

**United States Department of the Interior
National Park Service**

**NATIONAL REGISTER OF HISTORIC PLACES
CONTINUATION SHEET**

Section _____ Page _____

SUPPLEMENTARY LISTING RECORD

NRIS Reference Number: 08000041

Date Listed: 1/30/2008

Rim Drive Historic District
Property Name

Klamath
County

OR
State

N/A

Multiple Name

This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.


Signature of the Keeper

1/30/08
Date of Action

=====

Amended Items in Nomination:

Location:

The location block is revised to read: *Rim Drive along edge of caldera surrounding Crater Lake; Crater Lake National Park*
[The location is not designed for mailing purposes, so P.O. box numbers are not appropriate.]

Significance

The correct level of significance is: *state*
[The current nomination narrative focuses on state level significance, though potential exists for national level.]

Bibliographical References:

The box for *preliminary determination of individual listing (36 CFR 67)* should not be checked as this applies only to tax certification projects.

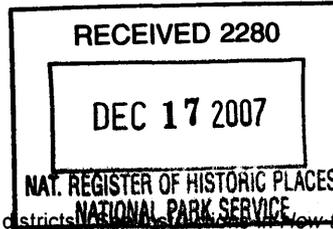
U. T. M. Coordinates:

The U. T. M. Coordinates for point #4 should read: *10 567153 4747270.*

These clarifications were confirmed with the NPS.

DISTRIBUTION:

National Register property file
Nominating Authority (without nomination attachment)



National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of Property

Historic name Rim Drive Historic District

Other names/site number _____

2. Location

street & number Crater Lake National Park, PO Box 7 not for publication

city or town Crater Lake vicinity

State Oregon code OR county Klamath code 35 zip code 97604

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property meets does not meet the National Register criteria. I recommend that this property be considered significant nationally statewide locally. (See continuation sheet for additional comments.)

Joe Wallis
Signature of certifying official/Title

1-7-08
Date

State or Federal agency and bureau

In my opinion, the property meets does not meet the National Register criteria. (See continuation sheet for additional comments.)

[Signature]
Signature of certifying official/ - Deputy SHPO

12-13-07
Date

Oregon State Historic Preservation Office
State or Federal agency and bureau

4. National Park Service Certification

- I, hereby, certify that this property is:
- entered in the National Register.
 See continuation sheet
 - determined eligible for the National Register.
 See continuation sheet
 - determined not eligible for the National Register.
 - removed from the National Register.
 - other (explain:)

Signature of the Keeper

Date of Action

[Signature]

1/30/08

Rim Drive Historic District
Name of Property

Klamath, Co., OR
County and State

5. Classification

Ownership of Property
(check as many as apply)

Category of Property
(check only one box)

Number of Resources within Property
(Do not include previously listed resources in the count)

- private
- public - local
- public - state
- public - Federal

- building(s)
- district
- site
- structure
- object

Contributing	Noncontributing	
7	3	buildings
10		sites
		structures
		objects
17	3	Total

Name of related multiple property listing
(enter "N/A" if property is not part of a multiple property listing)

Number of contributing resources previously listed in the National Register

N/A

1

6. Function or Use

Historic Functions
(enter categories from instructions)

Current Functions
(Enter categories from instructions)

LANDSCAPE: park

TRANSPORTATION

RECREATION AND CULTURE

LANDSCAPE: park

TRANSPORTATION

RECREATION AND CULTURE

7. Description

Architectural Classification
(Enter categories from instructions)

Materials
(Enter categories from instructions)

OTHER: National Park Service Rustic

foundation: _____

walls: _____

roof: _____

Other: packed earth, gravel, bituminous
asphalt, andesite, mortar, concrete

Narrative Description
(Describe the historic and current condition of the property on one or more continuation sheets)

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing).

Areas of Significance
(Enter categories from instructions)

- A Property is associated with events that have made a significant contribution to the broad patterns of our history.
- B Property is associated with the lives of persons significant in our past.
- C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- D Property has yielded, or is likely to yield, information important in prehistory or history.

- ENGINEERING
- LANDSCAPE ARCHITECTURE
- TRANSPORTATION
- OUTDOOR RECREATION
- CONSERVATION:
- Development of CLNP

Period of Significance
1926-1941

Significant Dates
N/A

Criteria Considerations
(Mark "x" in all the boxes that apply)

Property is:

Significant Person
(Complete if Criterion B is marked above)
N/A

- A owned by a religious institution or used for religious purposes
- B removed from its original location
- C a birthplace or grave
- D a cemetery
- E a reconstructed building, object, or structure
- F a commemorative property
- G less than 50 years of age or achieved significance Within the past 50 years

Cultural Affiliation
N/A

Architect/Builder
Bureau of Public Roads, John Sargent, et al
National Park Service, Francis Lange, et al

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets)

9. Major Bibliographical References

Bibliography (Cite books, articles, and other sources used in preparing the form on one or more continuation sheets)

Previous documentation on file (NPS):

Primary location of additional data:

- preliminary determination of individual listing (36CFR67) has been requested (Rim Drive H.D./Sec. 106 consul)
- previously listed in the National Register (Watchman Lookout)
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey
- recorded by Historic American Engineering Record (OR-107)

- State Historic Preservation Office
- Other State agency
- Federal agency
- Local government
- University
- Other

Name of repository: _____

Rim Drive Historic District
Name of Property

Klamath, Co., OR
County and State

10. Geographical Data

Acreage of Property approximately 250 acres

UTM References

1 10 566796 4758916
Zone Easting Northing

3 10 579205 4747451
Zone Easting Northing

2 10 579563 4759290

4 10 567153 474078

Verbal Boundary Description

(Describe the boundaries of the property on a continuation sheet)

Boundary Justification

(Explain why the boundaries were selected on a continuation sheet)

11. Form Prepared By

name/title Stephen R. Mark, Park Historian

organization National Park Service—Crater Lake National Park date July 31, 2007

street & number P.O. Box 7 telephone (541) 594-3094

city or town Crater Lake state OR zip code 97604

Additional Documentation

Submit the following items with the completed form:

Continuation sheets

Maps: A USGS map (7.5 or 15 minute series) indicating the property's location.

A sketch map for historic districts and properties having large acreage or numerous resources.

Photographs: Representative black and white photographs of the property.

Additional items (check with the SHPO or FPO for any additional items).

Property Owner

name USDI National Park Service

street & number P.O. Box 7 telephone (541) 594-3002

city or town Crater Lake state OR zip code 97604

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.).

Estimated Burden Statement: Public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, PO Box 37127, Washington, DC 20013-7127; and the Office of Management and Budget, Paperwork Reductions Project (1024-0018), Washington, DC 20503.

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NARRATIVE DESCRIPTION

The Rim Drive Historic District is a linear property located between two previously listed districts, Rim Village (in 1997) and Munson Valley (in 1988). Rim Village is the primary focal point of visitor services at Crater Lake National Park and serves as the starting point for Rim Drive, a virtually complete circuit that terminates at Park Headquarters, across from what is now listed as the Munson Valley Historic District. In 2007 the National Park Service (NPS) completed a cultural landscape report for Rim Drive and its associated pedestrian circulation system, with the report serving to inventory features created through the planning and design efforts by the NPS in conjunction with Bureau of Public Roads between 1926 and 1941. The purpose of this nomination is to describe those features and relate them to the historic contexts of park development and naturalistic landscape design.

SUMMARY

The Rim Drive Historic District is located in Crater Lake National Park, about 75 miles northeast of Medford and 60 miles north/northwest of Klamath Falls. Built by the Bureau of Public Roads and the National Park Service with work relief funding from the federal government, Rim Drive and its associated hiking trails are at the center of the park's vehicular and pedestrian circulation system during its busy summer season. This road circuit literally "presents" Crater Lake as the central feature within its rugged volcanic setting, yet Rim Drive is designed not to be an imposition on what has been characterized by planners as a "primitive picture." The "picture" is spectacular, with the nation's deepest lake ensconced by steep cliffs resulting from the cataclysmic eruption and collapse of Mount Mazama about 7,700 years ago. Most, if not all, visitors to the caldera's rim are awestruck by intense color reflected as blue from Crater Lake and a setting where walls tower from 550 to 1,900 feet above the water. Much of the park area is heavily forested, yet distant peaks and other topographic features in this portion of the Cascade Range can be seen from Rim Drive and the trails that begin from it.

Most of Rim Drive possesses an exceptional integrity to the period of construction. All of its 31 miles, from Rim Village to Park Headquarters, is on its original alignment aside from the final one quarter mile where Rim Drive intersects with the Munson Valley Road at Park Headquarters. This resulted from a slight realignment undertaken in 1958 to allow for a better turning radius at the intersection. The roadway has been maintained at its original width throughout the nominated portions of Rim Drive, though the route's original configuration of 18 feet and two three foot shoulders was modified somewhat in the 1970s when the paved surface was extended the full 24 feet in segment A (which links Rim Village with the Diamond Lake Junction) in an effort to accommodate larger vehicles. At no time were masonry guardrails relocated or cross drainage devices modified to provide additional roadway width beyond the original 24 feet.

The road is in use by vehicles for only three or four months each year, something which has helped minimize past alterations of the roadway as originally designed. So too has a steady, but not increasing annual visitation to the park of roughly 500,000 visitors each year, but only about a fifth of that number travel the entire road

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circuit. Curvature and grade are relatively easy, given the otherwise rough terrain, with the posted speed of 35 miles per hour consistent with a road design aimed at providing a leisurely and scenic driving experience. They travel on Rim Drive without encountering a single switchback—silent testimony to how designers achieved their goals, yet the location work is so good that the road cannot be seen from key viewpoints like the Sinnott Memorial, Discovery Point, Merriam Point, and Kerr Notch.

Some local materials are evident throughout the entire length of Rim Drive. Engineers aimed at equating cuts and fills during the grading phase of road construction, a goal that both lessens the costs associated with moving earth and the resulting scars on the landscape. Where crews needed to “borrow” additional base material for fills or landscape treatments like bankslopes or warping, they hid pits and quarries from view. Broken rock (or “aggregate”) used for surfacing material originated from various places in the park, as contractors processed the material with machinery on site, but also made finer gravel that was bound together with oil for bituminous paving, ditches, and walkways. The conspicuous andesite is a volcanic rock used in roughly seven miles of crenulated guardrail, as well as numerous retaining walls, spillways (a masonry feature used for drainage), curb, and culvert headwalls is largely from a quarry below the Watchman on West Rim Drive. Mortar used to join the masonry features is from off site, however, as is the concrete for culverts placed to allow cross drainage at regular intervals along the road. Wood for treated and partially buried log barriers (not extant) came from commercial sources, though posts and boards for signs (of which one still exists) were milled by the Civilian Conservation Corps near Cave Junction, Oregon.

OVERVIEW OF RIM DRIVE

This nomination describes a linear district to include the roadway, slope treatments, cuts, fills, planting beds, as well as road-related structures intended for cross-drainage, safety barriers, retaining walls, and use by pedestrians. These landscape features are located within the clearing limits established for Rim Drive during the initial phase of road construction. Clearing limits on this road, however, vary depending on the topography (one NPS official has calculated their average as being around 85 feet wide) but do not encompass remnants of temporary or “tote” roads used to access borrow pits located outside the road corridor, or the remains of camps that once housed construction crews since they were not intended to be part of vehicular circulation. The somewhat circular district boundaries pertaining to this road are thus long (some 31 miles) and narrow (85 feet). This proposed district also includes trails originally designed to encourage pedestrian circulation from Rim Drive, by allowing motorists to leave their vehicles at designated parking areas and reach the intended viewpoints on foot. The total length of all trails associated with Rim Drive is 4.9 miles, with the affected corridor being an average of ten feet. Trail construction resembles road building, albeit in miniature, so it will encompass a somewhat similar group of designed landscape features though these are fewer in number.

There were no mileposts established along Rim Drive during the period of construction and none are presently visible. Distances were, however, calculated in miles from station points for purposes of bidding and supervising contracted work, so the circuit can be divided into five segments of specified lengths which

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correspond to the order that Rim Drive was constructed. Three of the segments contain a hierarchy of intended stopping places originally aimed at aiding interpretation of what visitors could see from them. The observation stations were intended as formal stops on a ranger-led caravan of vehicles. Totalling eight in number, four of the observation stations are accessible by trail (Sinnott Memorial, Discovery Point, the Watchman, and Merriam Point), which extend from where visitors are intended to park their vehicles nearby. The remaining four (Pumice Point, Skell Head, Cloudcap, and Kerr Notch) are existing pullouts delineated by masonry guardrail. Below the observation stations in the hierarchy are the substations which consist of stops designed for motorists to make on their own, since they also directly relate to educating park visitors. The 15 substations are accessible as existing pullouts and paved in all but two cases. Below the substations came parking areas, where motorists might pause for the view, but better illustrations of geological processes and other natural features were thought to be available elsewhere. All of the 13 parking areas are paved, with most delineated by masonry guardrail or formal barriers such as boulders. Two of the segments (D and E) contain only parking areas since the caravan made its last stop at Kerr Notch, the end of segment C.

It should be noted that Crater Lake National Park is exclusive federal jurisdiction, having been ceded by the State of Oregon in 1915, so that park roads are not part of the state highway system. Rim Drive's only numerical designation is thus park road #7, with the one mile spur road between it and the Cloudcap observation station being park road #9. Given how Rim Drive can be broken into five segments built clockwise around the caldera in chronological order, the first segment of six miles extending from Rim Village is designated 7-A. The sequencing of road segments should not be confused with the enumeration of certain stopping places along the circuit, even if segment C of road #7 contains substations 7-A (Cottage Rocks), 7-B (Victor View), and 7-C (Reflection Point). These are all contributing sites, as opposed to the road between Grotto Cove and Kerr Notch (segment 7-C), a contributing structure.

Segment A – Rim Village to Diamond Lake Junction (0.0 to 5.9)

This segment starts at Rim Village and goes along the western lip of the caldera that holds Crater Lake. It contains two observation stations, nine substations, and several additional parking areas—by far the most stopping places located in any segment of Rim Drive. The road retains much of its original design, even if pavement was subsequently extended to edges of the roadway, and a later development negatively affected the popular Watchman Overlook. There are also alterations such as the noticeably inferior masonry guardrail built during the 1960s that replaced original, but rotted, log barriers. The one accretion, a picnic area built in 1958, is largely hidden from the road corridor at mile 2.5. Changing views of Crater Lake and mountainous country located to the south and west are what most visitors remember about this segment of Rim Drive. Some use it as a through route between Rim Village and Diamond Lake, so they do not traverse the remaining 25 miles of the circuit. The two observation stations located along it, however, are reached by trail from nearby parking areas. Discovery Point (.2 miles) and the Watchman Lookout (.7 miles) feature views unattainable from Rim Drive, but are also linked through a trail running the length of this segment built in 1994—a route that utilizes portions of a road around Crater Lake constructed by the Army Corps of Engineers from 1914 to 1919.

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The older Rim Road can be distinguished from Rim Drive in several ways. Where it has not been overtopped or obliterated, Rim Road measures only 12 feet wide and never proceeded beyond the grading phase of construction. It thus lacks surfacing and paving (the two subsequent of road construction), with the only cross drainage being corrugated metal culverts. In addition to the aforementioned trail segment referenced in segment A of Rim Drive, 3.5 miles of the older Rim Road can be driven one way (from Lost Creek Campground to Vidae Falls) along an alignment located below segments D and E.

Segment A of Rim Drive maintains its original vertical and horizontal alignment, as well as cross drainage, masonry retaining walls and guardrail, and even some stone and mortar wells aimed at protecting trees on fill slopes. Some of the retaining walls and virtually all the masonry guardrail have been repointed and repaired. This is primarily due to the dominant slope orientation being southwest, but perhaps more importantly, the annual road opening done each spring with heavy equipment. Insufficient funding for masonry guardrail during original construction in 1931-32 resulted in CCC crews placing partially buried logs as safety barriers—devices that have since been replaced by newer masonry work during the 1960s. Consequently, two of the substations (3-A, the “Diamond Lake Overlook” at MP 5.1, and 3-C, “Glacial Evidence” at MP 5.6) have a patchwork appearance. Nevertheless, there is still a high degree of historic integrity as none of these alterations serve to destroy the sense of how Rim Drive is subordinate to a rugged volcanic setting, one where the idea of seeing Crater Lake from above and at some distance constitutes the main way of experiencing it.

Segment B – Diamond Lake Junction to Grotto Cove (5.9 to 13.8)

Commencing at the junction of Rim Drive and a road leading to the park’s north entrance, this first part of “East Rim Drive” which extends for another 23 miles before terminating at Park Headquarters, begins by climbing the back of Llaol Rock. Viewpoints along the northern rim are not generally as crowded as those on “West Rim Drive” (segment A), though traffic congestion can be evident in the vicinity of Cleetwood Cove. This is where parking is available for those wishing to leave their vehicles and then hike to the lakeshore. The Pumice Desert and other evidence of Mount Mazama’s climactic eruption are frequently seen along this segment of road, though the jagged spire of Mount Thielsen in the distance draws the eye more than any other topographic feature located away from Crater Lake. This segment of Rim Drive also contains a portion of the rim closest to the lake, with the lowest point being 550 feet above the water at the Palisades.

The first of two observation stations on this road segment is at Merriam Point, located above the modifications made to the Diamond Lake Junction in 1986-87, and reached by a short walk. By contrast, the Pumice Point observation station is located at MP 9.0 on Rim Drive, at a pullout delineated by a relatively long stretch of crenulated masonry guardrail that has needed no repair or repointing since its original construction. Four substations are located beyond Pumice Point, but spaced at somewhat regular intervals over the next several miles. Parking areas, usually situated along the road where Crater Lake can be seen, are more numerous than the substations and there are two small picnic areas developed in 1958 which are shaded by an overstory of old growth trees.

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In contrast to portions of the previous segment, Rim Drive followed its predecessor (the old Rim Road built by the Army Corps of Engineers) whenever possible in order to minimize construction scars and other impacts. A number of landscape treatments are also evident in this segment, starting with the special attention paid to planting the cut slopes on new sections and trying to disguise (or “obliterate”) abandoned portions of the old road if they were visible from Rim Drive. Bank sloping included the flattening and rounding of roadway margins in order to minimize unfinished edges which could lead to increased erosion. “Warping” cut slopes not only aided visual transition between bank and roadway, but permitted the establishment of vegetation. In all, this road segment possesses a high level of historic integrity with the landscape treatments still in evidence, but it also possesses innovations like paved ditches and drop inlets facilitating cross drainage, and masonry which is still in mint condition without so much as repointing or repair needed.

Segment C – Grotto Cove to Kerr Notch (13.8 to 23.2; includes spur road to Cloud Cap)

This road segment begins at a substation overlooking Grotto Cove built in two parts, just a short distance from each other. More importantly, the substation includes masonry guardrail with walkway and curb that separate pedestrians from parked cars, as well as planting beds separating the viewpoint from Rim Drive. These were called “parking overlooks” by their designer, a National Park Service landscape architect named Francis G. Lange, and are found only along this road segment in seven places. As designed sites, all of them are either observation stations—Skell Head (mile 14.5), Cloudcap (18.2), and Kerr Notch (23.2)—or substations—Grotto Cove (13.8), Cottage Rocks (21.0), Victor View (21.2), and Reflection Point (21.3).

Two picnic areas were added along this segment during the 1950s and one of those has been abandoned. The one remaining picnic area is hardly noticeable, being located amid old-growth whitebark pine and oriented away from Crater Lake toward Mount Scott instead. After damage from a slide, both the retaining wall and masonry guardrail have been reestablished on the outside curve of Anderson Point (in 1952), but these features closely adhere to the specifications governing original construction of these features elsewhere on Rim Drive. Other parts of the road are unaltered, with an eighteen foot paved surface evident in most places and stone masonry still in such good shape that repointing or other repairs have never been needed. The one remaining road wye in the park still functions at the junction with the Cloudcap spur, though stop signs have since been added for traffic control.

This segment of Rim Drive provides motorists with views of certain features in Crater Lake like the Phantom Ship from noticeably different angles. Looking east instead of west, the glaciated cirque of Mount Scott is almost as equally dominant, rising to the highest point in the park at 8,929 feet. Rim Drive allows motorists to reach a parking overlook located almost 7,900 feet atop Cloudcap, where pure stands of old-growth whitebark pine can be seen. Visitors can also hike on the 2.5 mile trail developed by the Civilian Conservation Corps in 1933 which eventually reaches the summit of Mount Scott after more than 2,200 feet of elevation gain.

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Road alignment in this segment displays a blend of elongated curves and short tangents (straight sections) in order to maintain the design speed of 35 miles per hour and keep grades under six percent. This meant abandoning the Rim Road ascent and descent of Cloudcap with its ten to twelve percent grades, such that considerable obliteration of the old route became necessary through planting and other means. A number of “daylighted” areas along the roadway (denuded places usually created by heavy equipment during the grading phase of Rim Drive’s construction) were planted so that more work was done here to amend soil and bring sedges and other native species for the purposes of revegetation than on any other road segment. Despite the almost sterile conditions of these pumice slopes, many (if not most) of these plantings survive.

Segment D – Kerr Notch to Sun Notch (23.2 to 27.2)

As the most difficult section of Rim Drive to build, portions of this road segment are marred by persistent rockfall that occurs on both sides of Dutton Ridge. This four mile segment of road contains cut slopes that are steep in places and compounded by loosely consolidated rock that posed great danger to crews during the rough grading phase. The challenge of building roads in such conditions are illustrated on the east side of Dutton Ridge just beyond Kerr Notch, where a series of retaining walls were constructed on an almost sheer cliff. What is most noticeable along the section supported by retaining walls is that much of the masonry guardrail above them is missing. Maintenance staff at the park removed some of the guardrail during the 1960s (the hope was to replace it with barriers that could be removed when Rim Drive closed for the winter) since rocks falling from above the road batters these features.

Masonry guardrail has also undergone extensive repair on the west side of Dutton Ridge, about a half mile shy of the Sun Notch parking area. There remains, however, masonry guardrail in excellent condition where it was built away from steep slopes and rockfall areas. Several parking areas along this segment of Rim Drive still possess almost all original work and are located a mile or more south of Kerr Notch. One of the parking areas (there are no observation stations or substations in segment D) is situated high enough so that motorists who stop here can see Crater Lake to the north and portions of the Klamath Basin if they look south. Spectacular views of the basin and Klamath Marsh far to the east can be seen over the next mile or so to the road summit of Dutton Ridge where the southern panorama stretches to its widest point. The drive down the western side of the ridge to Sun Notch allows filtered views of Sun Meadow below the road and a ridgeline crowned by Applegate Peak to the west. None of the construction in this segment necessitated road obliteration because the old Rim Road followed an entirely different alignment located below Dutton Ridge where there is considerably less rockfall, but also far fewer vistas. The gradients encountered along the alignment of Rim Drive required designers to forsake paved ditches for cross drainage. They used stone masonry features called “spillways” instead to direct water coursing from seasonal springs and put it through culverts located underneath the road.

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Segment E – Sun Notch to Park Headquarters (27.2 to 31.6)

Extending from the parking area below Sun Notch, this road segment does not allow motorists to see Crater Lake from Rim Drive. It nevertheless provides parking areas for Vidae Falls (mile 28.7) and a trailhead from which visitors can walk a short loop through the Castle Crest Wildflower Garden (mile 31.3). Although Vidae Falls is the only place where a parking area includes stone curbing and a surfaced walkway, few visitors notice that the road alignment removes the lower portion of the falls by bridging the stream with a large fill. This fill was planted in 1939 as part of a grading contract, but so much seeding has occurred from nearby trees that the slope to Vidae Creek appears completely natural to those who stop to see the falls. Cross drainage through the fill at Vidae Falls is provided by concrete culverts, as is the case elsewhere on Rim Drive. The fill, however, is somewhat unusual in having two masonry headwalls, a feature designed to avoid damaging the road's subgrade while channelizing flow from streams and courses formed by spring snowmelt. The lower headwall (which appears nowhere else on the road) may have been erected to make the culvert blend with the surroundings because the NPS had tentative plans for a small campground below Rim Drive. The project proceeded as far as building a road to the site (which planners called "Sun Creek Campground"), which was included in the contract to construct this segment of Rim Drive. This campground spur road currently allows motorists to reach a picnic area completed in 1958, but since reconfigured to include parking for a trailhead.

Motorists encounter the steep talus slope of Applegate Peak upon their steady descent from the Sun Notch parking area toward Vidae Falls. They then see a portion of the barren Sun Meadow below them, though the paved width of the roadway (18 feet) is such that most see only a tall overstory of mountain hemlocks and true firs that characterize the forest above 6,000 feet. Few motorists can detect traces of the old Rim Road because its remains have been so well hidden by planting, though a portion of it can be hiked as part of the Crater Peak Trail that starts below Vidae Falls at the picnic area. Less energetic visitors drive further toward Park Headquarters and walk the loop trail in the Castle Crest Wildflower Garden (a circuit of three-tenths of a mile) built by the NPS in 1938. The loop includes some original stonework in the form of steps and three wooden footbridges that are reconstructed to appear like those built by the CCC enrollees.

The last original sign created by the CCC still maintained by the NPS can be seen at Vidae Falls. It and about fifty others were hand carved by enrollees in 1938-39 in various shapes and sizes with raised letters painted chrome orange (for visibility at night) against a dark background. All the signs were based on drawings by the NPS resident landscape architect, who provided plans for all three classes of signs (traffic control, directional, and locational) for Rim Drive. Most of the modern signage, however, is metal and aimed at either traffic control or directional, with mileage listed to highlighted viewpoints. Aside from one at Vidae Falls, locational signs which tell motorists that they have reached key overlooks are missing, so visitors are unaware of their arrival at what were once observation stations like Skell Head or Cloudcap.

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OTHER DESIGNED FEATURES ALONG RIM DRIVE

A series of contracts let for grading, surfacing, and paving were the most visible and costly parts of road construction, but the NPS also took the lead in designing and constructing trails and signs on Rim Drive. These features did not require contracts or the need for BPR oversight. They could be funded from park accounts for projects (generally through hiring temporary employees from these accounts, a method called "day labor") or through allotments from work relief programs like the CCC. In each case, these designed features are intended to meld with the contracted items as a part of the circuit.

