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DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

Yellowstone National Park

(Area)

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Report on
Bypass Roads
for
Old Faithful Geyser Basin

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FROM:

TO:

Yellowstone National Park
Yellowstone Park, Wyoming

D-30

August 17, 1962

Report on Bypass Roads for Old Faithful Geyser Basin

This is a report comparing two proposals to bypass the main flow of traffic through the Upper Geyser Basin in such a manner as to avoid or preclude the congestion presently found within this area.

Summary

Two proposals have been studied. One passes on the east side of Firehole River at a higher elevation, and the other passes through the valley. The conclusion is the same as the preliminary report last fall. The valley location is recommended in preference to a higher location of the southeast side of the region. The valley line could be constructed in stages. The higher location would need to be constructed as an entire project.

Survey Methods

High country location east of Firehole River.

Field work was done to determine good terminal location on the north and south ends. Field work some years ago gave a working knowledge for portions of this location. After considerable study of air photos, the country was flown over in a helicopter. The latter trip substantiated everything we had known of the terrain from earlier investigations for other purposes made some years ago. The terrain as a whole is a little rougher than first presumed in that there are irregularities which do not show while on the ground unless you happen to come directly upon them while walking. Naturally, during a slow trip through the air, everything was visible and observable for some distance up and downhill of the area in which we were interested. It would have taken at least a week or more to gain the same knowledge by walking. In other words, we have not walked this line but know more about it than if it had been walked once.

Valley Location

This has been walked practically its entire length, and we believe the projection shown would prove suitable for a location.

Description

The High Location Terrain.

The premise was made from the start that if this location were desirable, it was proposed to bypass the Old Faithful area in such a manner that all traffic not interested in going through the Upper Geyser Basin could flow by without interruption, as well as the necessity for such a location to not show from anywhere in the geyser basin. If, on the other hand, this location has been conceived as a hillside location from which it would be reasonably easy to look down upon the Geyser Basin, it would then, in turn, become a very prominent part of the background scene. It has been largely for this latter reason that the objectives of a bypass road on this side of the Firehole River have been understood as an actual bypass and not an access road.

The most practical location for leaving the present road on the north end is in the general vicinity of Mallard Creek. This is station 215 on the main line survey and elevation 7265. This would permit getting above the power line clearing with a reasonable grade, as well as bringing the road level to such an elevation as to provide a location which would be screened from all places in the geyser basin.

Upon reaching the top of the hill, there would be relative freedom of direction, and the projection is located in the upper end of the old wood lots which are uphill of the drainage into the Firehole River near Riverside Geyser.

An alternate north terminus could be managed from the top of the hill at station 95 elevation 7350 just east of Artemesia Geyser or just before dropping down toward Morning Glory Pool. This is where the power line crosses the main road. This would require a sharper turn and tighter grade to reach the elevation at the old wood lots mentioned above. It would also expose the road construction section from in the vicinity of Morning Glory, Riverside, Grotto and Daisy. Although shorter by 12,000 feet, this connection would not be as desirable for the purposes of a bypass as the Mallard Creek location.

Going southeasterly from the upper end of the wood lots, the location would ascend to the flat mountain top as directly as practical. While on the top of this ridge, it would be possible to turn a side road to an overlook location uphill of the present foot trail to overlook one portion of the basin. The elevation at this point would be approximately 7920.

Continuing southeasterly from this mountain top to the south connection to the main Park road near the Lone Star Geyser road, there would be a descent of approximately 310 feet to elevation 7610. This is a distance of approximately 2.2 miles permitting an easy grade and a

location which would take advantage of the best support and avoid the rougher sections of terrain. This portion is the most rugged for this route in terms of rough terrain. The projects are shown crossing drainages above the swampy portions at confluences of drains to avoid many large drainage structures as well as large fills. Most projected locations would require at least two large fills.

The length of this location would be approximately 3.7 miles from Mallard Creek to Kepler Cascades.

The forest growth for the entire length is lodgepole pine in all stages of maturity from about 50 years to mature trees in dense growths. There is a small section of reproduction in the wood lots which we would guess to be about 35 years old or less. The soils will be very much like those beside the present roadway easterly of Kepler Cascades, running into sandy ridges which will have cores of volcanic ledge rock, and the top of the mountains will be largely solid rock of a similar nature with but a shallow soil cover of obsidian and volcanic type sands.

This section is estimated to cost, through final surfacing, \$110,000 a mile, or \$627,000.

The Valley Location

The north terminus of this would leave the present road in the vicinity of station 127, which is just north of the Biscuit Basin access. This is a hydrothermal area, but the location could be placed through here without serious encroachment upon existing steam vents. Presently this appears possible without any encroachment.

It would cross the Firehole River just before it is joined with Cold Creek. The stream is very shallow at this point and possibly not more than 18" deep during the highest water. This is a hydrothermal formation over which the river flows. The portion through the wooded flat country between the two streams is very flat and easy going. The northern end of this forested portion just after going into the forest has a slight flat ridge in it, which would be no obstacle. The road would cross the present Black Sand Loop midway between Punch Bowl and Black Sand Pool or actually at the power line crossing. There would be some conflict in the power line and road location at this point and southeasterly, a conflict which was visualized when the power line was determined but believe to be possible of handling if such a road location was run through.

