

## Site Inspection and Feasibility Analysis Report:

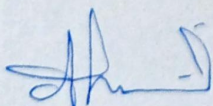
**Subject:**– Diversion of 1.92 ha of forest land in favour of HPPWD for the construction of **link road from Chillon to Choki Mirgwal KMs. 0/00 to 8/00**, within the jurisdiction of **Renuka Ji Forest Division, Distt. Sirmour, H.P.**

**Online Proposal No.:** -FP/HP/ROAD/48987/2020, **Date of Proposal:** - 23/08/2020

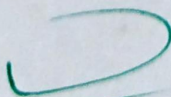
Site Inspection Report and Feasibility Analysis of the observations raised by the Regional Office, Chandigarh, Ministry of Environment, Forest and Climate Change, on dated 27-05-2024 regarding the consideration of proposed road alignment which is marked in yellow colour which depicts non forest land from KM 4/200 for road construction. We have conducted a detailed site inspection and feasibility analysis. Below are our findings and technical assessment:

- 1) Topographical Challenges:** The proposed alignment, marked in yellow is selected because both the alternate alignments marked in blue and pink traverses a region characterized by hilly terrain with extremely steep gradients. Detailed topographical surveys indicate that the slope in several segments i.e. 4/440 to 4/490, 5/310 to 5/355 in alternate alignment 1 (Blue) and 6/100 to 6/150 and 7/050 to 7/120 alternate alignment 2 (Pink) exceeds the standard permissible limits for safe road design. The steep gradients will pose significant challenges for loaded vehicles, potentially causing difficulty in maintaining traction and control, especially under adverse weather conditions which will be a matter of concern for the local residents of the area who will fully depend on this road only for their daily needs. Thus consequently the yellow proposed alignment is technically a much safer option as compared to both blue and pink alignments.
- 2) Hairpin Bends:** The both alternate alignments necessitates the inclusion of numerous hairpin bends at 3/050, 3/700, 4/250, 7/210 due to the steep and rugged terrain. The presence of multiple tight hairpin bends would not only complicate the construction process but also severely impair the operational safety of the road. Hairpin bends increase the likelihood of vehicular accidents, particularly for larger vehicles which may find it difficult to navigate such turns safely. Moreover, the cost of maintenance will increase heavily for road clearance during the rainy season due to frequent hairpin bends. Thus the yellow proposed alignment is preferred over both blue and pink alignments.
- 3) Safety Concerns:** An analysis of accident data from similar terrains indicates a higher incidence of vehicular accidents in areas with steep gradients and numerous hairpin bends. Implementing any other alignment over the yellow one would result in the creation of several high-risk accident zones, thereby compromising road safety.
- 4) Hilly Area Considerations:** The hilly nature of the site further complicates the construction and maintenance of a road with steep gradients and numerous hairpin bends. The instability of slopes and the potential for landslides or erosion in such areas add to the safety risks in future.
- 5) Rationale for Alternative Alignment:** While the proposed alignment in yellow involves less tree felling, the adverse impacts on vehicle movement and safety outweigh the environmental benefits. Although the alternative alignment involves more tree felling, it provides a safer route for vehicular traffic. This alignment has been selected as it offers gradients and curvature that meet the design standards for safe roadways and minimizes the risk of accidents. This proposed (yellow) alignment is thus considered a safe and feasible option, ensuring the safety of all road users while still connecting the villages effectively.

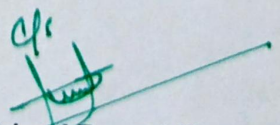
**Conclusion:** Based on the site inspection and technical feasibility analysis, the proposed alignment marked in yellow is recommended due to the severe safety risks associated with its steep gradients and the resultant numerous hairpin bends, particularly in the context of the hilly terrain. We have considered the proposed yellow alignment as a safer option, providing a balance between environmental considerations and the need for a safe, operational road. We trust this technical assessment addresses the observations raised and underscores our commitment to ensuring road safety and operational feasibility in hilly areas.



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