Trails

With only a few exceptions, most of the foot trails built during the 1930s were intended to provide park visitors with distinctly different views of Crater Lake from points not reached by road. Trails allowed relatively easy access to a couple of observation stations located along the western portion of Rim Drive, while also giving visitors the opportunity to reach viewpoints such as Mount Scott on the opposite side of the lake. Like roads, they were built to specified standards that required (at least in several instances) reconstructing earlier work on prominent features like Garfield Peak or the Watchman. Much like his BPR colleagues, the NPS resident engineer took the lead in locating trails, though final approval of the route along with measures to protect vegetation came through the lead landscape architect on site.

NPS resident engineer William E. Robertson located a new trail linking the western end of Rim Village with Discovery Point during the summer of 1932. This occurred once Merriam and Wallace W. Atwood selected a site for an observation station, one serving as the end of the footpath from Rim Village and a viewpoint that required only a short climb from the nearby parking area on Rim Drive. The Discovery Point Trail thus has a long segment which consisted of easy grades lasting for nearly a mile along the rim before it meets the large parking area at Station 55. From there the trail makes a short climb to the observation station at Discovery Point.

Work on reconstructing the trail to the top of Watchman also took place in 1932 and starts from a point on the old Rim Road situated above the new location for Rim Drive. This path utilizes portions of a rough trail made the previous summer to transport materials for constructing the lookout and trailside museum, but with better curvature and the addition of features stone slabs for use as benches and hand-placed retaining walls. The trail starts at the Watchman Overlook on Rim Drive and incorporates a piece of the old Rim Road, climbing to a point where the path built by day labor goes to the summit for a total length of .7 miles.

None of the other observation stations feature trails. CCC enrollees, however, extended a rough "service road" part way up Mount Scott by building a horse trail that reached the summit. This provided a better way of packing supplies to a lookout located more than 2 miles away from Rim Drive. Visitor use as a foot trail came

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as a secondary consideration, at least initially, so the connection between trailhead and parking area remains weak. It is the longest of the four trails built along Rim Drive between 1926 and 1941, at 2.5 miles in length.

The trail through the Castle Crest Wildflower Garden near Park Headquarters originated in 1929, though not in reference to any future location of Rim Drive. A new parking area intended to serve as the trailhead, however, came about as part of the grading contract for 7-E2 in 1938. This development corresponded with an effort led by the permanent park naturalist to reconstruct the trail to contemporary NPS standards that summer, one which resulted in a loop of .3 miles and included stone steps and three wooden footbridges designed by Francis G. Lange.

Buildings

The NPS actively encouraged visitors to see the Sinnott Memorial “as soon as possible” upon arriving in the park because it helped them locate places of interest. Although situated in Rim Village (and thus previously listed on the National Register), “Observation Station No. 1” has functioned as the main orientation point for visitors who intend to travel the circuit of Rim Drive. Built in 1930, the Sinnott Memorial’s design borrowed heavily from the slightly larger Yavapai Station erected on the south rim of the Grand Canyon in 1927. Merriam supplied the main force behind both buildings and saw to it that each incorporated an open porch or parapet along with an enclosed display room or museum. Although operational with the installation of parapet exhibits in 1931, Merriam and park officials did not consider the Sinnott Memorial completed until August 9, 1938. That morning an exhibition aimed at helping visitors appreciate the aesthetic values of Crater Lake opened in its museum room. The featured photographs, paintings, and lighted transparencies were intended to induce visitors to see various aspects of the landscape for themselves. Merriam and his associates hoped that a “new phase” of educational work at Crater Lake might thus begin, one where the interpretation of scenic and scientific values at the Sinnott Memorial might inspire visitors as they explored the park on their own.

Apparent success with reaching visitors at the Yavapai Station prompted NPS Chief Naturalist Ansel Hall in early 1930 to suggest enlargement of a building planned for the Watchman. He recommended that it could be expanded at ground level to accommodate both the proposed fire lookout and a “trailside museum,” to be located next to an outside “terrace” with enough space for visitors to enjoy the view from a parapet. After making a more definitive study of the building’s location, NPS landscape architect Merel Sager sent Hall a revised sketch by Lange in June 1931 incorporating all three elements, so that the structure could function as both fire lookout and as an observation station somewhat like the Sinnott Memorial. An allotment of \$5,000 based on the final drawings prepared by Lange allowed laborers to complete most of the building that summer. Work at the site continued in 1932, at which time workmen built a masonry parapet wall around the point in front of the building along with a bituminous walk. Hall installed field glasses for the use of visitors to reinforce dual purpose of the structure and the NPS continued to promote the building as an observation station throughout the 1930s by offering a shortened version of the full Rim Caravan, one that ran from Rim Village to the Watchman Overlook and culminated with a hike to the lookout. Much like the Sinnott Memorial, this

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structure exemplifies the type of rustic architecture that took root at Crater Lake from 1926 to 1941: battered stone either alone or incorporated in masonry work, kept in scale so as to not detract from the setting, yet often complemented by wood and bituminous paving.

Signs

Customized signage for Rim Drive evolved from a CCC project begun in 1936 at Park Headquarters that aimed to replace various types of metal signs posted throughout the park. Enrollees produced hand-carved wood signs of varying sizes with raised letters painted chrome orange (for visibility at night) against a dark brown background, based on Lange's drawings of entrance, directional, and building signs. CCC enrollees produced signs at Camp Oregon Caves over several winters and began installing them upon returning to Crater Lake for the summer season. Lange provided "field sketch details" as drawings for the signmakers to follow, given the many distinct sizes and shapes that came in response to an emphasis on the individualization of signs for different points of interest located along Rim Drive. One of these is still in use, marking the location of Vidae Falls about 2.5 miles from Park Headquarters.

NOMENCLATURE

The circuit route constructed by the Army Corps of Engineers from 1913 to 1918 was called "Rim Road," though this name also appears in reference to the road planned and built under the supervision of the Bureau of Public Roads from 1926 to 1941. To prevent confusion, the NPS made the designation "Rim Drive" official by 1937. There is no state highway number because the national park is exclusively federal jurisdiction and no part of the road reaches beyond park boundaries. The circuit between Rim Village and Park Headquarters has carried the number 7 (so that its five segments are thus referenced as 7-A, 7-B, etc. in construction documents and reports) for many years, with the dead end spur road to Cloudcap designated by the NPS as route 9.

PREVIOUS DOCUMENTATION OF RIM DRIVE

The Historic American Engineering Record has completed drawings (1999) and documentation (2003) on "Crater Lake National Park Roads" (HAER No. OR - 107) dominated by Rim Drive. Considerably more information about the circuit road can be found in a cultural landscape report by the NPS on Rim Drive (2007).

DESCRIPTION OF CONTRIBUTING RESOURCES IN THE DISTRICT

The following description of contributing resources is divided into five categories:

Spatial Organization
Circulation
Topography

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Vegetation

Structures and major site design

Spatial organization refers to the sequence of spaces within the district. Circulation is both the means and pattern of movement (vehicular and pedestrian) through the district. Topography refers to how landscape planning responded to topographic features, but also to modification of the terrain. Vegetation encompasses not only the dominant plant associations, but also how vegetation has been managed—either through removal or the addition of herbaceous material, shrubs, and trees. Structures and major site design includes all the contributing resources in the district, but is divided into road segments and associated features (structures) as opposed to the parking overlooks (sites) since the latter are distinct manifestations of major site design.

HISTORIC DISTRICT – ROAD CORRIDOR

Spatial Organization

Rim Drive encircles much of the caldera holding Crater Lake, the deepest volcanic lake in the world. Located in south central Oregon, Crater Lake is part of the Cascade Range, but is framed by jagged, steep-walled cliffs of a caldera produced by the climactic eruption and subsequent collapse of Mount Mazama approximately 7,700 years ago. The lake is renowned for both its clarity and intense blue color, with the rim rising anywhere from 500 to almost 2,000 feet above the water, creating a spectacular visual effect. Rim Drive begins at the main center of visitor services at Rim Village, which overlooks the lake, and proceeds in a clockwise fashion to Park Headquarters in Munson Valley. Linking the two developed areas is an approach road (route 4) three miles in length so that motorists can drive a full circuit during much of the summer and early autumn.

Eminent volcanologist Howel Williams wrote that “Long before the traveler reaches Crater Lake, he finds himself surrounded by volcanic rocks. Inside the park, he begins to climb the slopes of an ancient volcano. With breathtaking suddenness he reaches the brink of a tremendous cauldron, between five and six miles wide, enclosing a lake of surpassing beauty... Twenty miles of cliffs, tinted in delicate shades of red and brown and yellow, and fringed with rich greens of hemlock, pine, and fir, cast their reflections in a mirror of indescribable blue.” To the geologist, this serene setting is only one phase in the history of a small caldera, but Crater Lake is considered to be the model for how a great lake formed in the remnant bowl of a collapsed volcano. Kerr Notch and Sun Notch indicate where great U-shaped glacial valleys were beheaded by the caldera walls. Mount Scott is the largest remaining cone of those that overlapped the once mighty summit of Mount Mazama, a half mile or more above the present rim. Away from the caldera lie subalpine forests, open pumice fields and more peaks of the Cascade Range. All of what park visitors see before them is evidence of a geologically young landscape, but one marked by both past glaciations and sudden cataclysm.

The rim of Crater Lake is an area of high winter snowfall, but has relatively difficult conditions for plant growth. Not only is all of it above 6,500 feet in elevation, the almost sterile pumice soils quickly absorb

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snowmelt and what little moisture that summer weather conditions produce. With drought in summer a regular occurrence, plants have only a short time to flower and dispense their seeds. These limitations serve to restrict the number of plant species in the park (an area of 183,224 acres) to only 640, with far fewer than that number able to tolerate conditions at the rim. Precipitation amounts vary considerably even along Rim Drive, with the southwest-facing road segments near the Watchman receiving considerably more than Cloudcap and much of the eastern part of the road circuit.

Circulation

Engineers with the Army Corps began to plan the park's vehicular circulation system around a circuit of the rim in 1910, though the Rim Drive did not begin to assume its present form and alignment until BPR started location work in 1926. In some respects the new Rim Drive represented reconstruction of the earlier Rim Road, but with better alignment, curvature, and gradients. Where work on the old Rim Road of 1913-19 never proceeded beyond the grading phase of construction, the completed Rim Drive of 1941 came with the added components of surfacing, paving, and landscape treatments such as banksloping, planting, and stone masonry features. Actual construction of Rim Drive took almost a decade, but since that time there has been no need or desire to alter its vertical or horizontal alignment.

Rim Drive makes use of three approach roads (though the east entrance is no longer connected with state highways or national forest routes that are located outside park boundaries) and allows for two-way traffic around the rim during the summer travel season. Three truck trails (also called "fire roads" or "motorways," but these are service roads in reality) start from Rim Drive and go into the park's hinterland. They (Lightning Spring, Roundtop, and Crater Peak trails) can no longer be used by motor vehicles due to their current status as foot trails. The four trails designed for pedestrians date from the 1930s, though a slight modification came in 1994 when the Sunset (or "Discovery Point") Trail from Rim Village was linked to pieces of the old Rim Road and some new tread built by volunteers in 1994 under NPS supervision to form a continuous footpath along the western portion of the rim.

As a circuit for vehicles, planners intended that Rim Drive occupy the top rung in a traditional hierarchy of park roads. A portion of the circuit (the Munson Valley Road connecting Rim Village with Park Headquarters) is in fact an approach route, but Rim Drive proper possesses an entirely different function of presenting the park's central feature in different ways as part of a loop. The spur road to Cloudcap can be considered part of the circuit because of this central purpose, whereas the Sun Creek Campground road below Vidae Falls is a service route, much like others linking Rim Drive to the five picnic areas.

Rim Drive primarily serves park visitors, though a portion of it (segment A) acts as a through route running north-south between state highways 62 and 138 which cross the Cascade Range in this part of Oregon. The through route (which includes the two approach roads) is the most heavily used part of the park's vehicular circulation system over the summer travel season. A slight adjustment within the circuit of Rim Drive took

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place as the result of rehabilitation work at the Diamond Lake Junction and the north approach road in 1987. At that time the original road wye disappeared in favor of a “T” intersection that gives the through route precedence over segments B, C, D, and E of the circuit.

Topography

Landscape features at the rim of Crater Lake have largely determined the alignment of Rim Drive. Its curvilinear form, minimal grade, and inclusion of varied overlooks that respond to the setting are designed so that large sections of Rim Drive literally cannot be seen from any of the eight observation stations and many of the substations. There are no switchbacks and very few scars from cut slopes that detract from the goal of visual unity between the road and its setting. Rim Drive lies lightly on the land for the most part, but is also integrated with the surroundings through the use of stone masonry (for safety barriers, retaining walls, curbs, and funneling cross drainage), banksloping (to minimize erosion and hide sections of the old Rim Road), and planting fills or areas disturbed by construction. Challenges posed by the topography include the relatively steep gradient required for Rim Drive to get around the Watchman, having to skirt the backside of Llao Rock in lieu of defacing it with a line built across the front overlooking Crater Lake, the need to pass between Cloudcap and Mount Scott, and the cuts required on Dutton Ridge in order to connect Kerr Notch with Sun Notch.

Vegetation

One way to categorize the vegetation occurring along Rim Drive is to make a distinction between the naturally occurring plants (trees, shrubs, and ground cover—forbs and sedges) and those native trees, shrubs, and ground cover species that were planted or transplanted to “naturalize” areas disturbed by construction. Naturalization also included obliterating the old Rim Road where it impinged on Rim Drive, screening facilities from the view of passing motorists, or controlling erosion by planting to stabilize fills and daylighted areas, where all the vegetation had been removed during road construction. Nature provided a “palette” for planting efforts associated with building Rim Drive, but this undertaking usually required amending the predominately sterile pumice soils. Amendments included peat and top soil from wetlands in the park, as well as commercial fertilizers. The planting played a key role in the seemingly unchanged appearance of road shoulders, bank slopes, fills, and some parking areas located along the eastern portion of Rim Drive. In most cases those who planted along Rim Drive succeeded in blurring any distinction between what could be perceived as “formal” design and the natural, preexisting vegetation at those sites. It is thus often quite difficult to detect any difference between the two, other than with period photographs. In just a few cases the vegetation obscures vistas that would have otherwise been seen during or before the period of road construction.

Although there is overlap between the main understory species in places, three fairly distinct subalpine plant communities (ones tied to the main tree species) are encountered on Rim Drive. The first is a mountain hemlock and Shasta red fir mix that dominates much of the south and west rim (mile 0 to 7 and mile 22 to 31). This can include a number of shrubs and wildflowers populating wetter areas. The north and east portions of

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the rim (mile 7 to 22) are drier, such that lodgepole pine and forbs adapted to sterile pumice soils are more evident. Shrubs like ceonothus and manzanita are sometimes found in these areas, as are some lone ponderosa pine where sun exposure on southwest slopes is the greatest. The highest elevations of the Watchman and Cloudcap are almost exclusively the habitat of whitebark pine that is interspersed with the hardiest of sedges. Open pumice slopes, especially those from Grotto Cove to Reflection Point can contain dwarf species of some colorful wildflowers.

Structures and major site design on Rim Drive

Segment A – Rim Village to the Diamond Lake Junction (mile 0.0 to 5.9)

Resource 1

Structure:	Rim Drive, Road Segment A	HAER No. OR-107
Location:	Rim Village to Diamond Lake Junction (mile 0.0 to 5.9)	Date: 1931-35
Designer:	J.A. Elliott, John R. Sargent, (BPR); Thomas Vint, Merel Sager, (NPS); John C. Merriam, Arthur L. Day, Wallace W. Atwood (CIW)	
Builder:	P.L. Crooks, Portland (grading), Homer Johnson, Portland (surfacing), J.C. Compton, McMinnville (paving)	
Owner:	USDI-NPS	

This road segment was designed by the Bureau of Public Roads in consultation with the National Park Service and representatives from the Carnegie Institution of Washington headed by Merriam. First to be built, the grading phase of this portion of Rim Drive took place in 1931-32. Surfacing followed in 1933-34 and then paving in 1935. The structure includes the road base, surfacing material, wearing course, cross drainage devices, retaining walls, masonry guardrail, bank slopes, and devices to protect trees.

Resource 2

Structure:	Discovery Point Trail	HAER No. OR-107
Location:	Rim Village to Discovery Point (mile 0.0 to 1.2)	Date: 1932
Designer:	William E. Robertson, Merel Sager (NPS)	
Builder:	NPS (day labor)	
Owner:	USDI-NPS	

Built by NPS crews after the resident engineer (Robertson) and senior landscape architect (Sager) agreed on a location for this trail, it represented a hiker's alternative to driving that linked two observation stations—the Sinnott Memorial (in Rim Village) and Discovery Point. The trail included the much shorter footpath that

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connected the parking area on Rim Drive with the place selected by John C. Merriam and Wallace W. Atwood of the Carnegie Institution of Washington as the second observation station. Trail width is approximately four feet wide in keeping with the front country standard observed by the NPS at that time.

Resource 3

Structure: **Watchman Trail** HAER No. OR-107
Location: Watchman Overlook to Watchman Lookout (0.7 miles) Dates: 1915, 1932
Designer: Jay J. Morrow (COE), William E. Robertson (NPS)
Builder: U.S. Army Corps of Engineers (day labor), NPS (day labor)
Owner: USDI-NPS

This trail made use an existing road across Watchman Peak built by the Army Corps of Engineers as a segment of the old Rim Road, and a new footpath constructed by the NPS in 1932, so that park staff and visitors could reach a newly erected lookout structure. The two eras of construction are easy to distinguish as there is a considerable difference in width (twelve feet on the old road grade, as opposed to the four feet that reflect the NPS front country trail standards). At least one dry laid retaining wall can be found along the NPS trail section, whereas the lookout (a building dating from 1931 and previously listed on the National Register) was built of stone masonry. From the day it opened, this building was intended to serve a dual function of surveillance for forest fires and a museum, a combination which made the lookout's parapet into the third observation station for at least part of the 1930s.

Resource 6

Structure: **Rim Drive, Road Segment B** HAER No. OR-107
Location: Diamond Lake Junction to Grotto Cove (mile 5.9 to 13.8) Date: 1934-1938
Designer: John R. Sargent (BPR), Frank Kittredge, Merel Sager (NPS)
Builder: Von der Hellen and Pierson, Medford, and Dunn & Baker,
Klamath Falls (grading), A. Milne, Portland (surfacing),
Warren Northwest, Portland (paving)
Owner: USDI-NPS

Grading of this second road segment took place once the BPR design was approved after consulting with the NPS. The grading done in 1934-35 with two contracts resulted from a visit by the Secretary of the Interior, Harold Ickes, who ordered the road be widened an extra two feet. (Ickes was also head of the Public Works Administration which funded the construction of Rim Drive under President Franklin Roosevelt). This segment thus has a surfaced width of 18 feet with three foot shoulders. The structure encompasses those features identified in resource 1 in addition to one section of original paved ditch with drop inlet for cross drainage. Contractors paved segment B in 1938.

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Resource 8

Structure: **Rim Drive, Road Segment C** HAER No. OR-107
Location: Grotto Cove to Kerr Notch (mile 13.8 to 23.2) Date: 1934-1938
Designer: John R. Sargent (BPR), Merel Sager, Francis G. Lange (NPS)
Builder: Dunn & Baker, Klamath Falls, Von der Hellen and Pierson,
Medford (grading), A. Milne, Portland, Saxton, Looney, and
Risley, Portland (surfacing), Warren Northwest, Portland (paving)
Owner: USDI-NPS

As the third of five road segments designed by the BPR in consultation with the NPS, this one also has seven "parking overlooks" located along it. Surfacing of the segment followed soon after completion of its grading phase, but paving the five miles of road between Cloudcap and Kerr Notch had to wait until 1960. As a structure, segment C includes the previously identified components in CS4 (segment B), and the Cloudcap spur road with its wye intersection to Rim Drive.

Resource 9

Site: **Grotto Cove** HAER No. OR-107
Location: Grotto Cove overlooks (mile 13.8) Date: 1937-1938
Designer: Francis G. Lange (NPS)
Builder: Saxton, Looney, and Risley, Portland, and Warren Northwest, Portland
Owner: USDI-NPS

As the first of seven parking overlooks designed by NPS landscape architect Francis Lange, this substation has defined planting beds designed to separate those who stop here from passing motorists on Rim Drive. The two pull outs also include masonry guardrails intended to function as both safety barrier and parapet that separates pedestrians from parked cars. This overlook has hard-surfaced walkways that follow the masonry guardrail and are delineated by stone curbing. One of them is extended beyond the parking area to provide a short, but fully level trail with guardrail that was intended to facilitate viewing of dwarf monkeyflowers which bloom in midsummer.

Resource 10

Site: **Skell Head** HAER No. OR-107
Location: Skell Head Overlook (mile 14.5) Date: 1937-1938
Designer: Francis G. Lange (NPS)
Builder: Saxton, Looney, and Risley, Portland, and Warren Northwest, Portland
Owner: USDI-NPS

Covering the largest area of all the parking overlooks, Skell Head is a denuded (or "daylighted") site that posed a challenge for Lange, especially since contractors secured fill material there for use elsewhere on Rim Drive.

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Plant diversity in the large bed separating the parking area from Rim Drive is low due to the almost sterile soil. The raised walk between masonry guardrail and stone curb extends for more than 400 feet, thus creating the longest parapet of any on Rim Drive, a pedestrian circulation feature in scale with the large amount of parking space for visitors at this site.

Resource 11

Structure: **Mount Scott Trail** HAER No. OR-107
Location: Trailhead (mile 16.9) near Whitebark Pine Picnic Area; Date: 1933
2.5 miles to lookout
Designer: William E. Robertson, George F. Whitworth (NPS)
Builder: Civilian Conservation Corps (Camp Wineglass)
Owner: USDI-NPS

Designed to a NPS standard of four feet wide and then built by the CCC as a horse trail, this route also allows hikers to access a lookout structure on the park's highest peak at 8,929 feet. It climbs through a forest of mountain hemlock and Shasta red fir along the edge of a cirque to a long ridgeline covered by whitebark pine before the summit with its spectacular panorama is reached.

Resource 12

Site: **Cloudcap** HAER No. OR-107
Location: Cloudcap Overlook (mile 18.2) Date: 1937-1938
Designer: Francis G. Lange (NPS)
Builder: Saxton, Looney, and Risley, Portland, and Warren Northwest, Portland
Owner: USDI-NPS

As another in the series of parking overlooks, Cloudcap is also an observation station located at the terminus of a spur road. It culminates in a one-way loop that passes by a parapet with masonry guardrail delineating a raised walk so that motorists will leave their cars at this highest point on Rim Drive. On the inside of this loop is an oval shaped area intended to facilitate the circulation pattern, but it also protects a preexisting stand of whitebark pine and a small amount of remnant plantings. The parking overlook also serves to erase traces of the old Rim Road that once ran across the site; remnant stretches still exist nearby, but are cleverly screened from view of motorists and pedestrians.

Resource 13

Site: **Cottage Rocks** HAER No. OR-107
Location: Cottage Rocks ("Pumice Castle") Overlook (mile 21.0) Date: 1937
Designer: unknown
Builder: Saxton, Looney, and Risley, Portland
Owner: USDI-NPS

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This substation occupies a curious place among the parking overlooks in that it lacks a planting bed for separation between Rim Drive and this viewpoint, yet contains masonry guardrail where stone curb and a raised walkway keep pedestrians at the parapet wall apart from motorists parking their vehicles. It otherwise resembles the other six parking overlooks, where Lange's aim was to discourage unregulated entry and exit of Rim Drive as drivers obtain their first view of Crater Lake since leaving Cloudcap. The intended view here is both Crater Lake and a picturesque formation called Pumice Castle (formerly "Cottage Rocks") affixed to Red Cloud Cliff.

Resource 14

Site: **Victor View**
Location: Sentinel Point Overlook (mile 21.2)
Designer: Francis G. Lange (NPS)
Builder: Saxton, Looney, and Risley, Portland
Owner: USDI-NPS

HAER No. OR-107
Date: 1937-1938

Designed as both parking overlook and trailhead, Victor View is a substation that disguises the old Rim Road by overtopping it through use of a short loop from Rim Drive, then separating the overlook from Rim Drive with a large planting bed that contains remnant trees. As with all of the parking overlooks, the masonry guardrail has a raised walkway for pedestrians, but it once had an opening in the center of the parapet wall for those visitors who wanted to walk to Sentinel Point. The trail is not a structure, having originated about 1920 as a social path that extends less than a quarter mile over a narrow ridge.

Resource 15

Site: **Reflection Point**
Location: Reflection Point Overlook (mile 21.4)
Designer: Francis G. Lange (NPS)
Builder: Saxton, Looney, and Risley, Portland
Owner: USDI-NPS

HAER No. OR-107
Date: 1937-1938

This substation is the second largest parking overlook, but oriented so that visitors can see that portion of Crater Lake where Dutton Cliff and the Phantom Ship below it are visible. The planting bed separating Rim Drive from the vehicular parking is smaller than at Victor View because the old Rim Road did not infringe on the overlook. The walk and wall are curvilinear, measuring some 300 feet in extent.

Resource 16

Site: **Kerr Notch**
Location: Kerr Notch ("Phantom Ship") Overlook (mile 23.2)
Designer: Francis G. Lange (NPS)

HAER No. OR-107
Date: 1935

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Builder: Saxton, Looney, and Risley, Portland
Owner: USDI-NPS

As both parking overlook and observation station, this site is oriented to a rock formation called Phantom Ship that appears to be a small island in Crater Lake. There is a greater sense of separation from Rim Drive than elsewhere among the parking overlooks, largely because of the dense forest screens where cars are parked from the main road. Like Victor View, the Kerr Notch design is intended to hide the old Rim Road by overtopping it. A somewhat unusual designed feature occurs along the parapet wall, where a denuded planting bed appears next to a boulder containing a drinking fountain that no longer operates.

Resource 17

Structure: **Rim Drive, Road Segment D** HAER No. OR-107
Location: Kerr Notch to Sun Notch (mile 23.2 to 27.2) Date: 1936-1941
Designer: John R. Sargent (BPR), Francis G. Lange (NPS)
Builder: Sam Orino, Spokane, Dunn & Baker, Klamath Falls
(grading) Sam Orino, Spokane (surfacing)
Owner: USDI-NPS

This part of Rim Drive proved to be the most expensive to build because of the excavation and cut slopes needed on both sides of Dutton Ridge. The grading phase of road construction proved so difficult that it required parts of four summers beginning in 1936. Most of one side of this ridge is sheer, so that an elaborate series of retaining walls was erected and topped above grade by masonry guardrail. Some of the guardrail has been so badly battered by rockfall that it has been removed, though other sections are stable and remain in place, forming several impressive parking areas. This road segment contains the structural design components previously identified (see CS1, segment A), but also includes several spillways as described in the overview section for segment D.

