

FEASIBILITY STUDY OF PROPOSED & ALTERNATIVE ALIGNMENT & JUSTIFICATION FOR LOCATING THE PROJECT IN FOREST LAND

Existing Detail-

This proposal has been formulated to provide road link to substantially backward area situated in a beautiful valley. It is situated in Tehsil Banjar Distt. Kullu (HP). This proposed road bifurcate from Banjar to Jadoli Pass Road and ends at Village Salhanu .

At present the people have to walk on foot. In rainy season that too is difficult, the area is quite rich in the production of cash crops and agriculture production such as Maize potato rice & seasonal vegetable and mainly apple etc. The land is very fertile. But heavy cost of transportation for export of surplus production and different marketing position restrain people from taking farming in a whole hearted way as such their living standard is also poor.

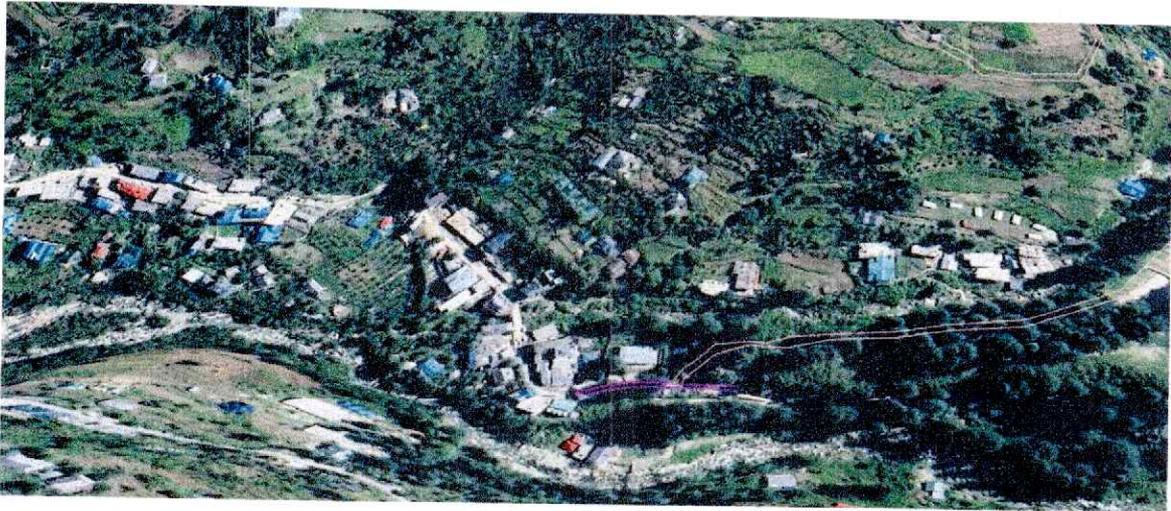
The construction of this road shall increase the economy of the area with the sufficient cheap and quick transportation of possible agriculture produce easy and extended marketing facilities more over availability of emergency medical help will also improve. With increased economic activity the overall living standard of the people shall also improve quickly.

LOCATION MAP



Diversion of 4.9 ha of forest land in favour of HPPWD for the Construction of Tatta Pani to Khun Salhanu Dhar within the jurisdiction of Seraj at Banjar Forest Division, Distt. Kullu

START POINT



End point of project road.



I. Terrain-

The general cross slope of the alignment is more than 60% so, it comes under steep terrain as given in the table 1.1.