It crosses the Black Sand Loop again and would follow this roadway for a short distance west of the Three Sisters Springs out in the open on a sandy plain. It would then be directed toward a practical access to serve the present and future development of the Old Faithful area itself. It would be free of any development until it reached the present service road to the National Park Service utility area. This point would be proposed as the primary access into the Old Faithful development.

This same point could also be used for an interim period as a main line connection to the present main road joining it at the Firehole River Bridge. This is a detail which will be reported upon later in more detail and a proposal suggested for an interim method of handling traffic in the Old Faithful development, as requested by Mr. Gestallum.

To continue from this same junction point the projection would go through the present National Park Service residences and dormitories and start ascending the hillside on the south side of the Firehole River, heading for the same common termination point near the Lone Star road as did the southeast side projections.

This location would be generally on an ascending grade from one end to the other.

This location could be made to serve the present roadway system by feeders in a number of ways, or the present road could be removed entirely and access made to the hydrothermal features by a larger number of side roads terminating in parking areas.

This road would be approximately 4.5 miles long.

The tree growth covers about three-quarters of the length, with portions of that length in relatively young trees and more cutover forest is found in this section. Otherwise the clearing would be comparable to that on the high location. Two bridges over the Firehole River would be required, one at the north end and another at the south end. The soil and terrain would be hydrothermal formations and obsidian sands for the northern 2.7 miles and rockier terrain for the southern 1.9 mile hillside.

This section is estimated to cost, including two bridges and through final surfacing, approximately \$115,000 a mile, or a total of \$527,500.

Discussion:

The proposals shown in this report (although not reviewed by them) have been discussed with a number of officials who are familiar with

the Old Faithful area. The general concensus has been that there will be very little Park visitor traffic which would bypass Old Faithful. Therefore, a road which actually bypassed the area, such as we are familiar with in bypassing small cities and towns, would contribute very little toward solving a traffic problem within the development or within the Upper Geyser Basin. Consequently, it is difficult to understand how a bypass of this kind would be of value. I also look at this proposed route on the east side of the river from this same viewpoint.

However, this is a debatable point. There apparently are many Park visitors who never stop their car for any looking. I have driven behind many people who can drive through the Norris Basin without slowing down. Many going through West Thumb never see the hot pools and springs. Dozens drive right past the Mud Geysers and Dragons Mouth area; hundreds drive by Beryl Springs, hardly slowing down. Thousands go through Mammoth without stopping to walk among the Hot Springs. There are many who never take the trouble to see the Grand Canyon of the Yellowstone. Maybe these people should be served with a bypass. But the opinion continues to be repeated - no one is going to bypass Old Faithful. Everyone is headed for Old Faithful.

Therefore, most of the Park visitors are going to be within this Upper Geyser Basin and therefore our major consideration is to handle these people in a simple manner while they are there. This is an immediate problem. Possibly a true bypass route may have to be constructed sometime in the future.

Further, if a bypass were constructed on the southeast side of the river and on a location which was intended to serve the valley also with several access points, it would immediately become an intrusion into an undisturbed natural hillside. Such a location would be as great and possibly a greater encroachment upon the thermal features and upon the scene than the present roadway. This I could never recommend, and we are sure this is not what is intended by this location proposal.

The argument can also be used - Why keep a main roadway within the Old Faithful area and bring all of the people into this region, while our problem is to try to keep a portion of this large number of people out of there? However, if this is where all of the people want to be, they will be in this Geyser Basin during some part of their visit to the Park.

It must be recognized that the reason there are so many people within the Old Faithful area at one time is that we have, in addition

to the Number One attraction, one of our largest concentrations of visitor facilities right in this immediate area. Some of these facilities encroach upon what we term the "sacred area" set aside by law, all constructed within the period of the National Park Service's administration. Remove these facilities of mias, food, beds, gas and oil, souvenirs and such to some other site, and we should find the picture changing so materially our fears of today may vanish.

Regardless of these far-reaching proposals, we have an immediate problem with us today...The congestion and tangle of traffic in the area. We make some proposals to help this situation, and they are in the form of a withdrawal. These follow in the recommendations. In discussing this with Mr. Nelson the other day, he has introduced manpower into correcting this situation and literally solved the congestion problem. He may have a good point.

Recommendations

The valley location is recommended to serve both Old Faithful Geyser Basin and to bypass non-sightseeing traffic.

This could be started with several intermediate steps as follows:

1. Construct parking areas to serve Old Faithful Geyser parking, parking for the Hotel, and parking for commercial uses.
2. Construct a portion of the Valley Bypass from the Black Sand Basin road into the rear of the Old Faithful area and make good serviceable connection to the present main road at the end of the Plaza and just before reaching the bridge over the Firehole.
3. Use this portion then for the main line.
4. Remove parking from in front of the Inn.
5. Remove the lower Hamilton Store and Service Station.
6. Provide proper connections for the use of the Lodge.
7. Construct the northern portion of the bypass.
8. Construct the southern portion of the bypass.
9. Start withdrawal of camping.
10. Start withdrawal of N. P. S. employee housing and utilities.

Frank E. Mattson
Park Landscape Architect

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