Resource 18

Structure: **Rim Drive, Road Segment E** HAER No. OR-107
Location: Sun Notch to Park Headquarters (mile 27.2 to 31.6) Date: 1937-1941
Designer: John R. Sargent, Wendell C. Struble (BPR), Francis
G. Lange (NPS)
Builder: Dunn & Baker, Klamath Falls, E.L. Gates, Portland (grading),
Sam Orino, Spokane (surfacing)
Owner: USDI-NPS

This road segment contains the structural design components previously identified (see CS1, segment A), but also includes two spillways as described in CS14. It contains the fewest parking areas (three) of the five segments on Rim Drive mainly because Crater Lake is not visible from any point along the road. Also part of

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this segment is an access road intended to link the anticipated campground development below Vidae Falls with the main road circuit. A bankslope created during the grading phase hides what passing motorists might otherwise see of the access road at its connection point with Rim Drive.

Resource 19

Structure: **Vidae Falls Parking Area and Fill**
Location: Vidae Falls (mile 28.7)
Designer: Francis G. Lange (NPS)
Builder: E.L. Gates, Portland
Owner: USDI-NPS

HAER No. OR-107
Date: 1938-1939

As a somewhat unusual design solution to the problem of bridging the lower part of Vidae Falls, contractors built a massive fill on Rim Drive, a feature that includes one parking area situated parallel to the road so that motorists could stop at the waterfall. This pullout borrowed one element from parking overlooks, in that the raised walk in front of Vidae Falls is separated from the roadway by stone curb. The fill, which has masonry headwalls on both end of the pipe culvert that allows water to flow through it, was planted with native vegetation.

Resource 20

Structure: **Castle Crest Wildflower Garden**
Location: Trailhead (mile 31.1) near Park Headquarters; .3 mile loop
Designer: Francis G. Lange, John Doerr (NPS)
Builder: Civilian Conservation Corps (Camp Annie Springs)
Owner: USDI-NPS

HAER No. OR-107
Date: 1938

A trail loop through this wet meadow had been initiated by the NPS in 1929, but needed to be rebuilt by 1936 when chief park naturalist John Doerr submitted a rehabilitation plan in 1936. Doerr supervised CCC enrollees who added flagstone to allow for walking over wet areas and some cut stone for steps in one area. He oriented pedestrian circulation in accordance with new parking and a trailhead provided by contractors who graded this part of Rim Drive in 1938.

NONCONTRIBUTING RESOURCES

Three sites or nodes along the 31 mile length of Rim Drive have, however, undergone enough modification so that they cannot be considered as contributing resources in this district. One is the original road wye at Rim Village, where the Munson Valley Road intersects with Rim Drive, has now been changed to a "T" with two stop signs. The original, unfinished Watchman Overlook in Segment A was developed in 1973 without reference to other nodes on Rim Drive in order to accommodate a larger number of vehicles and is the most frequented stop along the road circuit. In somewhat similar fashion to what happened at Rim Village, the

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Diamond Lake Junction wye at the boundary between segments A and B was modified to a "T" intersection in 1987 with an adjacent parking lot. The only other significant blemish came through an accretion when the National Park Service added the Cleetwood Cove parking lot and trailhead to segment B in 1961. Other modifications to Rim Drive are smaller in scale and largely consist of rebuilding or adding masonry guardrails and retaining walls in several places (mostly in segments A and D), removal of rotted original log barriers, and removing one paved ditch with a drop inlet in segment B. The aforementioned changes to Rim Drive diminish, but do not destroy, the visual unity so evident between the road and its setting. These blemishes are reversible and do not impinge on the larger goal of using Rim Drive to present Crater Lake and associated natural features to park visitors.

Resource 4

Site:	Watchman Overlook	HAER No. OR-107
Location:	Watchman Overlook (mile 4.0)	Date: 1972-1973
Designer:	Kenneth Raithel and Frank Serrano (NPS)	
Builder:	Asphalt Mixing Company, Klamath Falls	
Owner:	USDI-NPS	

Undeveloped aside from one parking area due to lack of funding and design during original construction of this road segment, there is now diagonal parking separated from the Rim Drive at this site, along with additional, though realigned, parallel parking north of the overlook. The pedestrian viewpoint is the most incongruous of any on Rim Drive, in that masonry piers are linked with pressure-treated wood peeler cores that act as a safety barrier, but also inspired a nickname "the corrals." More than any other single factor, this rather conspicuous design feature makes the Watchman Overlook into the most popular stopping point for visitors on the entire road circuit.

Resource 5

Site:	Diamond Lake (North) Junction	HAER No. OR-107
Location:	Junction of Rim Drive and North Entrance Road (mile 5.9)	Date: 1986-1987
Designer:	Dennis Nagao (NPS)	
Builder:	Western Mixing Co., Eugene, M.C. Lininger & Sons, Medford	
Owner:	USDI-NPS	

Reconstruction of the approach road linking the park's north entrance with Rim Drive during the mid 1980s included removal of the original road wye at this junction in favor of a "T" intersection and rectangular parking lot. These changes at the site made it into the second most popular stopping place for visitors on Rim Drive, though the original parallel parking on the western margin of Rim Drive was heavily utilized by south bound visitors who had come through the north entrance, since it represented the first place they could see Crater Lake. The reconstruction project also had the effect of giving the north-south route through the park (the North

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Entrance Road and segment A of Rim Drive) primacy in vehicular circulation, versus the Rim Drive circuit (segments A, B, C, D, and E) as designers from the BPR and NPS originally intended.

Resource 7

Site: **Cleetwood Cove Parking Area**
Location: Cleetwood Cove trailhead (mile 10.7)
Designer: Joseph T. Clark (NPS)
Builder: NPS (day labor)
Owner: USDI-NPS

HAER No. OR-107
Date: 1961-1963

Designed in 1961 as part of moving the main trail to the lakeshore from Rim Village to the north side of Crater Lake (segment B of Rim Drive), this elongated parking area is oriented perpendicular to the road instead of parallel. Rim Drive also separates the parking area from the trailhead, which is contrary to the precedents set during construction of the road circuit. Like the Watchman Overlook and North Junction parking areas, this site is not delineated by stone masonry curbing, but cheaper alternatives like concrete and bituminous asphalt are used. The temptation of using the margins of Rim Drive as overflow parking is discouraged somewhat by the random placement of boulders, though these are not part of Clark's site design.

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SUMMARY

Rim Drive is an outstanding example of scenic highway development in Oregon, especially among those roads designed and built during the Great Depression. The road is eligible for the National Register as a resource of statewide significance between 1926 and 1941 under Criterion A for its association with transportation, outdoor recreation, and conservation and Criterion C as an example of engineering and landscape architecture. Not only did it adhere to the contemporary standards set for grade, curvature, drainage, and slope ratios, it is among the best roads in the state for utilizing advanced engineering and landscape practice. It succeeded as a means to “present” Crater Lake to a rapidly escalating number of visitors traveling by car, one that blends the road with a mountainous park setting by using elongated curves instead of leaving permanent scars with switchbacks and long straight sections. As a circuit, Rim Drive stands alone in Oregon, but is also among the best examples of engineers and landscape architects “designing with nature” in any national or state park area.

Ten structures, seven sites, and other individual features described in this nomination are eligible for listing under Criterion A, for their association with the history and development of Crater Lake National Park, and Criterion C, for their association with landscape architects and engineers who produced an outstanding example of blending naturalistic and functional design elements. As a linear cultural landscape that took shape between 1926 and 1941, Rim Drive relates to the themes of conservation, public recreation, government, and landscape architecture as areas of significance. This nomination also includes trails associated with Rim Drive, particularly where this part of the park’s circulation system reflected naturalistic principles and contemporary engineering standards underlying their planning, design, and construction.

Designing with nature, especially in parks, has a pedigree that stretches back at least to the eighteenth century. More recently, landscape architects working for the National Park Service sought ways to blend necessary facilities with landscapes set aside for preservation in their natural state. Their work reflected a philosophy described by Albert H. Good in his preface to a NPS catalog of the agency considered to be its best “rustic architecture” of the 1920s and 30s.¹ Good did not offer specifics about how to best landscape scenic roads and highways, but engineers working for the Bureau of Public Roads saw it as part of improved design. Utility, economy, and safety increased when roads fit their setting, so it made sense for engineers and landscape architects to collaborate, especially in the high profile national parks. Natural rounded slopes, protection of native roadside vegetation, wide shoulders, various cross drainage systems, and open sight distance became hallmarks of this effort. Several examples from Crater Lake National Park were featured in the standard reference for state and federal roads of the time, *American Highway Practice* (1942).²

¹ Albert H. Good, “Apologia” in *Park and Recreation Structures* (Washington, DC: Government Printing Office, 1938), 1-4.

² Laurence I. Hewes, *American Highway Practice* (New York: Wiley, 1942), see especially 195-199.

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HISTORIC CONTEXT

Introduction

An epic campaign to establish Crater Lake as a national park started when a resident of Portland, William Gladstone Steel, first visited the lake in 1885. Steel, who had come to Oregon in the early 1870s, lobbied Congress for the next 17 years. This effort culminated when President Theodore Roosevelt signed the bill creating Crater Lake National Park into law on May 22, 1902, making it the seventh national park established in the United States.³ Steel also served as superintendent at Crater Lake under the direct supervision of the Secretary of the Interior between park establishment in 1902 and creation of the National Park Service fourteen years later. NPS operations began in April 1917, and Crater Lake received some of the earliest rustic structures to be built in any national park. Rustic architecture encompasses efforts made to design landscapes using native materials with the goal of creating visual unity between park facilities and their setting.⁴

From 1909 to 1924, park concessionaires pioneered the use of native stone (a volcanic rock called andesite) in buildings at Crater Lake on the ground floor, then wood frame construction above it. The NPS, however, eventually perfected rustic architecture at Crater Lake and other national parks through its staff who planned and designed campgrounds, model villages, and road corridors starting in the latter half of the 1920s. Their ability to sublimate development to various park settings greatly expanded when the NPS began to work cooperatively with the Bureau of Public Roads in 1926 to build and reconstruct roads in Crater Lake and other national parks. More funding allowed the NPS design staff to expand further when the Great Depression spurred Congress to appropriate money for relief programs aimed at public works. During the period of 1926 to 1941, NPS design was integrated into park road projects managed and supervised by BPR, whether it took the form of site plans or new approaches to cross drainage features, banksloping, and safety barriers such as masonry guardrail. These treatments served to keep the attention of park visitors on the landscapes they had come to see rather than circulation systems and facilities that provided them with access.⁵

Frederick Law Olmsted, Sr. (1822-1903), is generally regarded as the progenitor of protecting scenery in national parks while also making it available for public enjoyment, authoring a report in 1865 on how best to manage Yosemite Valley. That area is arguably the first national park since the Federal Government granted it and the Mariposa Grove of giant sequoias to the State of California in 1864 for public use, resort, and recreation less than a decade after Olmsted directed design and construction of Central Park in New York City (the country's first public park) which opened in 1857. Believing roads and trails to be fundamental to parks, he

³ Rick Harmon, *Crater Lake National Park: A History* (Corvallis: Oregon State University Press, 2002), 78-83.

⁴ William C. Tweed, et al., *National Park Service Rustic Architecture: 1916-1942*. San Francisco: National Park Service, Western Regional Office, Division of Cultural Resource Management, February 1977, page 23.

⁵ Not all visitors to the rim of Crater Lake necessarily utilize Rim Drive or even the trails. Some of them are members of park-associated Indian tribes whose perceptions of Crater Lake and its setting differ dramatically from those of visitors with a predominately European heritage. To them, the rim has ritual associations and is part of a larger mythic landscape; Douglas Deur, "A Most Sacred Place: The Significance of Crater Lake Among the Indians of Southern Oregon," *Oregon Historical Quarterly* 103:1 (Spring 2002), 18-49.

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wanted them located to connect points of interest sequentially while providing visitors with a pleasurable experience. Olmsted envisioned a circuit road for Yosemite Valley, with trails leading from it to reach places only accessible by foot. But even more importantly, he emphasized separating circulation systems for different types of transportation. This meant that motor roads were distinct from hiking trails, as were bridle paths from routes built for fire control or other administrative uses.⁶

Frederick Law Olmsted, Jr. (1870-1957), is usually credited with having written the governing sentence in an organic act creating the National Park Service, one that served to codify ideas about balancing visitor enjoyment with unimpaired scenery, natural features, historic objects, and wildlife.⁷ The younger Olmsted worked on a number of projects in national parks during the course of his long career, including a short-lived role as consultant during the road location studies for Rim Drive at Crater Lake.⁸ This was at the behest of John C. Merriam, who as president of the Carnegie Institution of Washington, took an abiding interest in the means to aid the interpretation of Crater Lake. Merriam sold the idea of sequentially numbered observation stations to the NPS, even expediting much of the funding for building the Sinnott Memorial, which he saw as the logical starting point for visitors intending to use Rim Drive.⁹

Building Rim Drive began with BPR location studies in 1926, for the purpose of eventually reconstructing the earlier Rim Road. The Army Corps of Engineers worked on Rim Road from 1913 to 1919, but it measured only sixteen feet wide from shoulder to shoulder. Motorists expressed dissatisfaction with the earlier road being steep in sections, dusty, and rutted due to its unsurfaced condition. Rim Drive cost two million dollars to construct by the time contracts for grading, surfacing, and paving had been completed in 1941. Unlike the old Rim Road, where funding did not permit the engineers to address landscape work even if such expertise had been available to them, the mitigation of construction impacts on Rim Drive received considerable attention for both aesthetic and practical reasons. Contracts for all five segments of Rim Drive included this type of work, so NPS landscape architects could assist BPR engineers with making the new road fit the park setting in a variety of ways. These included the use of battered or "rustic" stone masonry for structures like guardrails and culvert headwalls, obliterating sections of old road through planting, and designing various slope treatments.¹⁰

⁶ Linda Flint McClelland, *Building the National Parks: Historic Landscape Design and Construction* (Baltimore: Johns Hopkins University Press, 1998), 51-53, 181-182.

⁷ Rolf Diamont, "Frederick Law Olmsted, Jr." in William H. Sontag (ed.), *National Park Service: The First 75 Years* (Philadelphia: Eastern National Park and Monument Association, 1990), 18-19.

⁸ John C. Merriam, Memorandum Regarding Aesthetic to Scientific Study of Crater Lake, October 17, 1931, Merriam manuscript file. Crater Lake National Park Museum and Archives Collections, 1-2.

⁹ Stephen R. Mark, "A Study in Appreciation of Nature: John C. Merriam and the Educational Purpose of Crater Lake National Park." *Oregon Historical Quarterly* 103:1 (Spring 2002), 98-123.

¹⁰ This was not unique to Crater Lake and is better understood in reference to how engineers and landscape architects cooperated to build roads and trails in the national parks during the interwar period; see McClelland, *Building the National Park*, 174-242.

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The Need for Reconstruction

The National Park Service assumed control of the roads in Crater Lake National Park once the Army Corps of Engineers departed in 1919, but available funding allowed crews to open the circuit each summer by hand shoveling, followed several weeks later by horse drawn equipment that removed rocks from the roadway. By 1923 Park Superintendent C.G. Thomson lamented to NPS director Stephen T. Mather that a rising number of vehicles made maintenance difficult in the absence of surfacing material, since the annual re-grading each fall could not adequately alleviate the problems associated with a rough dirt road.¹¹ Publicly, however, Thomson extolled the numerous wonders seen from the Rim Road in promoting the park to visitors. According to him, the circuit should be seen as “not a joy ride, but a pilgrimage for the devotees of Nature.” It was where “a hundred views of the magic blue lake and its huge shattered frame” highlighted the “thirty four miles of amazing beauty, three hours of vivid and changeful panorama.” He knew what 200 cars per day over the course of nine weeks each summer could do to such an earth graded road, but Thomson counseled prospective visitors to “approach the experience [of driving around the rim] in a leisurely and appreciative mood, and great will be your reward.”¹²

No matter how reverent the motorist, few considered the Rim Road to be adequately constructed as passenger cars became heavier and faster during the 1920s. Within a decade of the circuit’s “completion” by steam shovel and horse-drawn grading equipment, the narrow roadway made passage of vehicles headed in opposite directions difficult. Even though the average radius of curves “greatly exceeded” 100’, with none being less than 50’, they seemed tight by the highway standards of 1926. Curves needed to be lengthened so drivers could better sustain the posted speed throughout their journey around the rim. Grades varied from 2 to 8 percent (with some stretches of road at 10 percent for short distances), representing another design problem at a time when engineers agreed that a 5 percent grade should be the maximum allowed.¹³

Metamorphosis of the Rim Road into a new circuit of Crater Lake took place as the state highway system and forest roads around the park experienced both steady and dramatic changes spurred by an infusion of federal highway funds expended through the Bureau of Public Roads (BPR). The road system in Oregon grew with the help of funds authorized by the congressional acts of 1916 and 1925 that were aimed at providing the states with aid in building highways. The BPR subsequently supervised contracts to upgrade approach roads to the

¹¹ The first recorded mention of earth graded roads and their inability to carry visitor traffic came in the Superintendent’s Annual Report for 1919 by Thomson’s predecessor, Alex Sparrow (page 83), a man who had formerly worked for the COE at Crater Lake. Lack of funding for building park roads prevented any action from being taken until the mid 1920s. The only amenities the NPS provided motorists on the Rim Road during this period came in the form of mileposts and two types of signs. Wood signs with painted letters marked various points of interest, whereas porcelain enamel signs indicated mileage and direction at the road junctions.

¹² Thomson, *The Rim Road – A Wonder Drive* (Portland: Scenic America Company, c. 1924), 4-5.

¹³ Experiments conducted as part of building the Columbia River Highway led to the determination that 5 percent grades made for safer descents and easier inclines, in addition to lowering gasoline consumption and reducing the need for shifting gears. The Rim Road suffered by comparison with its more illustrious contemporary; the latter incorporated the latest advances in road design, but had also secured funds for paving, in addition to features like guardrail, concrete bridges, and curbs.

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park, such as the Crater Lake Highway (numbered as 62 after 1926), which had been part of the state system beginning in 1917. It also took the lead in the improvement of the federal system of roads, such as U.S. 97 (also known as The Dalles – California Highway) that served as the main north-south corridor through central Oregon, one that ran just east of the park.

Throughout the 1920s and 1930s, several roads built in the national forests near Crater Lake became part of the state highway system, including one connecting Union Creek with the south shore of Diamond Lake, and then over to U.S. 97. The most profound effect on the park visitation from building new roads, however, came in 1940. Realignment of U.S. 97 away from Sun Mountain and Fort Klamath dramatically reduced visitor traffic through the east entrance, but opening the Willamette Highway (numbered 58) from the north allowed park visitors to save about two hours over what had been the quickest route from Eugene. Previous work to provide a passable road through the park (much of it involved upgrading the Diamond Lake Auto Trail into the North Entrance Road) to a new “north entrance,” in concert with the effort to connect Diamond Lake with U.S. 97 played an important part in the park’s visitation reaching the unprecedented figure of 252,000 that year. At that point the western portion of the Rim Drive began to serve as both a through route and a portion of the circuit.

Designing a new “Rim Drive”

On the most basic, functional level, there are several main reasons as to why the NPS and BPR undertook reconstruction of the Rim Road. The reasons addressed ameliorating a narrow, rough, dusty road with sharp curves and steep grades. Significant increases in visitation during the 1920s brought more traffic to the park, though at least one observer noticed that the existing road was so difficult to traverse that only a small proportion of motorists attempted to go around the lake.¹⁴

The NPS wanted the new Rim Drive to be a more pleasant visitor experience, but wanted to avoid creating a super-highway on which motorists “would speed around the lake and pass by scenes of beauty in their rush to make the lake circuit.”¹⁵ BPR engineers thereby aimed for a constant average design speed of 35 miles per hour that would avoid gear-shifting on ascent or braking on descent.¹⁶ Instead of the switchbacks and short radial curves evident in places along the old road, designers preferred curvilinear alignment that allowed vehicles to maintain the design speed despite curves and changes in grade. These alignments allowed for constantly changing views by making use of lengthened, but continuous, curves instead of long straight sections (called “tangents”), and eliminated the need for cuts and fills that would be both unsightly and expensive.

Engineers who located the first Rim Road attempted to provide viewpoints of the lake in as many places as possible. The location diminished the interest inherent in being routed away from the lake in some sections, as well as the excitement experienced by visitors in reaching certain viewpoints by trail. The road also created

¹⁴ David H. Canfield, “Building the Rim Road at Crater Lake,” *The Earth Mover* 23:4 (April 1936), 7-8.

¹⁵ USDI-NPS, Information for the Press, October 1936, 2.

¹⁶ The definition of design speed is in Laurence I. Hewes, *American Highway Practice* (New York: Wiley, 1942), 8.

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some scarring evident from a few places on the rim. Designers of Rim Drive aimed for visual unity in reconstructing the road, which included removing its traces from what visitors could see from the main focal points, or vistas. Unity also encompassed the consolidation of park facilities into just a few sites, as well as the integration of trail location and design with that of the road.¹⁷

Another rationale behind reconstructing the Rim Road lay in providing an intended, rather than incidental, link between a road circuit presenting scenic features and its interpretation to visitors. John C. Merriam, who probably served as the leading figure in creating a formalized interpretive program at Crater Lake, remained adamant that the road primarily serve the purpose of “showing the great features” of the lake and its caldera. He thus decried any attempt to make it a link in a larger through route connecting various points and thought it best to avoid allowing any part of the Rim Road to become a segment of the park’s approach roads.¹⁸ Instead, the circuit was to be at the center of a plan aimed at presenting features of the region “determined by experts to be of outstanding importance.” Moreover, Merriam thought that Crater Lake offered “one of the greatest opportunities for teaching fundamental understanding of Nature.”¹⁹

With Crater Lake showing “the most extreme elements of beauty and power in contrast,” the plan included the development of “stations” where certain views helped visitors appreciate “elements derived from the geological story of Crater Lake and those arising from elements of pictorial beauty.”²⁰ Merriam cautioned, however, that the “hand of the schoolmaster” not be overly evident at these particular places.²¹ The most overt attempt to educate visitors would instead be made at the Sinnott Memorial in Rim Village, a place Merriam referred to as “Observation Station No. 1.” He saw it as the “main project,” though “minor projects” of building the road, some trails, as well as additional observation stations had to be closely coordinated with developing the Sinnott Memorial for visitor orientation.²²

Where interpretation had formerly been incidental to the experience of traveling Rim Road during the 1920s, the slow metamorphosis of reconstruction was intended to bring this function to visitors in a more concrete way.²³ Each of the seven observation stations built as part of Rim Drive were intended to serve as stops on the naturalist-led caravan that traversed the road in a clockwise fashion, from Rim Village to Sun Notch. All were chosen for their part in displaying a different aspect of the lake’s beauty. To be spaced proportionately around the lake, designers intended for each substation to have hard-surfaced parking for a minimum of fifty cars.²⁴

¹⁷ McClelland, *Historic Park Landscapes in National and State Parks*, 63-66.

¹⁸ Horace M. Albright, NPS Director, Memorandum for the Files, December 12, 1929.

¹⁹ John C. Merriam, “Suggestions Relating to Purpose and Educational Program of Crater Lake National Park, 1929,” in *Reports of John C. Merriam on Studies of Educational Problems in National Parks* (Washington, D.C.: Privately published, 1932), 1.

²⁰ Merriam, Crater Lake memorandum, May 28, 1931, 4; Merriam to Ansel F. Hall, October 17, 1931.

²¹ Merriam to Albright, August 11, 1929.

²² Ansel F. Hall, Memorandum for Dr. J.C. Merriam: Meeting of the Crater Lake Committee, March 9, 1931, 1.

²³ Ira A. Williams, “Some Notes on the Geology of Crater Lake,” *Oregon Out of Doors* 1:2 (June 1922), 59-94; John R. Sargent, Digest Memorandum on Rim Observation Stations [June 1934], 1.

²⁴ Canfield, “Building the Rim Road,” 8, and USDI-NPS, Information for the Press, October 1936, 2.

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Plans for each observation station were to match the “unique beauty of the lake itself,” since Merriam thought the lake represented “a supreme opportunity to teach the significance of beauty through offering to the visitors the experience of beauty.”²⁵ The points chosen by Merriam and his associates on the western side of the rim were accessible by trail so that the road would not come near enough to the station to create “a disturbing element to one who wishes to observe the lake in quiet.”²⁶ This was something of a contrast with the four stations located on the northern or eastern side of the lake, which became part of the planning and design of the road. NPS landscape architect Francis G. Lange designated three of the four stations (Skell Head, Cloud Cap, and Kerr Notch) as “parking overlooks.”²⁷

Beneath the observation stations in a hierarchy of developed viewpoints along Rim Drive lay the substations, numbering thirteen in 1934, but increased (at least in plans) to seventeen a year later. Substations shared many similarities with the observation stations in that they were chosen for aesthetic or educational reasons, but differed in that they did not function as stops on the caravan trip, nor were all of them formally developed with paved parking areas, signs, or masonry guard rail. Unlike the stations, they sometimes highlighted points of interest situated away from Crater Lake and often focused on specific geological features.

Developed pull outs or “parking areas” served as the next level below the substations in the hierarchy. Although not chosen at random, these stopping points lacked the aesthetic values attributed to the observation stations and substations. Lange commented in 1938 about an effort to restrict the number of such points. Where “an interesting view of the Lake can be obtained,” he wrote, an effort “has been made to provide accommodations.” He also noted in the same report that where “excellent” views of the hinterland existed, several small parking areas were provided.²⁸

Preserving the primitive “picture” of Crater Lake received greater emphasis from the engineers and landscape architects as they planned the reconstruction of Rim Road than the interpretation of beauty and geological features. Merriam stressed that Crater Lake and its rim was one of the three most beautiful places in the world, but that every effort should be made to keep the road from imposing on views of Crater Lake or the surrounding region.²⁹ Landscape architect Merel Sager described how the greatest damage to park landscapes came from the construction of roads and urged that an “intelligent and comprehensive program of roadside development”

²⁵ Sargent, Digest Memorandum, 1; Merriam, To the Committee on Study of Crater Lake, October 29, 1931, 6, Merriam manuscript file (hereafter MMSF), Crater Lake National Park. Merriam discussed the intent behind the Sinnott Memorial and other observation stations at length with Frederick Law Olmsted, Jr., see Merriam, Memorandum Regarding Aesthetic to Scientific Study of Crater Lake, October 17, 1931, 1-2, MMSF.

