction = 400,000

Mile 15.2, 60 sq. yd. of reveg (medium intervention) = 15,000

Mile 15.3, 60 sq. yd. of reveg (medium intervention) = 15,000

Mile 15.5, 100 sq. yd. of reveg (medium intervention) = 25,000

Mile 17.7, 1200 sq. yd. of reveg (medium intervention) = 300,000

Stone veneer bridges, repoint, allow 300,000

Total stabilization costs = 1,746,450

Total slope stabilization/revegetation = 996,450

Total stonework = 453,000 + 300,000 for bridge repointing = 750,000

Total Nisqually Entrance drainage/dry stone wall and path/tree work = 30,000

Also, as a separate item, Ricksecker Point 5400sq yd. (900 x 6 yd. - to 20 ft up bank, heavy intervention) = 2,700,000. This project is categorized as a separate item as the scale of the project is much larger than the stabilization work required on the remainder of the road, and Ricksecker Point is an alternate route off the

main road.

Documentation Assessment and Checklist

Documentation Assessment:	Fair
Documentation:	
Document:	Administrative History
Year Of Document:	1996
Adequate Documentation:	No
Document:	Historic Resource Study
Year Of Document:	1981
Adequate Documentation:	No
Document:	Other
Year Of Document:	1949
Amplifying Details:	The Indian Henry Trail: The First Road to Tacoma, 1853.
Adequate Documentation:	No
Document:	Other
Year Of Document:	1952
Amplifying Details:	History of Mount Rainier National Park
Adequate Documentation:	No
Document:	Other
Year Of Document:	1988
Amplifying Details:	Historical Overview and Preliminary Assessment of Rockworks, Bridges, and Roadway-Related Appurtenances.
Adequate Documentation:	Yes
Document:	Other
Year Of Document:	1994
Amplifying Details:	HAER WA-35. Mount Rainier National Park Roads and Bridges.
Adequate Documentation:	Yes
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Year Of Document:	1990
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Supplemental Information