²⁶ Merel S. Sager, Report to the Chief Landscape Architect (hereafter RCLA), July 4 – August 1, 1930, 3. Merriam’s associates on the educational committee were Arthur L. Day, Wallace W. Atwood, and Harold C. Bryant. Sargent listed the Watchman Overlook as an observation station in his digest memorandum, whereas the committee may have intended that the summit of the Watchman serve as the station given Merriam’s preference for trails leading away from parking areas.

²⁷ Lange used the term “parking area” at first, something that could refer to both stations and substations; Lange, Report to the Chief Architect (hereafter RCA), November 1, 1935, Part III, Rim Road, 2.

²⁸ Lange, RCA, October 25 – November 25, 1938, “Major Roads,” caption under photos of surfacing road segment 7-B.

²⁹ Merriam, quoted in Sargent, Digest Memorandum, 1.

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could better fit these roads into their surroundings.³⁰ This meant attention had to be paid to the road as seen in the landscape and the landscape as seen from the road.³¹

Rim Drive followed the old Rim Road wherever possible to minimize impact. Landscape architects and the foremen under contract also paid special attention to planting on the noticeable cuts in new sections and trying to disguise (or “obliterate”) abandoned stretches of old road when funding allowed. Contract provisions called for protecting all trees not within the clearing limits (or “right of way”), placing dark soil and trees on conspicuous cuts and covering fills to diminish the ragged appearance of large rocks. Another dimension to the work involved “bank sloping,” where flattening and rounding was aimed at stabilizing cut and fill slopes to permit establishment of vegetation, while warping aided the transition between the bank and roadway. All of these measures reflected the standard practice of using landscape treatments to contribute to the utility, simplicity, economy, and safety of scenic highways built primarily for the enjoyment of motorists. The national parks received special attention in this regard, partly because the NPS pioneered many of the standardized landscape treatments in road design.³²

NPS Collaboration with BPR

The NPS gained a measure of control over its need to continually upgrade park roads in the face of increased vehicle speeds and a massive increase in automobile ownership with passage of legislation in 1924 authorizing annual appropriations specifically for this purpose. After working to solidify a working relationship with BPR over the next year or so, NPS director Stephen T. Mather signed an inter-bureau agreement on January 18, 1926.³³ Under its terms, the NPS and BPR were to use “every effort to harmonize the standards of construction” they employed with those of the Federal Aid Highway system located outside the parks, while at the same time securing the “best modern practice” in locating, designing, constructing, and improving park roads.³⁴ The inter-bureau agreement stipulated that the NPS reimburse BPR for overhead expenses from the annual appropriations for park roads. This included various levels of investigation and survey, the preparation of bid documents (derived from the plans, specifications, and estimates, known as PS&E), as well as salaries for engineers to supervise and inspect contracted work.³⁵

Once initiated, projects followed a familiar sequence that began with road location. After reconnaissance, engineers did a preliminary survey (or P-line) of the road location to obtain topography for representative cross

³⁰ Sager, A Brief Statement of the Need for a Roadside Development Program in the National Parks, January 13, 1930, 2.

³¹ Hewes, *American Highway Practice*, 195.

³² Hewes, *American Highway Practice*, 198- 200. As a general rule, the most comprehensive landscape treatments ran somewhere between 3 and 5 percent of the total construction cost.

³³ McClelland, *Historic Park Landscapes*, 64.

³⁴ McClelland, *Historic Park Landscapes*, 65; quoted sections of the agreement can be found in a copy reproduced by Laura E. Souilliere, *Historic Roads in the National Park System*, Special History Study, NPS D-1075 (Denver: Resource Planning Group, Denver Service Center, 1995), 132.

³⁵ Souilliere, *Historic Roads in the National Park System*, 134.

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sections. The P-line allowed for curvature and connecting tangents to be placed by “projection” back in the office, a step resulting in the semi-final location (or L-line). Final road location necessitated the establishment of benchmarks on the ground, as well as any adjustments to grade or positioning of cross-drainage devices.³⁶ All stages of road location were subject to NPS approval, with most of the changes instigated by landscape architects.

The process of road design along Rim Drive was shared between the BPR and NPS. At a landscape scale, BPR designed three basic elements of the road: horizontal alignment, vertical alignment, and cross-section. The design of curves and tangents in a planar relationship is horizontal alignment, with preference given to use of spiral transition curves instead of tangents throughout most of the circuit. These made for a sympathetic alignment in relation to the park landscape, but also brought average speed and design speed closer together for the purposes of safety. Vertical alignment or “profile” is how the located line in plan view fits the topography in three dimensions, especially in reference to grade, sight distance, and cross drainage. The banking or “superelevation” of curves represented one particularly significant part of vertical alignment, since adequate sight distance in relation to the design speed needed to be maintained, particularly where a combination of curvature and grade occurred. The third element, cross-section, is a framework in which to place individual features and their relationship to each other. Features such as road width, crown, surface treatment, and slope were usually depicted through drawings of typical sections.

At the scale of individual features, the NPS worked to provide the BPR with standard guidance for the design of road margins (shoulder, ditch, bank sloping), drainage structures (culvert headwalls, drop inlets, and masonry “spillways”), and safety barriers (masonry and log guardrails) along Rim Drive. As the lead NPS landscape architect for much of the project, Francis Lange produced planting plans in conjunction with a number of site plans for areas along the road corridor that needed individualized treatment beyond the standard measures described in the contract specifications.

Road construction consisted of three types of contracts beginning with the grading phase. There were numerous items on which contractors bid on the basis of unit prices for each. BPR engineers, in consultation with NPS engineers and landscape architects, provided estimates for the items, starting with clearing vegetation from the roadbed. Removing stumps and other obstacles to rough grading through blasting or burning constituted a separate item called grubbing. The subsequent rough grading with heavy machinery began with excavation, usually divided into separate bid items called “unclassified” and “Class B,” with the NPS often specifying in the latter the measures aimed at avoiding damage to natural features.³⁷ Rough grading also included items such as moving excavated material based on estimated volumes needed for cuts and fills, placement of concrete or

³⁶ Hewes, *American Highway Practice*, 37-41.

³⁷ USDA-BPR, *Miscellaneous Standard Structures*, drawing 7-39, approved April 1926, catalog 8899, item 92, Crater Lake National Park Museum and Archives Collections (hereafter CLNPMAC). Excavation was often referred to as “unclassified” to avoid problems with contractors over how much solid rock had to be removed, as opposed to the “classified” excavation, where some restrictive measures in regard to blasting or the use of heavy equipment, might come into play.

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metal culverts as cross-drainage, as well as the flattening of slopes at prescribed ratios to control erosion. Completing the earth-graded road involved several items under the heading of "finish grading." This step included fine grading of the sub-base and shoulders, as well as bank sloping. Depending on how much funding was available, subcontractors handled the stone masonry for culvert headwalls, guardrails, and retaining walls at this stage. Other subcontracted items under the heading of finish grading included old road obliteration and special planting once bank sloping had been accomplished.

With the grading phase completed, a separate contract for preliminary surfacing could be let. This next phase of road construction involved laying a base course of crushed rock on the roadway, followed by a top course of finer material to provide a definite thickness and protection for the earthen road underneath. This type of contract might include items, usually subcontracted, such as building masonry structures like guardrails (often on fills created during rough grading that had to settle over the winter) or special landscaping provisions to be completed as part of executing site plans or working drawings provided by the NPS.

Bituminous surfacing, or paving with asphalt, was done through another contract. This phase of road construction started with laying aggregate (crushed stone and sand) along a specified width of roadway as base, followed by placing a bituminous "mat" as binder. The thin surfacing of bitumens known as a "seal coat" served as the final step. Completion of the paving contract generally signified the end of BPR involvement with construction. Road maintenance and post construction items thus became NPS responsibility.

Reconstructing 3 miles of approach road between Park Headquarters and Rim Village set the NPS/BPR collaboration in motion at Crater Lake. With the location survey completed several months prior to formal approval of the inter-bureau agreement, the grading contract commenced during the summer of 1926.³⁸ The project reduced the maximum grade (from 10.9 percent to 6.5 percent) of this approach and produced a new roadway 20' in width. As a precursor to reconstructing the Rim Road, this realignment became known for how visitors obtained their first view of Crater Lake as a spectacular and sudden scenic encounter. Landscape architects with the NPS chose the point of "emergence," which allowed visitors to enter a new "plaza" developed on the western edge of Rim Village or begin a circuit around the lake.³⁹

The initial step in planning for reconstruction of the Rim Road took place once the inter-bureau agreement had been signed. The BPR reconnaissance survey of the park's road system in 1926 furnished a starting point and allowed Superintendent C.G. Thomson to reference estimated construction costs in a report on his priorities for road and trail projects over the next five years. NPS officials in Washington requested the report in connection

³⁸ NPS press release, November 10, 1925, 1-2. That particular segment, numbered as four, is part of the total road circuit of 35 miles. It is not, however, part of the Rim Drive project which was number seven and eventually consisted (along with a spur road to Cloudcap, numbered nine) of more than 31 miles.

³⁹ Hewes, *American Highway Practice*, 209; Cathy A. Gilbert and Gretchen A. Luxenberg, *The Rustic Landscape of Rim Village, 1927-1941* (Seattle: USDI-NPS, 1990), 59. The surfaced width of this road was 16 feet, reflecting the standard of the time.

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with allocating the congressional appropriation for park roads and trails, a separate process from the site development plans of the period that were aimed at facilities for areas like Rim Village.

Rudimentary lists of projects with estimated costs evolved over the next five years into a bound set of drawings showing the proposed site development in the context of projected park-wide circulation. Formal adoption of these “master plans” by the NPS came as appropriations for park development steadily increased, but these documents remained apart from planning for the location and design of roads. BPR accomplished these tasks through its usual process prior to letting contracts for road construction, subject to NPS approval. Master plans contained some information about Rim Drive and other road projects, but only as context for what the NPS landscape architects hoped to accomplish in a “minor developed area” such as the Diamond Lake (North) Junction or at the “parking overlooks” like Kerr Notch, Skell Head, or Cloud Cap.

Road location

A BPR reconnaissance survey not only allowed Thomson to reference the construction estimates in his priorities, but also allowed him to comment on proposed road locations. It designated the Rim Road as Route 7 in the park and divided the circuit into five segments, labeling them as A, B, C, D, and E.⁴⁰ Thomson took an immediate dislike to what BPR proposed as 7-E, a road segment 4 miles long and running from Sun Notch to Crater Lake Lodge by way of Garfield Peak. In addition to being very expensive, the proposed road location necessitated two tunnels and a “gash across the face” of Garfield Peak, which, as Thomson stated, was “altogether too beautiful to be subjected to the unconscious vandalism of ambitious engineers.”⁴¹

In urging that segment 7-A be given first priority for fiscal year 1929, Thomson stated that the stretch of road between Rim Village and the Diamond Lake (North) Junction constituted “practically a main stem for us.” It not only carried traffic to and from Diamond Lake, but also was the most traveled section used by visitors who did not go all the way around the rim. He believed construction of this 6.7 mile segment might take only one season, to be followed by the other segments over the next four years.⁴² In response, BPR conducted a preliminary location survey as another step toward construction during the summer of 1928. Beginning from Park Headquarters in Munson Valley, they went over Thomson’s preferred line for 7-E to Sun Notch in July and then pushed toward Kerr Notch on the reconnaissance line for 7-D. The location crew departed from Crater Lake at the end of September, having run a P-line for those two segments as well as the one connecting Rim Village with the Diamond Lake Junction. They left abruptly, after receiving word from NPS assistant director Horace Albright that there would be no funding for road construction at the park in 1929.⁴³

⁴⁰ J.M. Meyers, Location Survey Report, Crater Lake National Park, 1926, Federal Highway Administration files, Vancouver, Washington.

⁴¹ Thomson to Horace Albright, NPS Assistant Director, June 22, 1927, 2.

⁴² Ibid. Thomson projected the construction of the East Entrance – Lost Creek segment in the first year, and the Lost Creek – Kerr Notch piece of the approach road (route 5) in the second year. Construction of the Kerr Notch to Sun Notch (7-D) and the Sun Notch to Park Headquarters (his 7-E) was to follow in year three. These road sections were to precede the Kerr Notch to Wineglass segment (7-C) in year four, and the Wineglass to Diamond Lake Junction (7-B) in year five. Construction of the North Entrance Road (route 8) was also thought to come in year five.

⁴³ Superintendent’s Monthly Report, October 2, 1928, 4.

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The postponement was greeted by Merriam as being fortuitous, since he welcomed the additional time needed for designing roads and trails “with special reference” to presenting park features and those in the surrounding region “which have been determined by experts to be of outstanding importance.”⁴⁴ The Laura Spelman Rockefeller Memorial supplied a grant for a study of the educational possibilities of the parks in 1928, one administered by a committee headed by Merriam. Most of the field visits associated with the study took place over the next summer, followed by recommendations to congressmen well positioned in the appropriations process. At Crater Lake the study effort translated into money for building the Sinnott Memorial below Rim Village with a special \$10,000 appropriation as well as funds to hire a permanent park naturalist and an expanded summer staff of naturalists.

Merriam visited Crater Lake in August 1929, and paid special attention to the location of Rim Drive. He then wrote to Albright about the need for someone who understood the park’s geological features to assist with locating segment 7-A.⁴⁵ The recommendation brought about an on-site inspection of the P-line in October 1929, beginning at Rim Village and going clockwise on the old road to Kerr Notch. Arthur L. Day, volcanologist at the Carnegie Institution of Washington and head of its Geophysical Laboratory, served as Merriam’s representative. Joining him at the meeting were the district and resident BPR engineers (J.A. Elliott and John R. Sargent, respectively), as well as NPS chief engineer Frank Kittredge, chief NPS landscape architect Thomas Vint, and Thomson’s successor, E.C. Solinsky.⁴⁶

The group recommended keeping the road as close to the rim as possible over the first mile from Rim Village, but with additional easy curvature to the first volcanic dike visible at the Discovery Point Overlook. They suggested elimination of a tight radial turn at the foot of the Watchman, and then chose a line that kept the road away from views of Crater Lake until the Watchman Overlook. Kittredge noted how BPR appeared to have “solved” the snow problem around the Watchman, presumably by running a lower line than the one adopted by the old Rim Road.⁴⁷

BPR opted for a low line around Llao Rock, though the group favored a spectacular “ledge route” involving sidehill excavation and a series of “window tunnels” on the lake side to obtain better views and reduce 2 miles of travel in reaching Steel Bay. Everyone came to agreement over leaving the Rock of Ages (Mazama Rock) undisturbed. All of the group members wanted the road to reach the top of Cloudcap, but no one thought of marring the fringe of whitebark pine overlooking the lake. This portion of the circuit required further study, the group advised, especially if it stayed close to the rim. The group endorsed the surveyed line between Cloudcap and Kerr Notch, with the stipulation that visitors should be able to reach the viewpoint for Cottage Rocks (Pumice Castle), as well as the Sentinel Point and Kerr Notch localities.

⁴⁴ Merriam, “Suggestions Relating to the Purpose....at Crater Lake,” in *Reports of John C. Merriam*, 9.

⁴⁵ Merriam to Albright, August 31, 1929.

⁴⁶ Kittredge, Minutes of Conference and Inspection Trip, October 22, 1929, 1.

⁴⁷ In an earlier memorandum, however, Kittredge remarked that the Watchman section “will always be extremely expensive to maintain” as would be the “snow control” for other sections of Rim Drive; Kittredge, Report on Rim Road, October 12, 1929, 1.

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Although the group did not review the P-line between Kerr Notch and Sun Notch, Kittredge characterized it as requiring heavy blasting to make a roadway across sheer cliffs. He saw no way around blasting, but thought damage could be limited if care was used in preventing material from “flowing” down slopes. Kittredge also mentioned two prospective routes beyond Sun Notch, with a decision needed about whether to bypass Park Headquarters and go to Rim Village by way of Garfield Peak instead. One route that did just that came to be known as the “high line.” The other route, a “low line,” largely utilized the existing road connecting Lost Creek to Vidae Falls.

With segment 7-A scheduled for bid in the fall of 1930, the next phase of location work focused on it.⁴⁸ Resident BPR engineer John R. Sargent took charge of the L-line survey for the initial part of Rim Drive after NPS landscape architect Merel Sager found the P-line unsatisfactory in “numerous” places.⁴⁹ Sager effected revision of the old line with advice from Merriam, Harold C. Bryant (assistant director of the NPS as head of the branch of research and education in the Washington Office), and Bryant’s deputy, geologist Wallace W. Atwood. Sager and Vint went over the revised line with Sargent in August, with Sager returning in October to meet with Sargent about designating certain places along segment 7-A with Class B excavation.⁵⁰ Clearing by NPS crews under BPR supervision commenced shortly thereafter as a way to allow the prospective grading contractor the benefit of a full working season in 1931.

L-line surveys continued over the following summer and proceeded quickly enough over segments 7-B and 7-C for the NPS to pre-advertise bidding on them in November 1931.⁵¹ The location work covered a new road of just over 13 miles, one now routed almost to the base of Mount Scott. This line avoided the 10 to 12 percent grades on the old Rim Road’s ascent of Cloudcap through use of a dead-end spur road to the top.⁵² After some discussion, the NPS chose a line having a gentler grade routed away from the rim down to the Cottage Rocks viewpoint, instead of going down the south face of Cloudcap.⁵³ Park Superintendent David Canfield could thus confidently assert by November 1934 that the award of two grading contracts in 7-C1 brought the Rim Drive three-quarters of the way around the caldera.

Albright intended to study the proposed high line around Dutton Ridge, as opposed to the low line favored by Sager and other landscape architects, in July 1931 as part of his stop to attend the dedication of the Sinnott

⁴⁸ “Big Outlay to Improve Crater Lake Park,” *Medford Mail Tribune*, May 20, 1930; “Road to Circle Crater,” *Portland Oregonian*, August 7, 1930. Projected cost of the entire project at that time was around \$1 million, though it eventually doubled to more than twice that amount.

⁴⁹ Sager, RCLA, July 4 – August 1, 1930, 4. Landscape architects became the lead reviewers of road locations for the NPS in accordance with Director Mather’s pronouncement in a circular letter of February 25, 1926, that all developments in the parks should first “fit into the picture.”

⁵⁰ “Start survey on new road to Crater Lake,” *Medford Mail Tribune*, August 20, 1930; Sager, RCLA, September 16 – October 6, 1930, 2.

⁵¹ “Crater Rim Road Survey Proceeds,” *Medford Mail Tribune*, June 30, 1931; “Crater Rim Road Unit to Proceed Coming Summer,” *Medford Mail Tribune*, November 2, 1931.

⁵² The dead end spur did not become finalized until locators ran another survey in 1934, one that came after contracts had been awarded to grade segments 7-B and 7-C in October 1933.

⁵³ A decision to avoid the north slope of Cloudcap had been made in 1931; “Crater Rim Road to Proceed Next Summer,” *Medford Mail Tribune*, November 2, 1931. Sager noted the revised location running through the “pass” between Cloudcap and Mount Scott in the fall of 1933; Sager, RCA, October 16, 1933, 4.

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Memorial. He eventually ordered that the road not be built into Sun Notch, but BPR engineers, and Sargent in particular, did not easily give up on the high line.⁵⁴ Sargent persuaded Lange and the new superintendent, David Canfield, to walk the surveyed line of roughly 3 miles between Sun Notch and the lodge in July 1935. Lange went into considerable detail about the many construction and landscape problems posed by going through with the high line project in a memorandum to the NPS office of plans and design in San Francisco. He also pointed to the face of Dutton Cliff in segment 7-D as offering the “outstanding” problem, since the road location through large slides of loose rock would be difficult to camouflage. To put a road into Sun Notch around Dutton Ridge struck him as contrary to the park idea of “preserving those areas which are worthy of protection and keeping out any possible development.” Lange concluded the memorandum with a plea to keep any road at least several hundred feet below the rim at Sun Notch in the event that the higher line of segment 7-D won out over the low line.⁵⁵

Kittredge and the resident NPS engineer, William E. Robertson, also walked the high line within days of Lange’s field trip. They did so in response to a news article appearing in a Portland paper that came in the wake of concessionaire Richard W. Price taking his case for the high line to the chamber of commerce in Klamath Falls. The local congressman contacted Secretary of the Interior Harold Ickes at roughly the same time, and Ickes then referred the query to NPS director Arno B. Cammerer.⁵⁶ The director dispatched associate director Arthur Demaray to Crater Lake for an on-site inspection of the two road locations, and told Ickes that the matter would receive further consideration upon Demaray’s return to Washington.⁵⁷ Demaray then told Kittredge that further consideration should be given to the high line in 7-D, one that ran “from Kerr Notch around Dutton Ridge to Sun Meadows, then joining the present road [from Lost Creek] at the Vidae Falls.⁵⁸ This amounted to a “combination line,” one that Canfield strongly supported when he asked Cammerer to transfer funds originally programmed for the low line route and instead put them toward building segment 7-D.

Cammerer went ahead with recommending the “combination line” of a high 7-D and a low 7-E to Ickes on November 16, 1935. The secretary approved it several weeks later and his office issued a press release to that effect.⁵⁹ Sargent confidently anticipated the decision by completing the fieldwork for what he called the “final located line” between Kerr Notch and Vidae Falls by late October, so that plans could be completed over the winter. Engineers estimated this stretch of 5.5 miles as the most time consuming portion of Rim Drive to build, so BPR divided it into three units (as 7-D1, 7-D2, and 7-E1) for the purposes of bids on future grading contracts.⁶⁰ Sargent also ran a P-line of 4.3 miles for the last segment of Rim Drive, one connecting Vidae Falls with Park Headquarters, in the fall of 1935. His successor, Wendell C. Struble, revised the line over the

⁵⁴ This was despite the new NPS director, Arno B. Cammerer, reiterating that the high line had been disapproved in the spring of 1934; Cammerer to Solinsky, und. [spring 1934].

⁵⁵ Lange to William G. Carnes, Field Trip with Superintendent Canfield and John R. Sargent, August 17, 1935, I-4.

⁵⁶ Kittredge to Cammerer, August 16, 1935, 1.

⁵⁷ Ickes to Charles McNary, United States Senate, August 24, 1935.

⁵⁸ Demaray to Kittredge, August 25, 1935.

⁵⁹ Cammerer, Memorandum for the Secretary, November 16, 1935; USDI Memorandum for the Press, December 13, 1935.

⁶⁰ Extract from Sargent’s report “Location Survey,” of October 25, 1935, in Lange, RCA, November 1, 1935, Part III Rim Road, 4.

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following summer to eliminate about a mile of road construction, mainly because he and Lange agreed that the new line effectively reduced the scar width of 7-E2 as seen from Crater Lake Lodge.⁶¹

Resolution to the problem of how to approach Vidae Falls from Sun Notch and then cross the creek did not come until January 1938, after Cammerer wrote to Canfield's successor, Ernest P. Leavitt. Not only did he want the new superintendent's views on the controversial location of segment 7-D, but also he took that opportunity to express a preference for a bridge at Vidae Falls. Leavitt responded with rather emphatic reasons for why the line from Kerr Notch to Vidae Falls constituted a serious mistake, but gave Cammerer a number of reasons why a fill made better sense than a bridge at the falls.⁶² Demaray informed Leavitt in January 1938 that a fill had been approved, largely due to the "depleted condition" of funds for roads and trails during the current fiscal year and the small allotment anticipated for 1939. At this point the associate director regarded any lingering questions over the location of Rim Drive as "closed," since a contract for grading 7-E2 had been awarded the previous fall.⁶³

Construction of Rim Drive

Segment 7-A (Rim Village to Diamond Lake Junction)

Grading of the new Rim Drive began during the administration of Herbert Hoover, with funding for its first segment supplied by appropriations passed by Congress for roads and trails in national parks.⁶⁴ The bill, which was really aimed at relieving unemployment, passed in March 1931 during a period often described as the lowest point in the Great Depression. It complemented other measures, such as the Employment Stabilization Act, which mandated that government bureaus prepare six-year plans on which federal appropriations for construction could be based. These appropriations had little effect on the larger economy, given the persistent nature of unemployment at the time. The small size of relief efforts eventually spelled Hoover's downfall, so his successor Franklin Roosevelt proposed work relief on a much larger scale beginning in 1933 through a larger and better funded programs like the billion-dollar Public Works Administration.

Funding through PWA paid for all road construction aside from the grading contract on segment 7-A. Roughly \$250,000 had been allotted for grading just shy of 6 miles between Rim Village and the Diamond Lake Junction, so the BPR advertised for bids on May 1, 1931.⁶⁵ P.L. Crooks Construction Company of Portland was awarded the contract and began work in June by establishing their camp near the Devil's Backbone. Work

⁶¹ Lange to Thomas E. Carpenter, Deputy Landscape Architect, June 29, 1937. Justification for adjusting Sargent's line appears in Lange, Monthly Narrative Report to the Chief Architect (hereafter MNRCA), July 25 – August 25, 1938, 4.

⁶² Cammerer to Leavitt, November 22, 1937, and Leavitt to Cammerer, December 1, 1937, 4-6. A heated exchange of letters about the decision to grade 7-D on Dutton Cliff followed; Demaray to Leavitt, December 21, 1937, and Leavitt to Cammerer, January 1, 1938.

⁶³ Demaray to Leavitt, January 12, 1938.

⁶⁴ 46 Stat. 1570, March 4, 1931.

⁶⁵ "Bids for Six Miles of Road Asked," *Gold Hill (Ore.) News*, April 30, 1931.

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proceeded quickly from Rim Village, with roughly one quarter of the job completed in only three weeks.⁶⁶ This was somewhat due to having over 60 percent of the route following the old road in close proximity.⁶⁷

The contractor's workforce of ninety men (increased to 125 by mid-July) soon began to encounter rougher terrain, where blasting and other means were needed to move more than 50,000 cubic yards of rock per mile.⁶⁸ Just the first four rock cuts (which averaged 35 feet in depth) consumed over half of the estimated 150,000 pounds of powder as needed for the entire job. The remaining seven cuts were not thought to be so difficult, with the exception of one running by the Watchman Overlook that measured over 90 feet deep.⁶⁹ With all of the anticipated blasting and rock removal, the NPS tried to warn potential visitors about finding "some inconvenience" and advised them to take the "east drive" in preference to the west, even forecasting that the latter might be closed for two week intervals beginning in August. Despite this gloomy prediction, traffic flow on the west rim remained "unhampered" throughout the season. Much of the reason lay in constructing contiguous cuts and fills in half sections, thereby permitting the passage of vehicles. The project even allowed inauguration of the Rim Caravan that summer, a regularly scheduled excursion conducted by ranger naturalists that featured half of its sixteen stops within the first 6 miles of road beyond Rim Village.⁷⁰

The job stood at approximately 75 percent complete by November 1. This was despite utilizing "as much hand labor as possible" to help alleviate local unemployment problems.⁷¹ Two of the heaviest cuts (one being around the Watchman Overlook) still remained for the 1932 season, yet that summer went by without the job coming to full completion. Aside from some finish grading, most of the work for 1933 related to landscape items. These, however, remained limited in comparison to landscape work funded as part of grading contracts on other segments of Rim Drive. For example, old road obliteration took place only where abandoned sections touched on the new roadway. Consequently, long pieces of the old Rim Road remained plainly visible from high points such as the Watchman or Hillman Peak.⁷²

This somewhat patchy approach to landscape work also applied to the masonry items. Whereas the contractor saw the culvert headwalls to completion, only 250 yards of retaining wall and guardrail were built. The latter work during the grading contract came on the Watchman grade, where the NPS had the most concern for safety.⁷³ The need for additional masonry wall along the road margins commanded sufficient attention, so that

⁶⁶ Superintendent's Monthly Report, June 3, 1931; Sager, RCLA, June 8, 1931, 2.

⁶⁷ John R. Sargent, Final Construction Report on Rim Road Grading, Project 7-A, BPR files, Federal Highway Administration, Vancouver, Washington, 1-2.

⁶⁸ "Park Contractor Hurries Work on Lake Rim Route," *Medford Mail Tribune*, July 6, 1931.

⁶⁹ "Expect Six Miles Crater Rim Road Ready This Fall," *Medford Mail Tribune*, August 23, 1931.

⁷⁰ Ansel F. Hall, Report to the Director on the Establishment of a Naturalist Conducted Automobile Rim Tour, July 15, 1931, Box 88, John C. Merriam Papers, Library of Congress. The stops in segment 7-A were, in sequence, Discovery Point, on the radial curve at the foot of Watchman (located along the old Rim Road), Watchman Overlook, Diamond Lake Overlook, Devil's Backbone, the glacial striae near the Diamond Lake Junction, and the North House below Merriam Point.

⁷¹ "Park Road Work Advanced During Present Season," *Medford Mail Tribune*, November 10, 1931; John R. Sargent, Final Construction Report on Route 7-A (Grading), Crater Lake National Park, April 29, 1935, FHWA files, Vancouver, Washington.

⁷² Lange, Monthly Narrative Report to the Chief Architect, October 1, 1936, 4; Lange, RCLA, November 1, 1936, Part III.

⁷³ Sager, RCLA, October 29, 1932, 8.

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the NPS referred to the next contract as “Surfacing and Guardrail” when BPR advertised for bidders in the summer of 1932.⁷⁴ Although a surfacing contract was awarded that fall, the successful bidder (Homer Johnson Company of Portland) did not begin work until August 1933 due to a record snow year. Barely two months elapsed before the onset of winter suspended the job, but unusually dry conditions allowed work to resume in April 1934.

A subcontractor, Angelo Doveri of Klamath Falls, handled construction of the guardrails. The resident landscape architect for the season of 1934, Armin Doerner, described a slow start during the late spring and early summer. He found that different workmen each tried to express “his own ideas about masonry,” so it proved difficult to obtain “a uniform type of wall” at first. When Doerner and the BPR inspector finally agreed on the style wanted, the work improved and proceeded at a faster pace.⁷⁵ Sargent and Doerner agreed to the locations of the walls, starting with two relatively short ones near Rim Village and another of some 500 feet in length at the Discovery Point Overlook. By the final inspection in October, Doerner thought the guardrails had a “very pleasing” appearance aside from some imperfections. One was the trimming, which made it difficult to obtain the specified amount of weathered surface. Achieving the desired variety of color in the walls became problematic when quarrying all of the rock from the same locality.⁷⁶

Overall, however, a number of items went missing when segment 7-A is compared with subsequent construction on Rim Drive. Some viewpoints (like the Watchman Overlook and Merriam Point, for example) went completely undeveloped, while a few of the cuts remained ragged and banksloping frequently nonexistent. The NPS landscape architects eventually responded with an array of measures to be incorporated into subsequent contracts on other segments of Rim Drive, while BPR officials characterized the NPS as doing “pioneer work” in a vacuum of knowledge about how to landscape highways.⁷⁷

BPR awarded the contract for paving 7-A to J.C. Compton of McMinnville in 1935, who then started giving the road a bituminous surface treatment. This job consisted of several steps, with the first being the spreading of aggregate. The laying of a bituminous “mat” of at least 3 inches in depth came next, one extending over the entire roadway and parking areas. Lange thought the black color of the mat fit “well with the surrounding country,” and remarked how it presented a “fine appearance in relation to existing natural features.”⁷⁸ The last step in the paving contract started with application of a seal coat or wearing course to a width of 18 feet in accordance with federal highway standards of 1932. Its black color was then altered with a fine coat of rock, which upon rolling and brushing, yielded what Lange called a “uniform medium gray color.” Road striping did not come until 1938, but was in accordance with earlier advice from Lange, who advised a yellow, “or similar

⁷⁴ Sager, RCLA, August 1 – August 30, 1932, 2; Carnes to J.A. Elliott, BPR, October 16, 1934. John R. Sargent, Final Construction Report, Routes 7-A and 8 (Surfacing and Guardrail), March 19, 1936, FHWA files, Vancouver, Washington.

⁷⁵ Doerner, RCA, July 1, 1934, 4.

⁷⁶ Doerner, Monthly Report, September 25, 1934, 3, and RCA, October 20, 1934.

⁷⁷ L.I. Hewes in “Minutes of the Twelfth Conference of National Park Executives,” April 1932, quoted in McClelland, *Building the National Parks*, 231.

⁷⁸ Lange, RCA, October 1, 1935, and RCA, November 1, 1935, 6.

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colored line” could serve the purpose. He did not favor a continuous line over the entire road, but rather use of the stripe on curves or other areas in need of such marking to insure the safety of motorists.⁷⁹

Segment 7-B (Diamond Lake Junction to Grotto Cove)

Pre-advertising for bids on grading the stretch of road from the Diamond Lake (North) Junction to the point half a mile past Wineglass took place in the fall of 1932.⁸⁰ Insufficient funding prevented letting a contract until September of the following year, at which time the award went to the firm of Von der Hellen and Pierson of Medford. The contractors went to work in October 1933, but BPR suspended the job upon the first snowfall several weeks later. In contrast to what NPS crews accomplished prior to the contract award in segment 7-A, the clearing and grubbing of 7-B became the contractor’s responsibility. They moved ahead on the basis of plans calling for a roadway of 22 feet with a ditch 3 feet wide.⁸¹

Another contract had to be let, this time to Dunn and Baker of Klamath Falls, in order to widen the roadway another 2 feet. This change was the result of a visit to the park by Secretary of the Interior Harold Ickes in July 1934.⁸² In addition to being head of the federal department which overarched the NPS, Ickes also controlled the disbursements from the main funding source for Rim Drive—the Public Works Administration. Authorized by Congress in response to President Franklin Roosevelt’s emphasis on funding public works projects to relieve unemployment during the throes of the Great Depression, the PWA controlled a staggering \$3.3 billion in funding. Projects like Rim Drive depended upon outright grants to fund the three phases of construction, so the Secretary’s preferences mattered—especially during the mid 1930s when funding for roads in the national parks hit its peak.

Widening of the roadway began in September 1934, but Dunn and Baker found it impossible to take the same protective measures. In many places crews brought the rock back up slope by hand after it damaged trees. The road widening meant that Von der Hellen and Pierson could disregard some of the required bank sloping and shoulder rounding. Similar to the previous grading contract for 7-A, however, these contractors still had responsibility for other kinds of landscape work. Doerner reported that the masonry retaining walls and culvert headwalls in 7-B displayed good workmanship during the long season of 1934, though completion of these items did not come until the following summer.⁸³

Grading and widening the roadway also necessitated what Lange called “special planting” aimed at large slopes exposed by construction. The foreman and his crew treated two sections of 7-B in 1935, with the first located near the Wineglass road camp where they treated a cut slope with some trees and dark soil so as to diminish the

⁷⁹ Lange to Carnes, October 30, 1934, 2.

⁸⁰ John R. Sargent, Final Construction Report on Route 7-B (Grading), Crater Lake National Park, February 2, 1937, 1, FHWA files. Vancouver, Washington.

⁸¹ Sager, RCLA, October 29, 1932, 15.

⁸² Superintendent’s Monthly Report, August 7, 1934, 2.

⁸³ Doerner, RCA, October 20, 1934, 4; Lange, RCA, August 1, 1935, 4.

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intensity of the vivid red color seen from Cloudcap. Work began by digging parallel trenches filled with mountain hemlock branches to hold the “new soil” and aid establishment of trees transplanted at the site. This procedure was also used to conceal a white line created by grading near Steel Point that could be seen from the Crater Lake Lodge.

The NPS pioneered many of the landscape treatments later incorporated into a wide range of highway construction contracts, so this road segment included additional measures specified in the grading phase that were not evident in 7-A because three years had passed and more potent funding through the Public Works Administration was available. More evident was the banksloping (which often included flattening and rounding the roadway’s margins in order to minimize unfinished edges that could lead to increased erosion), old road obliteration, and the planting on fills, but also newer innovations like paved ditches or “gutters” and drop inlets for cross drainage. With these precedents in place, the landscape treatments worked in combination to maximize the utility, economy, and safety of scenic highways built primarily for the enjoyment of park visitors and other motorists.

Production of surfacing material for 7-B started even before the successful bidder, A. Milne of Portland, began opening a quarry near the Wineglass road camp in September 1935. The contractor set up a crushing plant there, an operation that Lange described as well screened from the road. It could produce a relatively large amount of material at 1,500 tons per day when running at capacity during the short working season.⁸⁴ Once the plant at the Wineglass road camp produced sufficient quantities for both 7-B and 7-C, virtually all of the actual surfacing with crushed rock took place in 1936. With the paving of those road segments not due until 1938, BPR advised the NPS that maintenance crews should apply a light oil treatment in the interim to prevent loss of the soft rock quarried and processed for surfacing material at the road camp.⁸⁵

Segments 7-C and 7-C1 (Grotto Cove to Kerr Notch)

Available funds allowed for letting a grading contract aimed at the portion of Rim Drive between Grotto Cove and the summit of Cloudcap in September 1933. Short-term uncertainty over the L-line from Mount Scott to Kerr Notch resulted in splitting segment 7-C away from what was now called (for contracting purposes, at least) 7-C1. The grading contract for 7-C and the spur road to Cloudcap (4.4 miles in all) went to Dunn and Baker, who were also awarded the contract for widening 7-B and 7-C in 1934. It made for a smooth transition, especially since this firm had the benefit of a long working season that year.⁸⁶

After completing most of the items as part of widening 7-B and 7-C, Dunn and Baker went to work during the summer of 1935 grading one of two units between Mount Scott and Kerr Notch (segment 7-C1). The Dunn and Baker section of 1.5 miles extended from the Cloudcap Junction (where the spur road to the summit diverges

⁸⁴ Lange, RCA, October 1, 1935, 7, and RCA, (ECW report), November 1, 1935, 7.

⁸⁵ Hewes to Carpenter, June 4, 1937, 2.

⁸⁶ Doerner to Carnes, October 16, 1934.

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from Rim Drive) to Sentinel Rock. Von der Hellen and Pierson, meanwhile, started grading the other unit of 7-C1 (a section of 2.4 miles of road between Sentinel Rock and Kerr Notch) that summer after having finished grading in 7-B.⁸⁷

The largest landscape problem on this part of Rim Drive stemmed from daylighting prominent viewpoints in 7-C for fill material, thereby compounding the challenge of having to obliterate old road on soils that tested virtually sterile. NPS landscape architect Francis Lange began making an argument for extensive landscape treatment of what he began to call “parking overlooks” in 7-C and 7-C1 as part of his season ending report for 1935. He pointed to certain examples, such as the excessive daylighting at Skell Head, in identifying five localities for special landscape treatment as part of a future surfacing contract.⁸⁸

Lange made preliminary sketches of five parking overlooks, going somewhat beyond what had become the standard treatment for viewpoints along Rim Drive. In addition to masonry guardrail to delineate the edge of the rim for motorists, he added a bituminous walk running the full length of the wall as well as a stone curb to separate the viewing platform from parking. Each of the five overlooks featured an island defined by a combination of weathered boulders and logs so as to protect a small amount of planting that consisted of native shrubs and trees. Lange argued that the islands helped to diminish the size of each of the daylighted overlooks, thereby placing each of them into proper scale in relation to Rim Drive. The islands also provided greater safety by separating motorists using the road from those leaving or entering each overlook.

He obtained topography and other engineering data from BPR for the parking overlooks over the following summer. Whereas segments 7-A and 7-B had so far represented missed opportunities to properly develop the stations and substations along Rim Drive through the contracting process, he wanted to show what could be achieved at viewpoints located in 7-C and 7-C1. Rejection of bids for the 7-C1 surfacing contract in the fall of 1936 proved to be an eventual boon to the development of the parking overlooks, since BPR subsequently doubled the amount available for landscaping these viewpoints. The move reflected the need to transport and place weathered boulders, as well as the use of topsoil, peat, and fertilizers as soil amendments prior to planting some 400 trees and 600 shrubs at the parking overlooks.⁸⁹ Lange produced site plans for seven overlooks located between the Wineglass and Kerr Notch that were formally approved in December 1936 and then incorporated in the revised set of plans, specifications, and engineering estimates used to solicit bids at the end of June 1937.⁹⁰

⁸⁷ Lange, RCA, July 1, 1935, 4.

⁸⁸ Lange, RCA (annual report), November 1, 1935, Part III, Suggested Landscape Work.

⁸⁹ Lange to E.A. Davidson, May 27, 1937; Hewes to Canfield, June 4, 1937; Lange to H.D. Farmer, BPR, June 23, 1937.

⁹⁰ Struble, Engineer's Estimate for 7-C1 surfacing contract, May 20, 1937. The seven site plans (for Kerr Notch, Reflection Point, Sentinel Point, Cloudcap, Skell Head, and two unnamed viewpoints above Grotto Cove) are shown on five sheets, all drawn by Lange. They are numbered consecutively, beginning with C.L. 3067A, “Parking Area at Kerr Notch,” November 30, 1936, NPS files. No drawing for the Cottage Rocks viewpoint survives, though Lange wrote that “this area will correspond in treatment to the above named areas” [parking overlooks]; Lange, MNRCA, August 1, 1936, 3.

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BPR awarded the surfacing contract for 7-C1 to the Portland firm of Saxton, Looney, and Risley in July, with the job getting underway in late August. The contractors made relatively quick work of spreading a base course over the 4 miles of this road segment, completing it in the fall of 1937. The landscape component was only half finished by the end of the season, even though the two foremen who reported to Lange directed a crew of twelve laborers. Planting required hauling topsoil and peat from "pits" located near Park Headquarters, in addition to using 3 tons of fertilizer obtained in Klamath Falls.⁹¹ Lange described preparation of the planting beds as a base of peat, to be followed by placing shrubs or trees, with topsoil and fertilizer put "around but not too close to the root system." Duff was then scattered throughout the immediate vicinity of the planting. Crews followed the same procedure when planting at the parking overlooks during the 1938 season, eventually planting a total of 625 trees, but also 2,300 shrubs and plants as well at the viewpoints over two summers.⁹²

The masons continued to place what Lange described as "excellent" stone curbing at the overlooks, in addition to the weathered boulders indicated on the site plans. Lange provided a working drawing for steps leading to an old trail at Sentinel Point and a sketch for the stone drinking fountain installed at Kerr Notch. The additional touch of paving walks at four parking overlooks in 7-C came as part of the paving contract awarded in June 1938. It went to Warren Northwest, a construction company with regional offices in Portland. In contrast to the work completed in 1936 along the 6 miles of segment 7-A, this contract included paving "gutters" in accordance with guidance developed by Thomas E. Carpenter, deputy chief architect for the NPS. His work reflected a trend toward shallower ditches requiring less maintenance, given that the bituminous paving acted as a seal against run off that might otherwise disintegrate surfacing material used to protect a road's subgrade. The gutters were to work in concert with catch basins and drop inlets connected to culverts placed underneath the road at regular intervals.⁹³

With the paving contract essentially completed, Lange used a number of photos in his season-ending report for 1938 to show how landscape treatments improved typical road sections in 7-B and 7-C. In contrast to the numerous landscape items left unfinished in 7-A, both of the latter segments exhibited good examples of old road obliteration, bank sloping, and special landscape treatments such as adding dark soil to reduce scars. Paving and placement of catch basins in conjunction with the placement of backfill for gutters seemed to signify that the new Rim Drive was "rapidly becoming a reality," with all work projected to be finished in the fall of 1940. Lange made a point of depicting the finished parking overlooks in 7-C and 7-C1 since they demonstrated how to rehabilitate damaged areas while properly developing the observation stations and substations.⁹⁴

Segment 7-D (Kerr Notch to Sun Notch)

⁹¹ Lange to Davidson, May 27, 1937; Lange, MNRCA, July 25 – August 24, 1937, 9.

⁹² Lange, MNRCA, October 25 – November 25, 1938, Major Roads, 5. Fertilizers used at the parking overlooks over both seasons were composed of "steamed bone, ammonium sulphate, muriate of potash, super phosphate, tankage, etc."

⁹³ Wendell C. Struble, Final Construction Report on Routes 7-B, 7-C, and 9, (Paving), Crater Lake National Park, March 7, 1939. FHWA files, Vancouver, Washington, 8-9.

⁹⁴ As probably the finest landscape architect to ever work at Crater Lake, Lange considered this work to be of such significance that in 1939, he cited the parking overlook at Skell Head as the preeminent example of his design work on a civil service job application.

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Formal adoption of the so-called "combination line" in December 1935 pushed BPR to finalize plans to locate Rim Drive between Kerr Notch and Sun Notch. Instead of "skirting" Dutton Ridge as the official press release had claimed, the road location required major cuts on both sides. The large amount of excavation anticipated caused BPR to split 7-D into two grading contracts, with 7-D1 projected to encompass about 3 miles from Kerr Notch to a point on the south side of Dutton Ridge where the road would crest. The lowest bid on this first contract, one that required a staggering 176,000 cubic yards of excavation, was rejected in July 1936 since it was considerably above the engineer's estimate. The need to make an award within existing allotments led to another advertisement for bids a month later, this time with the distance of 7-D1 reduced to just over 2 miles. The contract went to Orino Construction of Spokane, who then set up camp on Sand Creek in Kerr Valley and began its clearing operations.⁹⁵

Blasting by Orino over the next few weeks gave Lange and resident engineer Wendell Struble almost opposite impressions. Whereas Struble described the contractor's progress as unsatisfactory due to extreme care taken in type "B" excavation, Lange wrote about Orino permitting a number of excessive shots not in accordance with instructions from BPR. Slides traveled, he observed, far below the necessary line of repose. This damaged trees to such an extent that the majority had to be removed. Crews pruned trees where blasted material hit their tops, while cuts were treated with creosote if the damage did not require removal.⁹⁶ Lange gradually prevailed upon Struble to require Orino to protect trees in subsequent blasting by shooting with less powder. The difficulty of grading in such terrain, however, made complete protection "almost impossible," even when trees from the roadway were placed against those situated below the grading line.⁹⁷

Cuts represented another aspect of rough grading that detracted from what Lange had described as an area that was "originally admired for its stately and primitive character." One of these measured approximately 145 feet to the roadbed from the crest of the cut, causing falling rocks to be a constant danger due to so much loose material on Dutton Cliff.⁹⁸ An "epidemic" of minor accidents kept the park physician busy, such that Superintendent Leavitt noted that the men hired by Orino seemed especially prone to broken ribs.⁹⁹ Not only were equipment operators vulnerable, but also those men working on several hundred feet of retaining wall. Lange described the wall as necessary in order to give the roadway its designed width of 24 feet. He especially liked how it blended with the surroundings from the point above Kerr Notch, writing that the massive rocks obtained in the cuts were well selected for color and uneven faces.¹⁰⁰

⁹⁵ Lange, Monthly Narrative Report to the Regional Landscape Architect, August 24, 1936, 4. Struble, Final Construction Report on Route 7-D1 (Grading), Crater Lake National Park, May 8, 1940, FHWA files, Vancouver, Washington, 2-3.

⁹⁶ Struble, Monthly Narrative Report Data, August 25, 1937, remarks section; Lange, MNRCA, July 25 – August 25, 1937, Major Roads, 4.

⁹⁷ Lange, MNRCA, August 25 – September 25, 1937, 6.

⁹⁸ Superintendent's Monthly Report, August 5, 1937, 5; quote is from Lange, Final Narrative Report to the Chief Architect, n.d. (November 1937), Major Roads, Grading 7-D1.

⁹⁹ Superintendent's Monthly Report, September 3, 1937, 7.

¹⁰⁰ Lange, FNRCA, op. cit.

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The difficulties encountered by Orino in grading 7-D1 contrasted markedly with how contractors Dunn and Baker fared in 7-D2, which ran from the end of Orino's contract on Dutton Ridge over to Sun Notch for a distance of 2.9 miles. The south and west sides of Dutton Ridge and the area above Sun Meadow required about 50 percent rock work, but the contractors found it easier than what engineers had estimated. Progress on grading 7-D2 stood at almost full completion by October 1937, with only finish grading and some landscape details expected for the following season. Lange identified very little damage to trees, either in burning those cleared from the roadway or during grading operations. He seemed particularly pleased with the masonry features along 7-D2, making special reference to what later became known as "spillways" to be connected with culverts as part of cross drainage. The masonry component of this grading contract was otherwise limited to building culvert headwalls, most of which appeared along the south side of Dutton Ridge, where snowmelt brought seasonal drainage.

Orino finally completed most of the rough grading in 7-D1 during the 1938 season, but all of the time allotted for the contract had long since elapsed. A somewhat sympathetic Lange explained that the number and size of the retaining walls needed along the eastern side of Dutton Ridge justified a contract extension. The hand placed walls begun in 1937, for example, were placed on each end of a masonry wall to span one of the fills. Other fills required masonry walls roughly 25 feet in height, but one noteworthy example exceeded that measurement. One almost 30 feet high was illustrated in a textbook on highway engineering published in 1942 by L.I. Hewes of the Bureau of Public Roads.

After inviting bids for surfacing 7-D along with segment 7-E in August 1939, BPR awarded the contract to Orino several weeks later. Although largely devoid of landscape items, this job included a provision for building more than 300 cubic yards of masonry guardrail in segment 7-D2. The contract also focused on producing aggregate for both surfacing and paving, so Orino set up a rock crushing plant in June 1940 not far from the camp he occupied along Sand Creek during the grading contract. The nearby quarry yielded enough rock for a base and top course of surfacing material and some 27,000 tons of aggregate to be stockpiled for future paving of the remaining segments of Rim Drive. This "leg up" approach to paving left a mere \$70,000 needed for plant mix, labor, and equipment to place a bituminous surface on segments 7-C1, 7-D, and 7-E. The paving job represented the final piece after the government had spent a little more than \$2 million in contracts for building Rim Drive since 1931.¹⁰¹ Difficulties with obtaining equipment for the rock crusher, however, hindered progress on the surfacing contract so that production of aggregate was not completed until September 1941. American involvement in World War II allowed for only enough funding to remove slides that resulted during the winter of 1941-42.

¹⁰¹ USDI-NPS, Development Outline, Roads and/or Trail System Plan, March 9, 1944.

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Segment 7-E (Sun Notch to Park Headquarters)

The initial P-line run by BPR in 1926 assigned segment 7-E to a route linking Sun Notch with Rim Village, but the subsequent adoption of a "combination line" led to dividing the segment into two pieces for contracting purposes. A sort of "middle line" connected Sun Notch with Vidae Falls and became 7-E1, while 7-E2 roughly corresponded to the old "low line" (or Rim Road alignment) running from Vidae Falls to Park Headquarters. Dunn and Baker completed all of the rough grading and most of the finish portion of the contract in 7-E1 during the 1937 season. Just over a mile in length, 7-E1 turned out to be relatively easy work. In running above the western margin of Sun Meadow and along the bottom of a slide on the flank of Applegate Peak, the new road provided Lange with an opportunity to show a particularly good example of a "warped" slope for transition through a heavy rock slide. BPR awarded the contract for grading 7-E2 to E.L. Gates of Portland in October 1937, so that work on the final 3.3 miles of Rim Drive began the following spring.

The grading contract for segment 7-E2 included a road connection below Vidae Falls to the proposed Sun Creek Campground. A need to relieve pressure on the campground at Rim Village drove selection of new sites, such as Sun Creek, away from where the lake could be seen. As one of several satellite areas, NPS officials hoped that a new campground below Vidae Falls might provide an attractive alternative to the problems associated with overuse in Rim Village.¹⁰² The first step toward building the campground came in the form of a serpentine road going down a quarter mile from Vidae Falls to an area that once served as an informal picnic site on the old Rim Road. A bank slope constructed at its intersection with the Rim Drive served the dual purpose of reducing the campground road's presence to motorists traveling the main route, yet also afforded sufficient sight distance from one road to the other.

Plans for a stopping point beneath the waterfall called for widening the road fill on the upstream (or northern) side of Rim Drive, so as to allow for parallel parking.¹⁰³ Installation of a stone drinking fountain at this parking area came in July 1939, but construction of additional landscape features had to wait until the subsequent surfacing contract was let. These measures included building a raised walk 4 feet wide in front of Vidae Falls, which was separated from the roadway by a stone curb. Introduction of the fill spanning Vidae Creek constituted what Lange termed as the "major landscape problem" in 7-E2. He reported that it required more than 1,000 yards of topsoil in preparation for planting the entire slope. As part of making the fill conform to surrounding terrain, this effort required more than 5,000 plants, shrubs, and trees.¹⁰⁴ Al Lathrop, formerly one of Lange's assistants for CCC work, had charge of a crew numbering ten men paid by the contractor. They needed sixteen days to plant a mix of species that included willows, mountain hemlock, huckleberry, purple-flower honeysuckle (twinberry), and spirea.¹⁰⁵

¹⁰² Ernest P. Leavitt, Superintendent, to Arno B. Cammerer, NPS Director, December 1, 1937, 3.

¹⁰³ Lange, "Parking Area, Vidae Creek Falls," drawing NPCL 2087B, August 19, 1939, NPS files.

¹⁰⁴ Lange, "Cross section to accompany plans for proposed fill at Vidae Creek," drawing CL 2012, February 8, 1938, NPS files; Struble, Final Construction Report on Routes 7-E2 (Grading) and 7-D1, D2, E1, E2 (Surfacing), April 27, 1940, FHWA files, 6.

¹⁰⁵ Lange, Monthly Narrative Report to the Chief of Planning, June 25 - July 25, 1939, 2-3.

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Superintendent Leavitt expressed some satisfaction in writing to NPS director Cammerer that all grading contracts let in conjunction with building Rim Drive were finally complete as of September 1939. Lange mentioned this milestone in his season-ending report for the year and optimistically projected the surfacing phase to be finished in 1940, with the paving to follow in 1941.¹⁰⁶ The surfacing of 7-E did indeed come about over the following season, but the funding request for paving this road segment languished throughout World War II and for more than a decade afterward.

POSTWAR CHANGES

World War II delayed the final few pieces needed to fully complete Rim Drive until the Mission 66 years of park development, largely because budgets at Crater Lake and elsewhere in the National Park System remained at barely custodial levels until 1957. At that point an infusion of project funding began to come as part of preparing for the fiftieth anniversary of the NPS (to be celebrated in 1966) that also corresponded to greater annual visitation that drove the need for new facilities as well as the redesign of existing ones. NPS officials cited Rim Drive as an outstanding example of past collaboration with BPR at the beginning of "Mission 66," and they even singled out the park's road system as illustrating the type of ideal control exerted by the NPS planning process. Master plans (which originally were a response to provisions in the aforementioned Employment Stabilization Act of 1931) and related documents supposedly guarded against "whims of opinion or varying methods of development" brought by changes in personnel.¹⁰⁷

The "progression of work and revision" guided by the park's master plan for the most part centered on building new employee housing at Park Headquarters and developing a campground near Annie Spring, though a number of smaller projects were also funded by Mission 66. As for changes along Rim Drive during this period, only the parking and trail to the lake at Cleetwood Cove merited attention through revision of the master plan.¹⁰⁸ By the end of Mission 66, however, the master plans once prepared by resident landscape architects and then approved by the superintendent and personnel in central offices had largely given way to sporadic site plans and other assistance supplied by professional staff stationed away from the park.

Most ubiquitous among all the accretions associated with the Mission 66 Period on Rim Drive were the interpretive panels mounted on bases composed of stone masonry to match the guardrails. Intended to help make the road a self-guided tour, they served the dual purpose of enhancing visitor understanding and dispersing use over a wider area away from Rim Village.¹⁰⁹ Six of the thirteen locations on Rim Drive initially chosen for these devices fell on segment 7-A, including the most elaborate development associated with these

¹⁰⁶ Leavitt to Cammerer, October 5, 1939, 1; Lange, Crater Lake National Park Development Outline 1939, 1.

¹⁰⁷ Dudley C. Bayliss, "Planning Our National Park Roads and Our National Parkways," *Traffic Quarterly* (July 1957), 421-422. Special reprints of the article were sent to most of the parks as part of publicizing Mission 66.

¹⁰⁸ Some of the planned work is noted in "Crater Lake Improvement Project Set," *Portland Oregonian*, September 11, 1958, 4. The plan for a new parking above Cleetwood Cove was by Joseph T. Clark, "Lake Trail - Minor Developed Area, part of the Master Plan," drawing CL-2352A, January 24, 1961, one sheet, NPS files.

¹⁰⁹ USDI-NPS, Mission 66 for Crater Lake National Park, December 17, 1956, 6-7.

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“wayside exhibits,” a cluster of five panels installed during the summer of 1959 at the Diamond Lake Overlook. More typical were the single panels on bases incorporated into the masonry guardrails at the Discovery Point parking area, the Union Peak Overlook, and the near Diamond Lake Junction where glacial scratches are evident.

Initial discussions about adding picnic areas along Rim Drive took place before the war, during the season of 1939, when park visitation reached a new high of 225,100.¹¹⁰ With attendance steadily increasing, especially during the summer season (to 360,000 by 1956), the onset of Mission 66 represented an opportunity to proceed with one of the secondary park priorities listed in the master plan. Day labor leveled and then surfaced six picnic areas around the rim in 1957.¹¹¹ Once pit toilets and tables built with concrete supports and redwood lumber for tops had been installed during the summer of 1958, the site located in segment 7-A became known as the Discovery Point Picnic Area. Subsequent development there included paving the parking lot and delineating it with some boulders as a traffic control device. In contrast to development utilizing a rectangular parking lot with a short stem road, both picnic areas in segment 7-B made use of the more common short loop and were situated just over a mile apart. Funding from Mission 66 also brought about construction of two picnic areas in segment 7-C. One of them, the site near Skell Head, appeared largely as an afterthought in a dense thicket of lodgepole pine and thus received little use in comparison to the other five sites on Rim Drive. Some visitors chose to pause for an impressive view of Mount Scott and the landscape beyond it from the other picnic area. Located just one-tenth of a mile from the Mount Scott trailhead, this site featured a short road loop and whitebark pine stands that provided shade for three tables. The final picnic area developed during Mission 66 needed the addition of a short road loop in order to utilize the campground access road built two decades earlier below Vidae Falls in segment 7-E.

The Mission 66 prospectus drafted in 1956 critiqued the parking overlooks and turnouts, particularly those along segment 7-A, as being too few in number and insufficient in size. As a means to draw people away from Rim Village, these stopping places needed increased parking space, especially where views had been enhanced through the addition of wayside exhibits. This enthusiasm for altering the size and number of viewpoints along Rim Drive eventually waned, as the master plan approved in April 1965 restricted its call for additional parking to the Diamond Lake Junction. Planners from the NPS service center for design and construction in San Francisco nevertheless proposed a site study for the largely undeveloped Watchman Overlook after one of them observed its “hazardous condition” in August 1966. They recommended more formalized parking and extending the masonry guardrail from the road margin to provide a measure of safety for visitors who walked to an adjacent ledge for a view of the lake. A site plan produced several months later thus called for slight realignment of the road on additional fill so as to accommodate thirty-nine cars.¹¹²

¹¹⁰ J. Carlisle Crouch, et al., Recommendations of Camp Ground Committee, Crater Lake National Park, June 30, 1940, 4-5.

¹¹¹ T.J. Adams, Completion Report, Picnic Site Development, March 2, 1959, 1.

¹¹² Carl W. Alleman, Chief Landscape Architect, DCSSC, to Kenneth L. Raithel, September 8, 1966; Raithel, “Watchman Overlook.” drawing CL-3311, December 1966, one sheet, Denver Service Center.

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With construction funds in relatively short supply when compared to the Mission 66 program of just a few years earlier, the project at Watchman Overlook remained on hold until the early months of 1971. At that point another site plan suggested dropping the realignment and reworked the design to yield parking for thirty cars that could be oriented diagonally. The revised site plan included new features for Rim Drive, such as the bituminous curb, contrived rock "outcrops," and even masonry piers linked by pressure treated wood peeler cores as a safety barrier.¹¹³ Construction at the Watchman Overlook thus began in 1972, though completion of all items in the contract took another two summers. As a cue for visitors to stop, as the separated parking and conspicuous design features at the Watchman Overlook prompted the nickname "Corrals," but the site quickly became the most popular stopping place on Rim Drive.¹¹⁴

Much of the Rim Drive became a one-way system oriented clockwise beginning in 1971 in response to concerns of some officials in the NPS that the road between Rim Village and the Diamond Lake Junction had become too congested.¹¹⁵ As the greatest change to circulation around the rim since adoption of the "combination line" between Kerr Notch and Park Headquarters, the one-way system seemed to create more problems than it solved. NPS planners stationed in Denver subsequently observed that it generated a greater number of traffic accidents (due to higher vehicle speeds in the absence of opposing traffic) and many complaints over the sixteen summers that it remained in force.¹¹⁶ The supposedly problematic segment 7-A opened for two-way traffic again in 1976 (the entire circuit returned to two-way circulation in 1987), but development at the Watchman Overlook and subsequent reconfiguration of the Diamond Lake Junction had greater impact on Rim Drive as originally designed and built.

Realignment of the Diamond Lake Junction occurred as part of rehabilitating the North Entrance Road from 1985 to 1987. A new "T" intersection replaced the original road wye and the new alignment gave precedence to a through route over continuation of the circuit. It also came with a new parking area, one intended to relieve pressure on the parking areas further south, which now consistently ranked second in popularity among all of the viewpoints on Rim Drive. According to the NPS justification for this project, the new parking area was to serve as part of a development that included hard surfaced walkways allowing for handicapped access to a pair of overlooks. These did not materialize, so the site quickly showed how foot traffic during the summer could negatively impact vegetation.

Parking at the Cleetwood Cove trailhead initially consisted of simply widening the road shoulders, but this solution quickly became inadequate. A site plan done in 1961 called for an elongated parking area across Rim Drive from the trailhead, oriented perpendicular to the road instead of parallel. With an adequate entranceway, the parking lot site would also be large enough to allow development of a picnic area with some thirty tables or

¹¹³ F. Serrano, "Parking Area and [Watchman] Overlook," drawing 106-41, 008D, March 1971, six sheets, NPS files.

¹¹⁴ Bo Shelby and Donald W. Wolf, Social Impacts of Design Alternatives, Crater Lake National Park, Cooperative Park Studies Unit, Report 81-2, Oregon State University, Corvallis, 1981, 47-49.

¹¹⁵ John A. Rutter, Regional Director, to G.E. Young, September 27, 1971.

¹¹⁶ Jon Hammen and Bill Koning, DSC Trip Report, April 2, 1976, 3-4.

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even a campground. Grading the lot above Cleetwood Cove began in the fall of 1961, but lack of water effectively limited development of other amenities to portable toilets and a few picnic tables.¹¹⁷ The only additional development at the site resulted from a spillage problem associated with fuel delivery to the tour boats. Consequently, construction of a gasoline transfer building situated between the parking lot and Rim Drive in 1998.

In some respects, finally paving segments 7-C1, 7-D, and 7-E in 1960 represented the last act of road construction begun almost three decades earlier.¹¹⁸ In the interim, the BPR supervised laborers hired by the NPS in 1952 to address active slides at Anderson Point in segment 7-C1 by stabilizing slopes, but the engineers also oversaw the building of roughly 100 lineal feet of masonry guardrail to replace an earlier safety barrier along this section. The NPS also wanted to counteract the rock fall that repeatedly damaged, and in some cases, destroyed masonry guardrail on a section of road located along Dutton Cliff in 7-D1. It thus let a contract in 1966 to repair some of the guardrail and retaining wall, in conjunction with establishing some additional cross drainage in this section of road.¹¹⁹ On the other side of Dutton Cliff, in segment 7-D2, continual slides and rock fall led to repair and rebuilding of some masonry guardrail along this so-called "Sun Grade" section in 1985. Cuts made as part of the original grading contract remained subject to erosion and raveling, however, particularly where the slope face remained wet.¹²⁰

COMPARATIVE ANALYSIS

Although none of the planners, engineers, landscape architects, equipment operators, or tradesmen who initially built Rim Drive stayed with the project through its entire duration (from 1926 to 1941), the circuit is an almost perfect park road. Rim Drive became another part of an ongoing effort by the NPS to point visitors toward nature instead of park infrastructure, and in this respect, Francis Lange's efforts to fit the road into its surroundings through site plans, architectural drawings, and field sketch details are exceptional examples of landscape design. He, like the other principal designers (such as John Sargent, Wendell Struble, Merel Sager, and William Robertson) helped perpetuate the idea of seeing Crater Lake at a distance as the main focus of visiting the park. Given the primacy of subordination as an ideal that drove the design of scenic highways, it is perhaps not surprising that popular accounts about Rim Drive as a special travel experience in and of itself are virtually nonexistent. It has, however, been used to promote tourism in Oregon by the state's travel information office. In marked contrast to more famous roads such as the Blue Ridge Parkway, U.S. 66, or the Going-to-the-Sun Highway, Rim Drive remained subordinate to the idea of simply being the best way for visitors to enjoy Crater Lake.¹²¹

¹¹⁷ J. Leonard Volz, Superintendent, to Regional Director, August 26, 1965.

¹¹⁸ Superintendent's Monthly Report, October 7, 1960, 4.

¹¹⁹ Superintendent's Monthly Report, August 7, 1966, 8.

¹²⁰ John Doerr, Some Notes and Photographs along the Rim Road, June 19, 1940, 3-10.

¹²¹ Examples are the magazine advertisements titled "Rhapsody in Blue" (1938) or the "You'll Remember Oregon" campaign (1951).

Subsequent promotion by the travel office (which was lodged in the state highway department until the 1980s) tended to place Crater Lake among Oregon's top attraction instead of giving it the starring role.

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The number of unaltered design features on Rim Drive and the overarching emphasis on visual unity probably make it the best surviving example of a landscaped circuit road in any of the national parks. Direct comparison of Rim Drive with roads in other national parks is difficult, however, because hardly any of the latter can be considered circuits.¹²² Whole road systems (like those of Mount Rainier National Park and Scotts Bluff National Monument) and some individual through routes (such as the Going-to-the-Sun Highway at Glacier National Park) certainly demonstrate how the tenets of landscape architecture were integrated with road design, yet none of them show the overt melding of road design with early attempts to educate park visitors. This is partly due to Rim Drive circling the park's central feature (Crater Lake), though John C. Merriam at the Carnegie Institution of Washington pitched the idea of observation stations and substations to the National Park Service, which then implemented it through the work of Ansel Hall, Merel Sager, and most notably, Francis Lange.

Rim Drive's place in the broader category of scenic highways in the United States is more difficult to assess, though these routes have been described as roads built to provide motorists with the opportunity to see up-close the landscape's natural beauty.¹²³ A number of scenic highways in the United States are contemporary with Rim Drive since much of the Depression work relief funding was channeled into road construction, especially that taking place in national park areas or along great scenic corridors like the Oregon Coast.

Comparing Rim Drive with other scenic highways in Oregon is only a little less problematic, since the state contains roads built to show the marvels of the Oregon Coast and the Columbia Gorge, as well as other destinations. The Columbia River Highway, which links The Dalles with Portland, possesses the distinction of being the first scenic road designed as such in the United States.¹²⁴ Its period of construction (1913 to 1922) makes the highway contemporary with the unfinished and then partially obliterated Rim Road built by the Army Corps of Engineers at Crater Lake National Park. Like most other scenic roads in Oregon and elsewhere, the Columbia River Highway is entirely linear—though a loop of some 160 miles can be made by taking US 26 and SR 35 around the state's highest peak, Mount Hood. This loop route around the mountain, however, reflects several different periods of construction instead of one as well as some changes in alignment and road width. A shorter and less well known scenic loop of 85 miles can be driven during the summer over the central Cascade Range through the Willamette and Deschutes national forests using a combination of US 20, SR 126, and SR 242. The Dee Wright Observatory on McKenzie Pass is somewhat analogous to the Sinnott Memorial in Crater Lake's Rim Village, but these three roads were not designed as a unified tour route intended to highlight volcanic features in the high Cascades for the edification of passing motorists. Aside from the Dee Wright Observatory, most remnant designed features from the 1930s are confined to campgrounds administered by the Forest Service, such as the one at Clear Lake close to SR 126.

¹²² The Crater Rim Drive at Hawai'i Volcanoes National Park is a circuit of 10.6 miles in length, but has undergone a number of alterations often at the sacrifice of original material; Architectural Resources Group, Crater Rim Drive Historic Road Inventory, November 2005, 69-70.

¹²³ Robert W. Hadlow, Historic Columbia River Highway, National Historic Landmark nomination form, February 4, 2000. 44.

¹²⁴ Ibid.

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The only other summit loop road in Oregon located within a park is on Roxy Ann Butte east of Medford. The road below its summit forms a circuit in Prescott Metropolitan Park and was designed by the National Park Service and built by the Civilian Conservation Corps for views of the Rogue Valley and the numerous surrounding peaks. The CCC also completed two picnic areas, several trails emanating from the loop road, signs, and masonry features but most have either been removed or allowed to disintegrate. The loop road at Prescott Park is not surfaced and presently closed to cars driven by visitors, though trucks from a commercial quarry still utilize a portion of it.

There are numerous examples of viewpoints originally developed during the Depression-era along state highways in Oregon, but only a very few of them were intended to be experienced sequentially. Most were simply marked with a wooden signboard or metal plaque, though Pilot Butte State Park near Bend stands as an exception. In allowing visitors to comprehend geological phenomena, and developed with parking places, parapet walls, and signage, it furnished a model in Merriam's view, to be emulated at Crater Lake and other places where spectacular landscapes could be shown to motorists. This was done through work relief programs along the Oregon Coast to some extent (Neahkahnie Mountain and Cape Perpetua are examples) and along the Columbia River in several places, though there was not the same comprehensive effort that made Rim Drive seem so unified.

Many of the approaches to landscaping taken along Rim Drive were duplicated on other highways in Oregon, but nowhere else in the state can match the sheer array of measures taken to blend a road with its setting. These include planting to hide scars and the earlier Rim Road, cross drainage features built with native materials like the culvert headwalls and spillways, different types of bank slopes to stabilize cuts, dark soil used as part of restoration, and a palette of signs designed to enhance specific locales. Probably the most analogous to Rim Drive in this respect is SR 214 through Silver Falls State Park. During the 1930s the NPS collaborated with the Oregon State Highway Department to build the highway through an adjoining recreation demonstration area (one designed by the NPS for eventual transfer to the state park), but the through road is only half as long as Rim Drive and contains fewer vistas, being situated at much lower elevation.

CONCLUSION

Rim Drive is eligible for the National Register as a resource of statewide significance under Criterion A for its association with transportation, outdoor recreation, and conservation and Criterion C as an example of engineering and landscape architecture. This resource stands alone in Oregon as a completed circuit road built in the 1930s that retains almost all of its designed features while continuing to perform its original function in the way that the Bureau of Public Roads and the National Park Service intended. It is also emblematic of federal aid for scenic roads that came through Depression-era work relief funds, in this case mostly channeled through the Public Works Administration to the Bureau of Public Roads and the National Park Service. Public works projects in places like Crater Lake possessed the advantage of being a conspicuous manifestation that presidents

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from both political parties (in this case Herbert Hoover and Franklin Roosevelt) could point to as part of their commitment to relieving unemployment at a time when up to a quarter of the entire American workforce lacked a job.¹²⁵ The profusion of projects during this period shaped the built environment and visitor experience at Crater Lake National Park like no other has before or since, and Rim Drive is by far the largest of these undertakings.¹²⁶ Work relief funds supported the location, design, and construction of a linear corridor so subordinate to the landscape that few (if any) park visitors could be entirely aware of how nature was presented to them. In this respect there are few roads in Oregon or anywhere else that exhibit an equal mix of spectacular scenery, design with nature, and so much original material still intact.¹²⁷

¹²⁵ While it can be said that most of the design precedents and even a good deal of construction at Crater Lake took place during the Hoover Administration, the vast majority of work on Rim Drive occurred with Roosevelt was in office. In contrast to developed areas like Rim Village and Park Headquarters, very little of the work on Rim Drive aside from fabrication and placement of signs can be attributed to the Civilian Conservation Corps; Stephen R. Mark, "Transcending the Ordinary: Discerning a CCC Legacy at Crater Lake," *Journal of the Shaw Historical Library* 20 (2006), 85-98.

¹²⁶ Stephen R. Mark, "Depression-era Work Relief Programs and the CCC," *Journal of the Shaw Historical Library* 20 (2006), 5-13.

¹²⁷ The Columbia River Highway between Troutdale and The Dalles is, of course, older than Rim Drive and has been designated a national historic landmark because of its pioneering road design and the landscape measures taken to complete the first scenic highway in America. Unlike the CRH, which has suffered from impacts associated with subsequent routing of a four lane interstate highway through the Columbia River Gorge, the NPS has enjoyed the luxury of being in full control of Rim Drive. Resisting large scale, or even incremental, changes to alignment and the integrity of historic fabric has been greatly aided both by the fact that major transportation corridors are located elsewhere. Another factor is the nature of seasonal vehicular access to the rim Crater Lake.

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VERBAL BOUNDARY DESCRIPTION

Beginning at the three way intersection of west Rim Drive, the Munson Valley Road, and the roadway to Rim Village, proceed northwest and continue clockwise to Discovery Point, encompassing both Rim Drive and the Discovery Point Trail that runs parallel with the road. From Discovery Point go north/northwest around the Watchman to a point where the trailhead linking Rim Drive to the lookout is located. In addition to the Watchman Trail, the district also includes the remainder of Rim Drive, which continues from the Watchman Overlook and trailhead, past the Diamond Lake (North) Junction and the beginning of east Rim Drive to another trailhead for Mount Scott, thence up the trail leading to the summit of this peak. Continuing clockwise from the Mount Scott trailhead, the district includes a wye intersection and spur road to the Cloudcap parking area, thence back to the wye, following Rim Drive past another intersection with the East Entrance Road at Kerr Notch toward Park Headquarters. The district also encompasses a paved service road below Vidae Falls and a short loop trail through the Castle Crest Wildflower Garden before terminating at the intersection of east Rim Drive and the Munson Valley Road, located 400 feet south of where vehicles can enter Park Headquarters (the Munson Valley Historic District).

Width of the district over the entire length of Rim Drive varies, but the average according to NPS calculation is 85 feet. This includes the original roadway, 22 to 24 feet from shoulder to shoulder, with the travel lanes within the larger "right of way," which is really the clearing limit, where trees were removed and then grubbed. The width of 85 feet also includes where cuts had to be angled beyond 90 degrees as well as pullouts that range from those adjacent to travel lanes all the way to parking overlooks that are intentionally separated from Rim Drive by islands of trees or planting beds.

The four trails (Discovery Point, Watchman, Mount Scott, and Castle Crest Wildflower Garden) included in this nomination total 4.7 miles in length and are engineered structures meant to facilitate pedestrian circulation at the time when Rim Drive was constructed. They were located, designed, and built according to NPS standards in force between 1931 and 1938. The district includes portions where the base, tread, cross-drainage, dry laid stone retaining walls, steps, and parapet (at the Watchman Lookout) are still intact and possess integrity. Width of tread on these four trails averages four feet, though the "right of way" is a corridor of about ten feet that can include slope and drainage treatments.

BOUNDARY JUSTIFICATION

The nomination of Rim Drive and four associated trails creates a narrow, linear district that is primarily circular in its orientation. Distance between the termini is 29.4 miles, with Rim Drive nomination also including the Cloud Cap spur road and the Vidae Falls service road for a grand total of 30.6 miles. This district includes all or parts engineered features that are observable and original: base, shoulders, surfacing, pavement, retaining

Rim Drive Historic District
Name of Property

Klamath Co., OR
County and State

NPS Form 10-900-a

OMB Approval No. 1024-0018

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walls, masonry guardrail, culverts and headwalls, spillways, drop inlets, paved ditches, bankslopes, devices to protect trees, planting beds, curbs, walkways, overlooks, cuts, and fills.

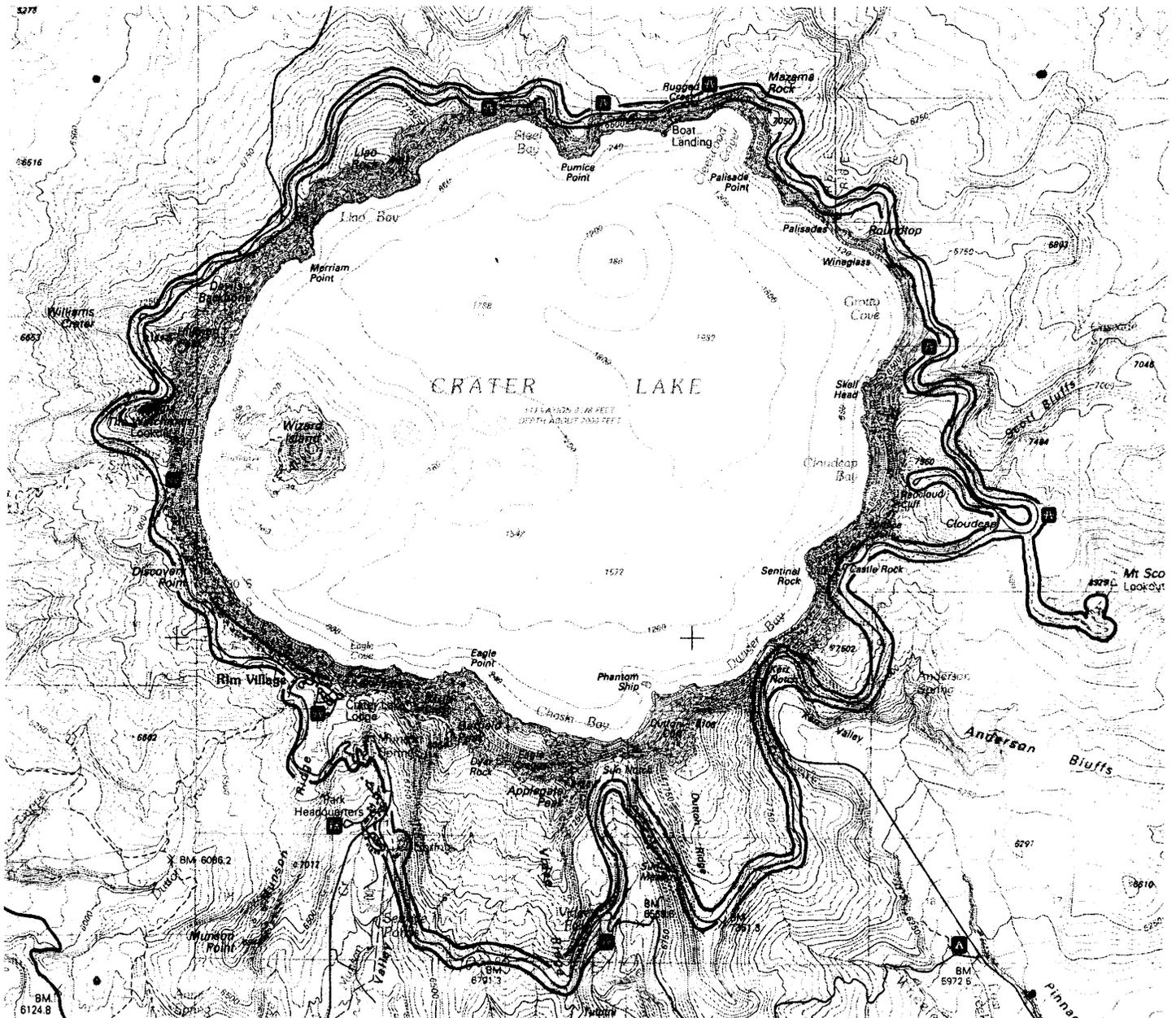
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BOUNDARY MAP

The boundary of the Rim Drive Historic District includes the road right-a-way of Rim Drive and its associated engineering features, including visitor amenities such as overlooks, pullouts, parking lots, and trails. Map not to scale. See Section 10 for a full boundary description.



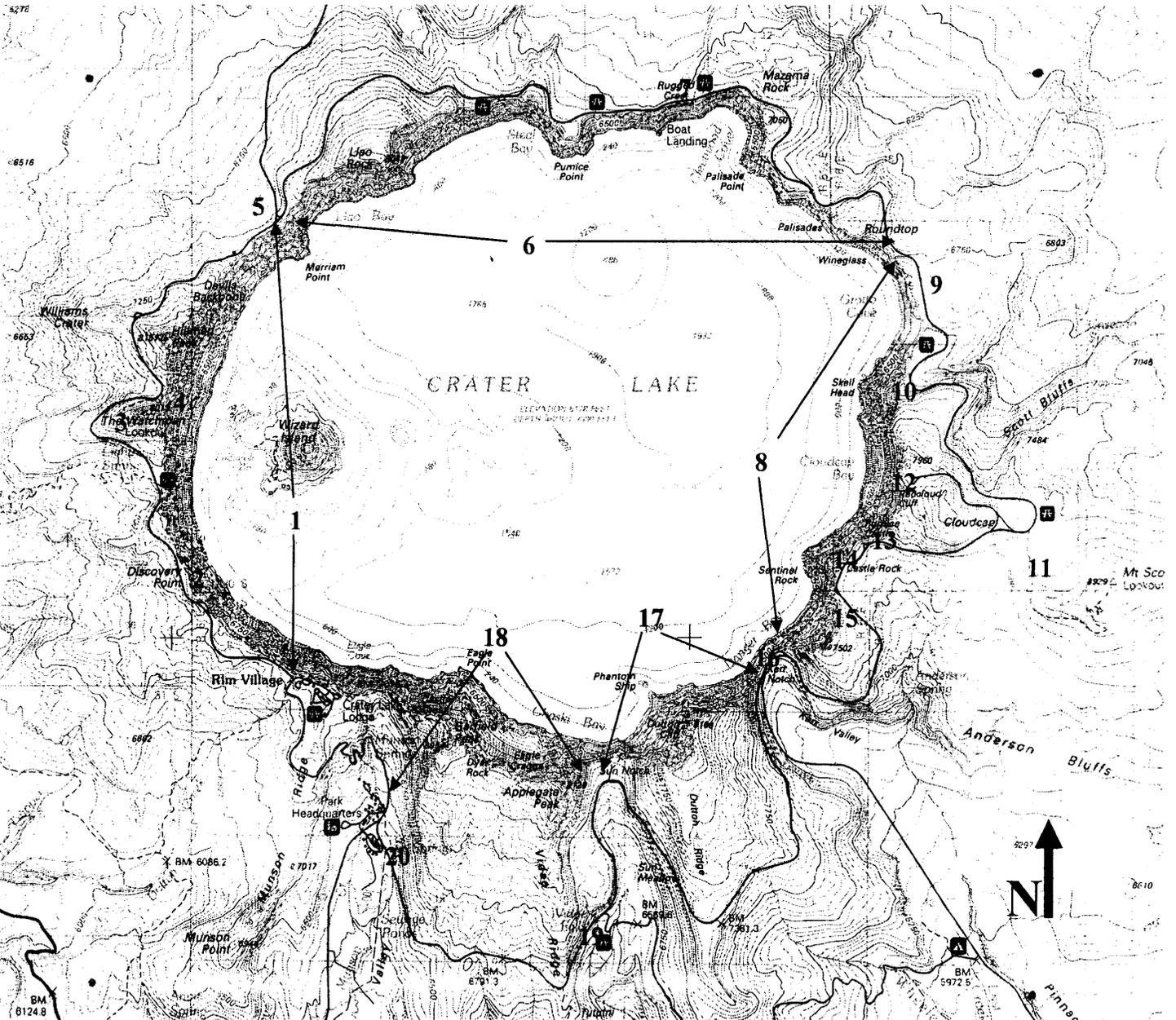
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RESOURCE MAP

Note: Resources 1, 6, 8, 17, and 18 are road segments whose length is defined by the arrows extending from the resource number. Please see Section 7 for precise descriptions of each resource.



Architectural Survey Data for Rim Drive Historic District

Oregon State Historic Preservation Office

(printout date: 12/12/2007)

Address/ Property Name	Eval/ Ht	Yr(s) Built	Materials	Arch. Classifs/Styles	Orig. Use/ Plan (Type)	Survey Dates	Natl Register Status / Listed Date
01. Rim Village to the Diamond Lake Junctio Rim Drive, Segment A HAER No. O-107	EC	1931 1935			Road Related (vehicular) Road	7/1/2007	Rim Drive Historic District
02. Rim Village to Discovery Point (mile 0.0 t Discovery Point Trail HAER No. OR-107	EC	1932			Park/Plaza Trail	7/1/2007	Rim Drive Historic District
03. Diamond Lake Junction to Grotto Cove (m Watchman Trail HAER No. OR-107	EC	1915 1932			Park/Plaza Trail	7/1/2007	Rim Drive Historic District
04. Rim Drive mile 4.0 Watchman Overlook HAER No. OR-107	NP	1972 1973			Park/Plaza	7/1/2007	Rim Drive Historic District
05. Rim Drive mile 4.0 Diamond Lake (North) Junction HAER No. OR-107	NP	1986 1987			Park/Plaza	7/1/2007	Rim Drive Historic District
06. Diamond Lake Junction to Grotto Cove (m Rim Drive, Segment B HAER No. OR-107	EC	1934 1938			Road Related (vehicular) Road	7/1/2007	Rim Drive Historic District
07. Rim Drive mile 10.7 Cleestwood Cove Parking Area HAER No. OR-107	NP	1961 1963			TRANSPORTATION: Gene	7/1/2007	Rim Drive Historic District
08. Grotto Cove to Kerr Notch (mile 13.8 to 2 Rim Drive, Segment C HAER No. OR 107	EC	1934 1938			Road Related (vehicular) Road	7/1/2007	Rim Drive Historic District
09. Rim Drive mile 13.8 Grotto Cove HAER No. OR-107	EC	1937 1938			Park/Plaza	7/1/2007	Rim Drive Historic District
10. Rim Drive mile 14.5 Skell Head	EC	1937 1938			Park/Plaza	7/1/2007	Rim Drive Historic District
11. Trailhead located at mile 16.9 near Whiteb Mount Scott Trail HAER No. OR 107	EC	1933			Park/Plaza Trail	7/1/2007	Rim Drive Historic District

Evaluation Codes: ES=eligible/significant EC=eligible/contributing NC=not eligible/non-contributing NP=not eligible/out of period UN=undetermined/lack of info XD=demolished
 NR Status Codes: NRI=individually listed NHD=listed in a historic district NKB=both individually listed and in historic district NHL=Natl. Historic Landmark

Architectural Survey Data for Rim Drive Historic District

Oregon State Historic Preservation Office

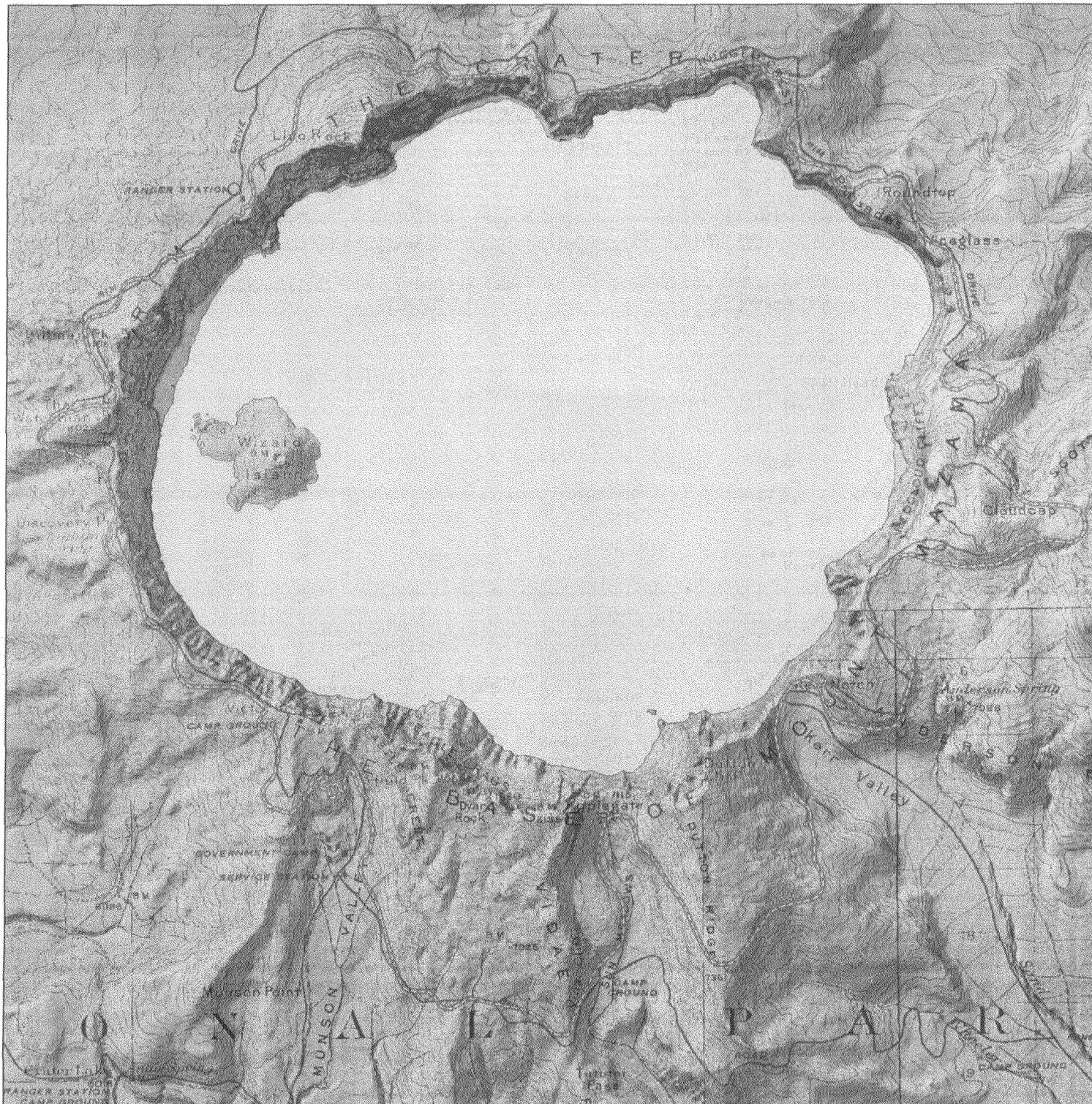
Address/ Property Name	Eval/ Ht	Yr-(s) Built	Materials	Arch. Classifs/Styles	Orig. Use/ Plan (Type)	Survey Dates	Natl Register Status / Listed Date
12. Rim Drive mile 18.2 Cloud Cap	EC	1937 1938			Park/Plaza	7/1/2007	Rim Drive Historic District
13. Rim Drive mile 21.0 Cottage Rocks HAER No. OR-107	EC	1937			Park/Plaza	7/1/2007	Rim Drive Historic District
14. Rim Drive mile 21.2, Sentinel Point Overl Victor View HAER No. OR-107	EC	1937 1938			Park/Plaza	7/1/2007	Rim Drive Historic District
15. Rim Drive mile 21.4 Reflection Point HAER No. OR-107	EC	1937 1938			Park/Plaza	7/1/2007	Rim Drive Historic District
16. Rim Drive mile 23.2 Kerr Notch HAER No. OR-107	EC	c.1935			Park/Plaza	7/1/2007	Rim Drive Historic District
17. Kerr Notch to Sun Notch (mile 23.2 to 27. Rim Drive, Segment D HAER No. OR-107	EC	1936 1941			Road Related (vehicular) Road	7/1/2007	Rim Drive Historic District
18. Sun Notch to Park Headquarters (mile 27 Rim Drive, Segment E HAER No. OR-107	EC	1937 1941			Road Related (vehicular) Road	7/1/2007	Rim Drive Historic District
19. Rim Drive mile 28.7 Vidae Falls Parking Area and Fill HAER No. OR-107	EC	1938 1939			TRANSPORTATION: Gene	7/1/2007	Rim Drive Historic District
20. Rim Drive mile 31.1 near park headquarte Castle Crest Wildflower Garden HAER No. OR-107	EC	1938			Park/Plaza Trail	7/1/2007	Rim Drive Historic District
Crater Lake National Park Rim Drive Historic District	EC	c.			Park/Plaza		Rim Drive Historic District

Evaluation Codes: ES=eligible/significant EC=eligible/contributing NC=not eligible/non-contributing NP=not eligible/out of period UN=undetermined/lack of info XD=demolished
 NR Status Codes: NRI=individually listed NHD=listed in a historic district NRB=both individually listed and in historic district NHL=Natl. Historic Landmark

Crater Lake National Park

Historic Rim Road with Current Rim Drive Overlay

National Park Service
U.S. Department of the Interior



1:63,360 1 inch equals 1 miles
1 centimeter equals 633.6 meters

Scales based on 8.5" x 11" map sheet

Map Projection:
UTM Zone 10 North, NAD 83

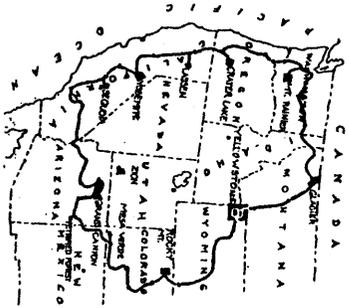
 Historic Rim Road
 Current Rim Drive

Background image and
Rim Road from 1913
USGS 15-minute quad



For Internal Park Use Only
Not For Public Distribution

Chris Wayne, GIS Lab, RP & R Division, 10/31/2007
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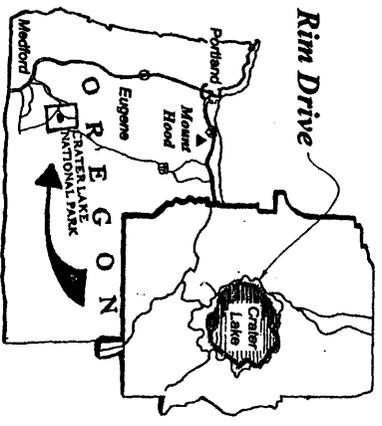
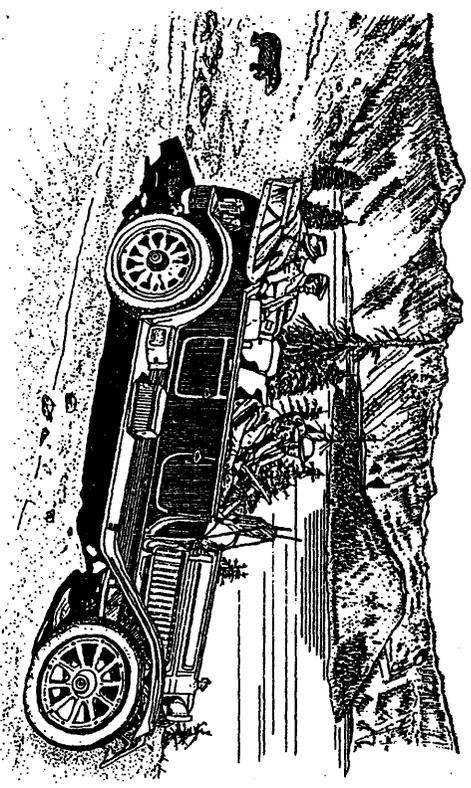
The Park-to-Park highway route, as published in the 1920 Park Service Annual Report.

CRATER LAKE NATIONAL PARK



ROAD SYSTEM

1919/1933



Rim Drive

This documentation interprets the Crater Lake road system's evolution and design including trails, historical structures and small scale details. It reveals artistic relationships that have been incorporated into the natural context of the Crater Lake National Park.

This project is part of the Historic American Engineering Record (HAER), a long-range program dedicated to documenting the historically significant engineering, industrial and transportation heritage of the United States. The HAER Program is administered by the HAER/HAER Division of the National Park Service (NPS), U.S. Department of the Interior. The project was sponsored by the NPS Park Roads and Pathways Program through Federal Lands Highway funds.

The field work, measured drawings, historical report and photographs were prepared under the direction of NPS Roads & Bridges Program Manager Todd Croteau and historian Tim Davis. The recording team consisted of field supervisor and historian Christiana Sarah Lehman (University of Oregon), Walton Stowell (SCAD Savannah, Georgia), and Simona Stoyanova (COMOS/Bulgaria). Accompanying large-format photography was prepared by Jet Lowe, HAER Staff photographer.

The team worked in active collaboration, and with the generous assistance of the Crater Lake National Park Cultural Resource personnel, especially Historian Steve Mark, Master Carpenter David Henry, and Chief of Interpretation Kent Taylor.

The "Crater" of Crater Lake is actually a deep caldera that was formed thousands of years ago by the violent volcanic eruption and collapse of Mount Mazama. Today Crater Lake is primarily experienced by motorists along roads integrated into the natural terrain of the surrounding wilderness. Rim Drive is one of the most scenic drives in the National Park System, and affords visitors a varied series of views amidst a stunning natural spectacle.

The lake and its environs have always been a sacred landscape for Native Americans, especially for vision quests to the spirit world. Nineteenth-century travelers and local settlers were fascinated by the "exquisite beauty" and "awful grandeur" of the lake. In 1885 one of those admirers, William G. Steel, began his own quest to protect the natural beauty of the area. On May 22, 1902, Congress recognized Crater Lake as the nation's sixth national park. Initial development efforts were hindered by the park's isolated location.

In 1913, after surveying a system of park roads, the centerpiece of which was a scenic road encircling the caldera, the U.S. Army Corps of Engineers (COE) began construction of the first Rim Drive. This project continued for the next six years. Though some visitors considered it "crude" and "only partially satisfactory", this Rim Drive soon became popular with many motorists. Approaching the edge of the caldera at numerous points, it afforded magnificent views to the lake at various elevations and angles as well as vistas out to the Cascade Range. In 1916 the National Park Service assumed responsibility for the park, though the COE continued its roadwork until 1919.

In 1928 the redevelopment of the original Rim Drive began in conjunction with a program for improvement and reconstruction of the roads, trails and bridges throughout the National Park System. Rim Drive was the central focus of the park's master plan. Road construction was started by the Bureau of Public Roads (BPR) contract labor in 1937 and augmented by the Civilian Conservation Corps (CCC) in 1933. This program eventually brought Rim Drive up to contemporary standards. Special attention was paid to the protection of the natural landscape. Landscape architect Meriel Sager and Francis Lange planned a route by which visitors could perceive and enjoy the natural beauty and power of the site. They literally

constructed the motorist's experience of Crater Lake by presenting a sequence of different views.

The new Rim Drive followed a slightly different alignment, but still respected the topography of the caldera. Observation towers, viewpoints, parking areas, and pull-outs were skillfully located and designed to be subordinate to the natural features of the park which had inspired their creation. Taking advantage of new construction techniques, the designers attempted to make Rim Drive relate harmoniously in scale, color, and texture to the natural context. The master plan of the 1930s is still evident in the general pattern of the roads, but over the years some additions and changes have occurred.

FIGURE #1

Crater Lake National Park
Rim Drive Nomination

REFERENCE MAP

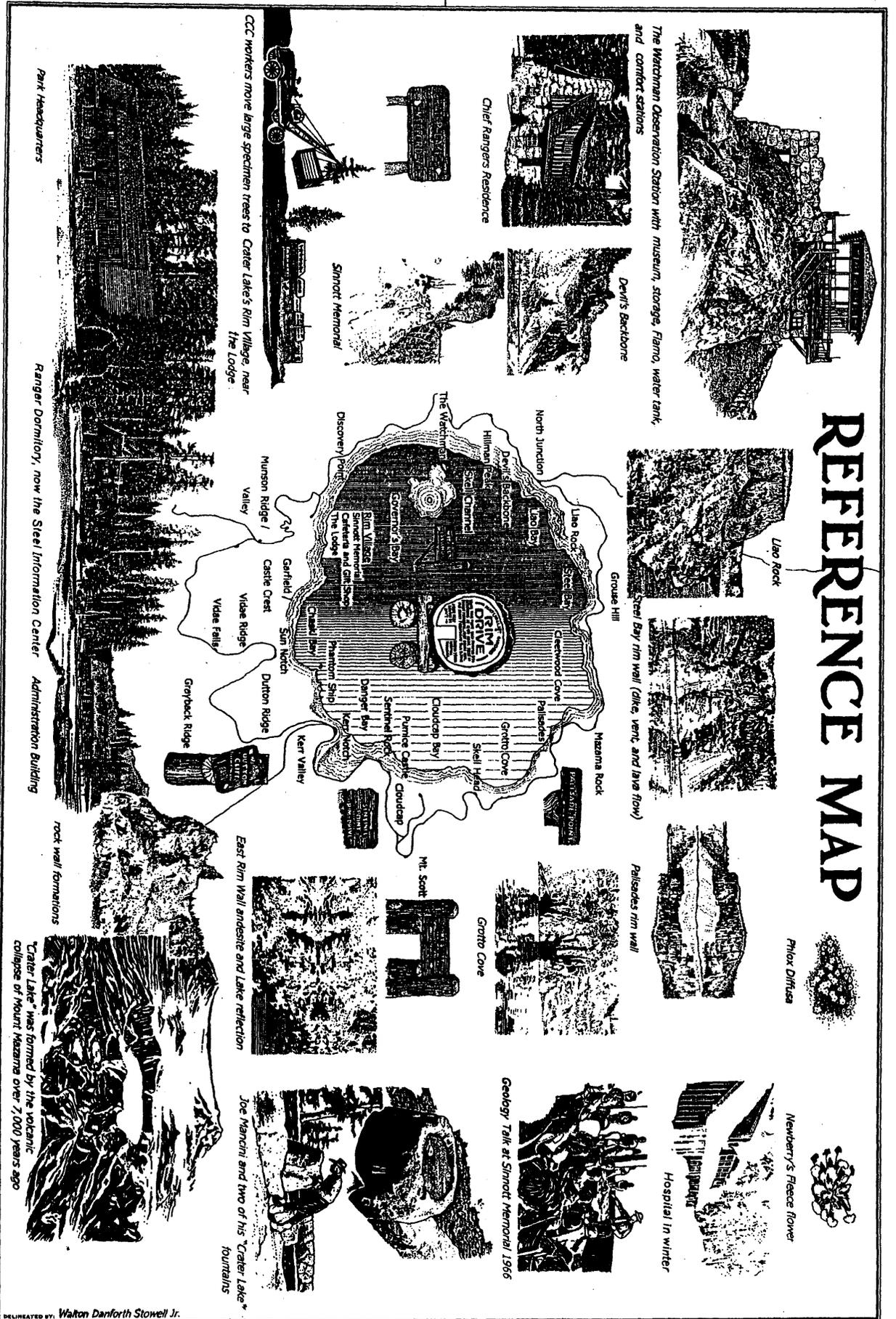
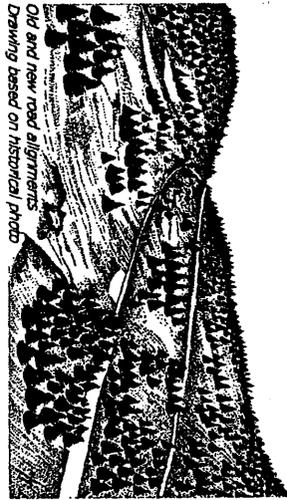
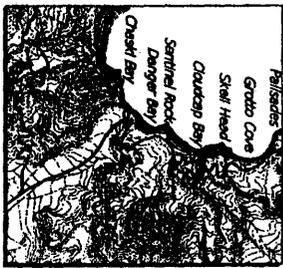


FIGURE #2

Crater Lake National Park
Rim Drive Nomination

ROAD DESIGN PRINCIPLES

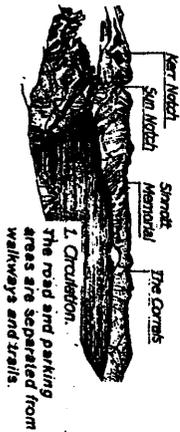
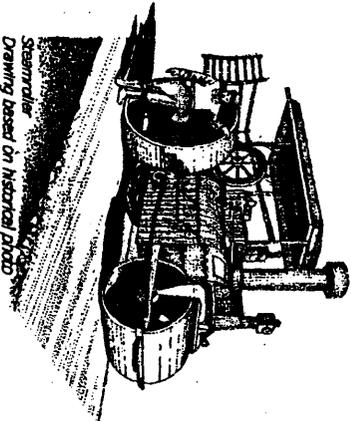
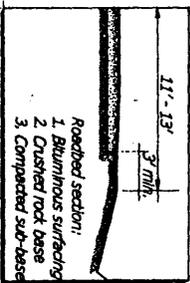
First Rim Drive (1910 - 1919)



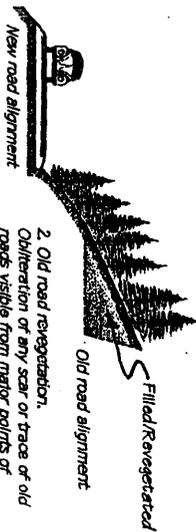
Because of the exceedingly rough nature of the lava rock terrain around Crater Lake and the short working seasons it was a difficult task to build the Rim Drive of standard width, with a minimum number of curves and a gentle grade. The First Rim Drive (35.4 miles), completed in 1919, was a typical mountain road, rocky in some places, dusty in others and crudely surfaced most of the way.



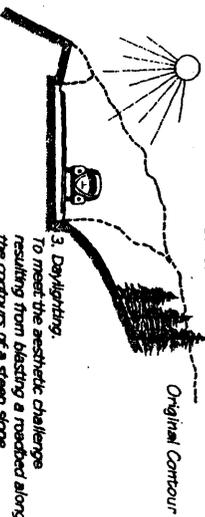
Second Rim Drive (1928 - 1940)



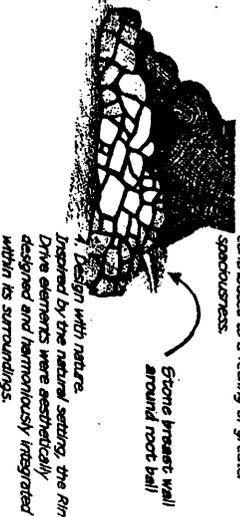
The road and parking areas are separated from walkways and trails.



2. Old road revegetation. Obliteration of any scar or trace of old road visible from major points of interest, through planting or application of sod and filling, was one of the landscape design principles involved in the construction of the Second Rim Drive.



3. Daylighting. To meet the aesthetic challenge resulting from blasting a roadbed along the contours of a steep slope "daylighting" was applied. The slope was cut back, leaving a broad shoulder at the side of the road, which contributed to a feeling of greater spaciousness.

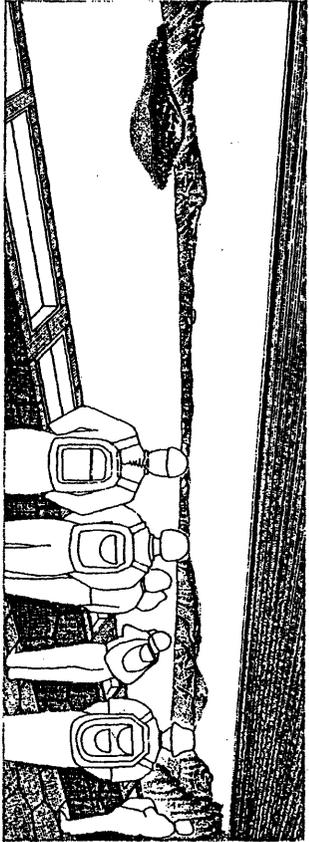


4. Design with nature. Inspired by the natural setting, the Rim Drive elements were aesthetically designed and harmoniously integrated within its surroundings.

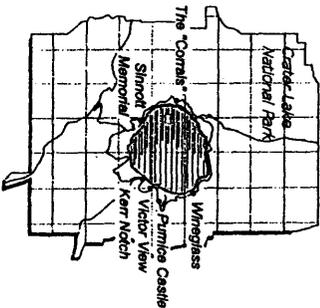
FIGURE #3

Crater Lake National Park
Rim Drive Nomination

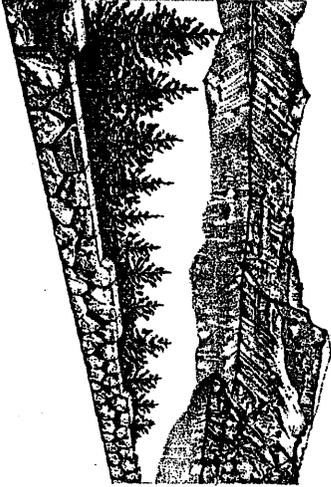
EXPERIENCING THE LANDSCAPE VISTAS TO THE LAKE



Panoramic view to Crater Lake from the Shinnot Memorial.
Built on Victor Rock in 1930, the Shinnot Memorial is intended to be the main orientation point at the beginning of Rim Drive. It still affords a vantage point where visitors can go to hear about the lake from park staff.



View to the Wizard Island from the Corralis.
The 'Corralis,' located on the West Rim Drive, is an observation station built in the 1970s at the Watchman Overlook, and provides visitors with a view of Wizard Island.



View to Lao Rock from the Winglass pullout.
Allowing visitors to experience the majestic forms and multicolored legacy of Crater Lake from various points is the major objective of Rim Drive.



View to the west side from Victor side observation station.



View to the Phantom Ship from Kerr Notch observation station.



View to the Pumice Castle from the Pumice Castle pullout.
Located on the East Rim Drive, this pullout provides an overlook to the partially walled off Pumice Deposits - one of the important geological features on the steep caldera wall.

FIGURE # 4

Crater Lake National Park
Rim Drive Nomination

EXPERIENCING THE LANDSCAPE GEOLOGIC LANDMARKS



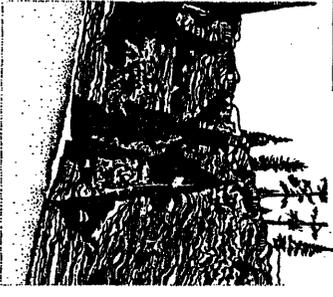
Rim Drive



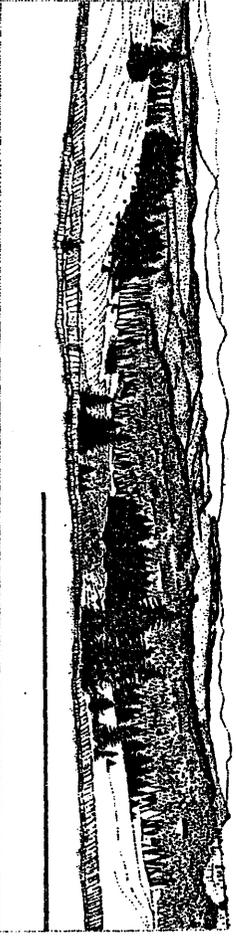
View to Union Peak
At 7,695 feet, Union Peak marks a high point in the southwest corner of the park. On a clear day, the potentially active volcanoes of Mt. McLoughlin and Mt. Shasta can be seen to the left of Union Peak.



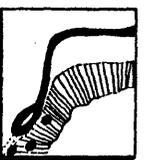
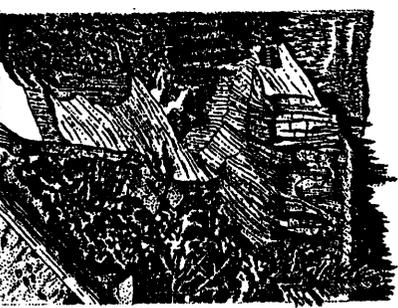
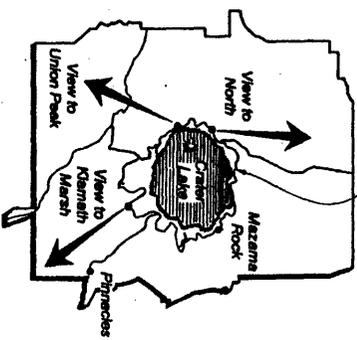
View to North
The Pumice Desert formed when ash, pumice and breccias of scoria ejected from Mt. Mazama, covering the landscape. Red Corn, easily identified by its color, is linked to Mt. Mazama's magma chamber, while Mt. Thielsen is associated with volcanic activity prior to the eruption.



View to Mazama Rock
Mazama Rock is part of the Clearwood lava flow which occurred just prior to the collapse of Mt. Mazama. The lava was still hot and plastic at the time of the eruption, causing it to flow down into the newly formed caldera.



View to Kamath Marsh
Beyond the small settlement of Fort Kamath lie Agency and Upper Kamath Lakes, remnants of ancient Lake Modoc. These lakes are shallow and cover part of a graben, or broad basin, that lies between the Cascade Range and a north-south fault-block mountain range, or horst, to the east.

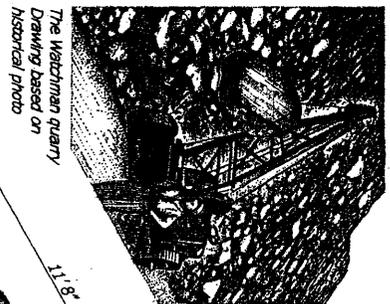


View to Fumaroles
Drainage routes such as Wheeler Creek and Anne Creek produced seething gases which formed cylindrical vents known as fumaroles. High heat and chemical reactions cemented the walls of the fumaroles, protecting them from erosion. The fumaroles themselves were exposed after loose material surrounding the vents was washed away by streams.

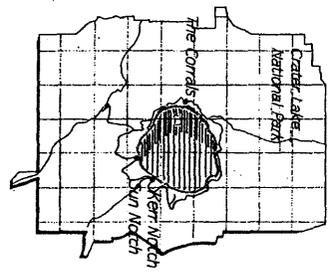
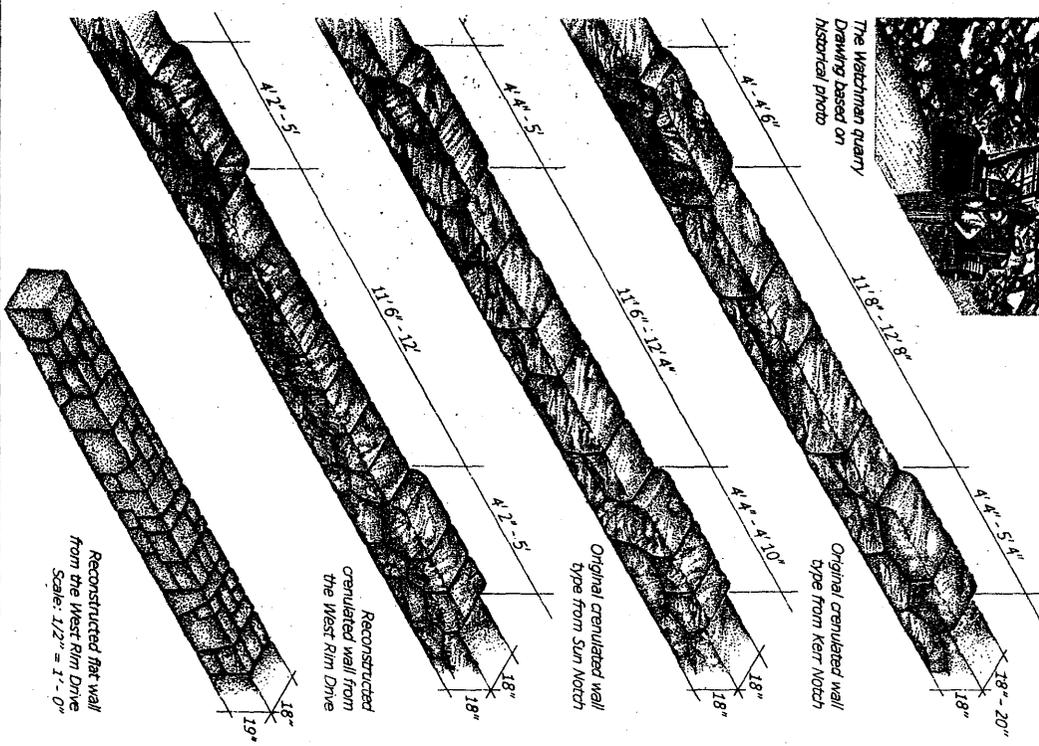
FIGURE #5

Crater Lake National Park
Rim Drive Nomination

GUARDRAILS

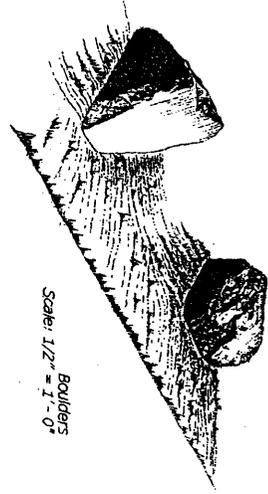


The Watchman quarry
Drawing based on
historical photo

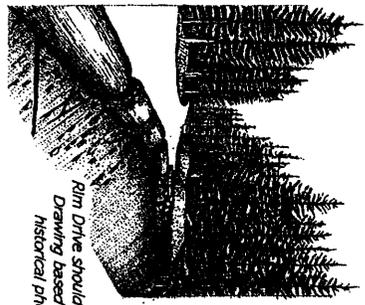


Roadside barriers were designed and constructed to provide safety for both motorists and pedestrians. Most of the original patterns of stone quarries constructed between 1930 and 1938 can be found along the East Rim Drive. An extremely high level of craftsmanship, displaying special attention to composition and artistic layout can be seen in the area from Sun Notch to Kerr Notch. The walls are made of local andesite rock, most often obtained at the Watchman quarry. Though derived from a standard design, stonework patterns were intentionally irregular to better harmonize with the park setting. The original stone walls were built of huge, rough blocks with narrow, incised mortar joints. In order to provide variation and rhythm, the walls were broken by crenulations about every twelve feet. Most of the stone quarries along the West Rim Drive have been reconstructed, and differ markedly in scale and pattern.

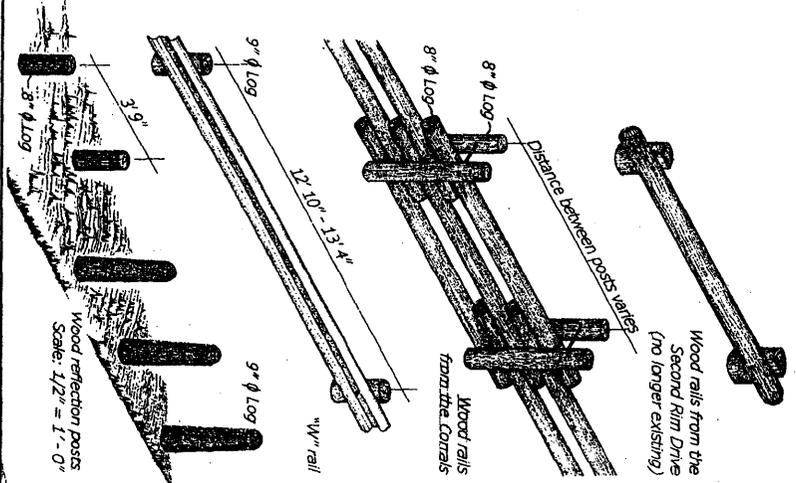
The barriers at the "Corralis" observation station, erected in the 1970s, are the only modern wood rails. Wood reflection posts, usually in combination with stone walls, can be seen all along the Rim Drive. In a few places the old wood posts were used as vertical elements for standard "W" steel rails.



Boulders
Scale: 1/2" = 1'-0"



Rim Drive shoulders
Drawing based on
historical photo



DEVELOPED BY: Simona Stoyanova, 1999

NPS ROADS & BRIDGES
RECORDING PROGRAM

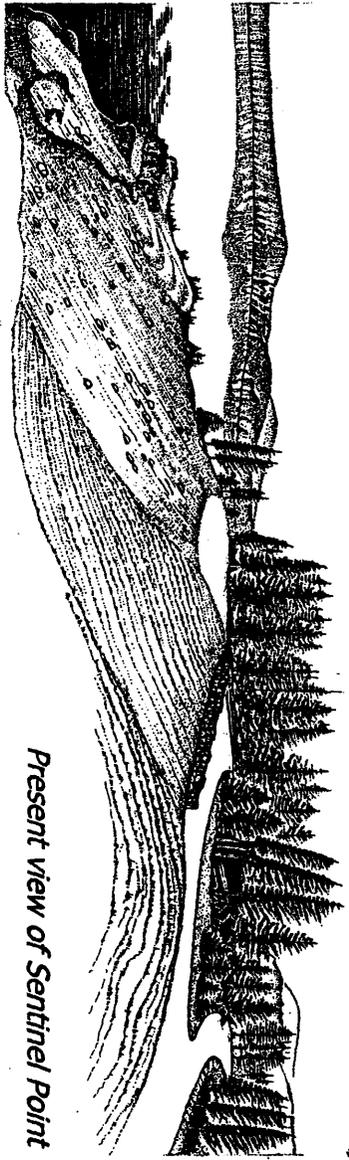
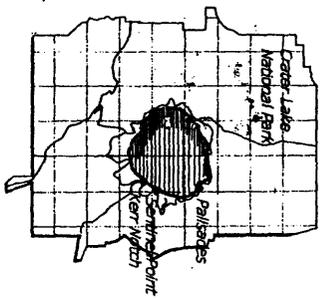
CRATER LAKE NATIONAL PARK ROADS - 1919/1933
CRATER LAKE NATIONAL PARK
KLAMATH COUNTY

OREGON 8-10

HISTORIC AMERICAN
ENGINEERING RECORD
OR-107

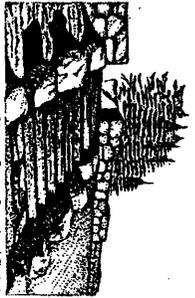
FIGURE #6
Crater Lake National Park
Rim Drive Nomination

COMPREHENSIVE DESIGN

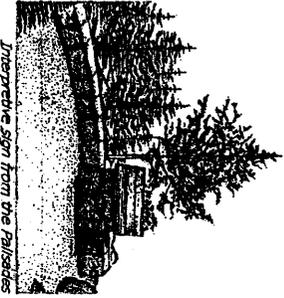


Present view of Sentinel Point

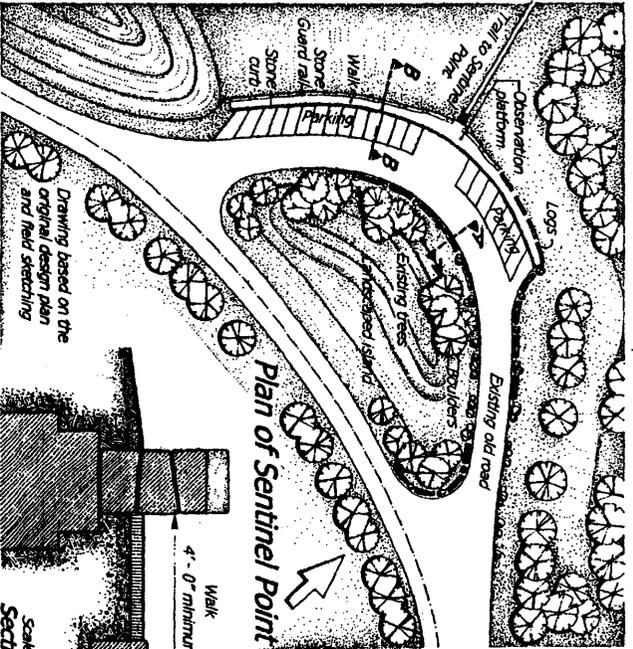
The unity in design of the Rim Drive and all its supporting elements is a major characteristic of the Rim system. Construction drawings prepared by the NPS Branch of Plans and Design in 1936 depict the design scale, form and materials of the observation stations. Designed as scenic overlooks, where visitors could leave their cars and enjoy the view, some stations were large enough to hold 50 cars, parked at an angle or perpendicular to the rim. The semi-circular pullouts were adjacent to the road and substantial in size, averaging 400-500 feet in length and 150-180 feet in width. Typically, the burnished surface of the parking area was separated from that of the roadbed by an island plant bed. Within the paved area an attempt was made to separate pedestrian and vehicular circulation. A raised burnished path, approximately 4 feet wide, was located as a promenade along the edge of the rim. The path was edged on the rim side by a stone querdall and on the parking side by a stone curb. At a promontory point, the path widened into a large gathering area 10 feet wide - the so called "observation platform". The numerous small scale features add a subtle level of detail to the constructed landscape. Most of them - drinking fountains, directional and interpretive signs, guardrails - were built of local stone or wood, designed with rustic forms to integrate with the surrounding natural setting. This harmonious relationship among the various elements within the Rim Drive system is a significant feature of this site.



Drawing based on historical photo



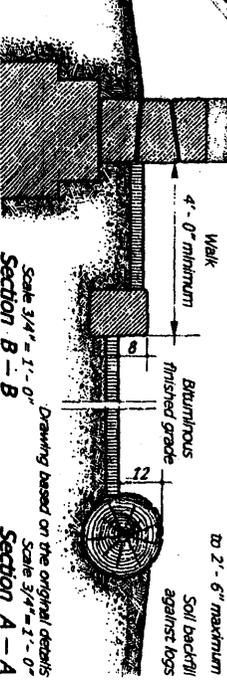
Interpretive sign from the faldesides



Drawing based on the original design plan and field sketching



Drinking fountain from Kerr Notch



Drawing based on the original details

FIGURE #7

Crater Lake National Park
Rim Drive Nomination

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National Park Service

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PHOTOGRAPHS

Photographs are printed from archival and preparer supplied film negatives on Epson Inkjet Media Photo Paper, Satin 270, using Epson Ultra Chrome ink. The numbering of photos supporting the nomination is sequential in proceeding clockwise around the circuit. Current (photos 1-24) and historic (photos 25-37) are separated, but the sequential order holds in each. Locations for current photographs are marked on the accompanying map.

CURRENT VIEWS

1. Victor Rock Trail to the Sinnott Memorial (Observation Station no. 1 for the Rim Drive circuit), Rim Village Historic District
Crater Lake National Park, Klamath County, Oregon
Jet Lowe)
August 1999
Historic American Engineering Record, National Park Service, Washington, D.C.
Looking north
2. Discovery Point Trail leading to parking area with Discovery Point (Observation Station no. 2) at top right.
Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Stephen R. Mark
September 2007
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking northwest
3. Culvert headwall (left) and masonry device to protect tree on fill (right) in road segment 7-A, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Stephen R. Mark
September 2007
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking west

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National Park Service

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4. Substation 2-A delineated by masonry guardrail with road tangent and the Watchman in background,
Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Jet Lowe
August 1999
Historic American Engineering Record, National Park Service, Washington, D.C.
Looking north
5. Dry laid retaining wall on Watchman Trail, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Stephen R. Mark
September 2007
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking west
6. Rim Drive and Watchman Overlook from the Watchman Lookout (Observation Station no. 3), Rim
Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Jet Lowe
August 1999
Historic American Engineering Record, National Park Service, Washington, D.C.
Looking northwest
7. Watchman Lookout in the distance, with cuts for Watchman Trail (upper) and Rim Drive segment 7-A
(lower) visible, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Jet Lowe
August 1999
Historic American Engineering Record, National Park Service, Washington, D.C.
Looking east
8. Watchman Overlook and parking area (noncontributing resource) with masonry retaining wall in
foreground, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Jet Lowe
August 1999
Historic American Engineering Record, National Park Service, Washington, D.C.
Looking northeast

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9. Intersection and parking lot at junction of Rim Drive with North Entrance Road (noncontributing resource).
Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Jet Lowe
August 1999
Historic American Engineering Record, National Park Service, Washington, D.C.
Looking southwest
10. Graded bankslope and part of masonry guardrail at Steel Bay parking area, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Stephen R. Mark
September 2007
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking south
11. Rainwater flowing in paved ditch toward drop inlet in road segment 7-B, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Stephen R. Mark
September 2007
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking east
12. Grotto Cove Parking Overlook (Substation no. 5-C), Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Jet Lowe
August 1999
Historic American Engineering Record, National Park Service, Washington, D.C.
Looking northwest
13. Walkway and parapet wall at Skell Head (Observation Station no. 6), Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Jet Lowe
August 1999
Historic American Engineering Record, National Park Service, Washington, D.C.
Looking northwest

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14. Road wye at junction between spur road to Cloudcap and road segment 7-C, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Stephen R. Mark
September 2007
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking southeast
15. Masonry guardrail with bankslope used as a circulation device in background, Cloud Cap Parking Overlook (Observation Station no. 7), Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Stephen R. Mark
September 2007
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking south
16. View from Cottage Rocks Parking Overlook (Substation no. 7-A), Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Jet Lowe
August 1999
Historic American Engineering Record, National Park Service, Washington, D.C.
Looking north
17. Planting bed, roadway, curb, walk, and masonry guardrail at Reflection Point Parking Overlook (Substation no. 7-C), Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Stephen R. Mark
September 2007
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking southwest
18. Parapet with planting beds, drinking fountain, and walk at Kerr Notch Parking Overlook (Observation Station no. 8), Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Stephen R. Mark
September 2007
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking northwest

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19. Retaining wall on the Dutton Cliff section of road segment 7-D, as seen from the Pinnacles Road, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Jet Lowe
August 1999
Historic American Engineering Record, National Park Service, Washington, D.C.
Looking west
20. Rounded slope at Dutton Ridge road summit, with Mount Scott in the background, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Stephen R. Mark
September 2007
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking northeast
21. Masonry spillway for cross drainage along road segment 7-E, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Stephen R. Mark
September 2007
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking west
22. Banksloping used to separate Rim Drive (left) from the Sun Creek Campground Road near Vidae Falls Parking Area, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Stephen R. Mark
September 2007
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking northeast
23. Portion of Vidae Falls Parking Area showing curb, original Civilian Conservation Corps sign, and plantings on fill, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Stephen R. Mark
September 2007
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking northwest

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24. Stone steps along Castle Crest Wildflower Garden trail, placed to allow passage through wetland,
Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Stephen R. Mark
September 2007
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking southeast

HISTORIC VIEWS

25. Paving Rim Drive at the Discovery Point Parking Area, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
National Park Service
1935
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking east
26. Crew building the Watchman Trail, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
National Park Service
1932
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking northeast
27. Park ranger with visitors from rim auto caravan at Merriam Point (Observation Station no. 4), Rim Drive
Historic District
Crater Lake National Park, Klamath County, Oregon
George Grant
1936
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking south
28. Paving the road and ditch in segment 7-B, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Francis G. Lange
1938
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking east

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29. Building masonry guardrail near Pumice Point (Observation Station no. 5), Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Armin Doerner
1934
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking north
30. Trees planted to stabilize fill along road segment 7-B during the grading phase, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Francis G. Lange
1935
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking east
31. Portion of road segment 7-B Rim Drive at left, in relation to a piece of the old Rim Road (center right) during rough grading, Rim Drive Historic District
Crater Lake National Park, Oregon
Francis G. Lange
1935
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking south
32. Paved section of road segment 7-B after obliterating evidence of the old Rim Road near Roundtop, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Francis G. Lange
1938
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking south (repeat view of photo 31)
33. Planting daylighted slopes as part of landscape treatment in road segment 7-C, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Francis G. Lange
1935
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking southeast

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34. Crew building a retaining wall for the Scott Bluffs Parking Area, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Armin Doerner
1934
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking south
35. Ranger on the completed Mount Scott Trail, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
National Park Service
1933
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking southwest
36. Planting crew on the fill built below Vidae Falls, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Francis G. Lange
1939
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking northwest
37. Excavation by steam shovel in road segment 7-E during the grading phase with Dutton Ridge in the
background, Rim Drive Historic District
Crater Lake National Park, Klamath County, Oregon
Wendell C. Struble
1938
Museum and Archives Collections, National Park Service, Crater Lake National Park
Looking northeast

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PHOTOGRAPH LOCATION MAP, current photos only