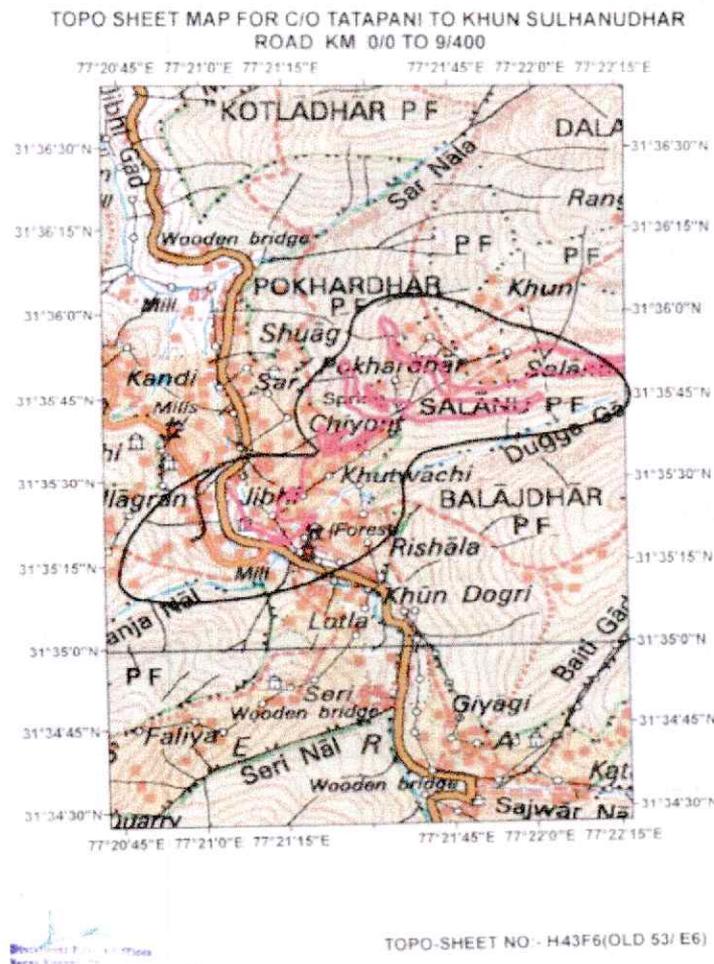
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Table 1.1 Terrain Classification

S. No	From(Km)	To (Km)	Cross slope (%)	Terrain
1	00	1.00	72.5	Steep
2	1.00	3.500	69.6	Steep
3	3.500	7.00	62.5	Steep
4	7.00	9.400	70.8	Steep

II. Topography-

The latitude and longitude of the existing alignment is 31°35'28.23"N & 77°21'5.32"E and 31°35'59.77"N & 77°21'53.14"E. The existing alignment of project road covered in topographical maps of survey of India number 53E/6. SOI maps and Google map have been considered for understanding and studying the topographical features along the project road.



III. Landuse-

During inventory survey, it is found that land use pattern of start of the road is semi built up. The details of land use pattern along the existing alignment is given in the table 1.2.

From(Km)	To(Km)	Left side	Right side
0.00	1.500	semi built	semi built up &

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		up	Road
1.500	9.400	Agriculture & Forest	Agriculture & Forest

IV. Water Body-

There is no water body crossing the proposed road. The details of water bodies along with their chainage are s as given in the table 1.3

Figure 1.3 water Body

S. No	Chainage(K m)	Name of Water body
1	0.00 +9.400	NIL

V. Minor Bridge

The details of Bridges along with the location chainage are detailed in the table 1.4

Table 1.4 Minor Bridge

S. No	Chainage(K m)	Name of Bridge	Length (m)	Outer to Outer Width(m)	Condition Of Bridge
1	0.00+9.400	0	0	0	0

VI. Major Bridge-

Table 1.5 Major Bridge

S.No	Chainage(Km)	Name of Bridge	Length (m)	Outer to Outer Width(m)	Condition Of Bridge
	0.00+9.400	0	0	0	0

VII. Culverts-

There are seven (7) numbers of pipe culverts and one (1) number of slab culvert on the existing alignment. All culverts are in fair condition. Details are given in APPENDIX-IV of Appendix Volume

S.No	Chainage(Km)	Length (m)	Width(m)	Area in Sqm
	0.00+9.400	0	0	0

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Alignments Explored:

Three alignment options were explored for the construction of this road , each of the alignment has been detailed as below :

Alignment option-I :

The proposed site for the said project has been carefully finalized after considering a total No. of three alternate sites in all the cases. The first alignment was considered at NH-305 for the CONSTRUCTION OF TATTA PANI TO KHUN SALHANU DHAR ROAD KM. 0/0 TO 9/400. In this case the total area worked out to be 4.90 of Forest land. This alignment start at R/D 0/0 on Banjar Nirmand Road and ends at Sulahanu Village at Km 9/400. This road passes through village Rashala , Khadagarhi. In total 92 no's of trees are to be felled for the construction of this alignment.

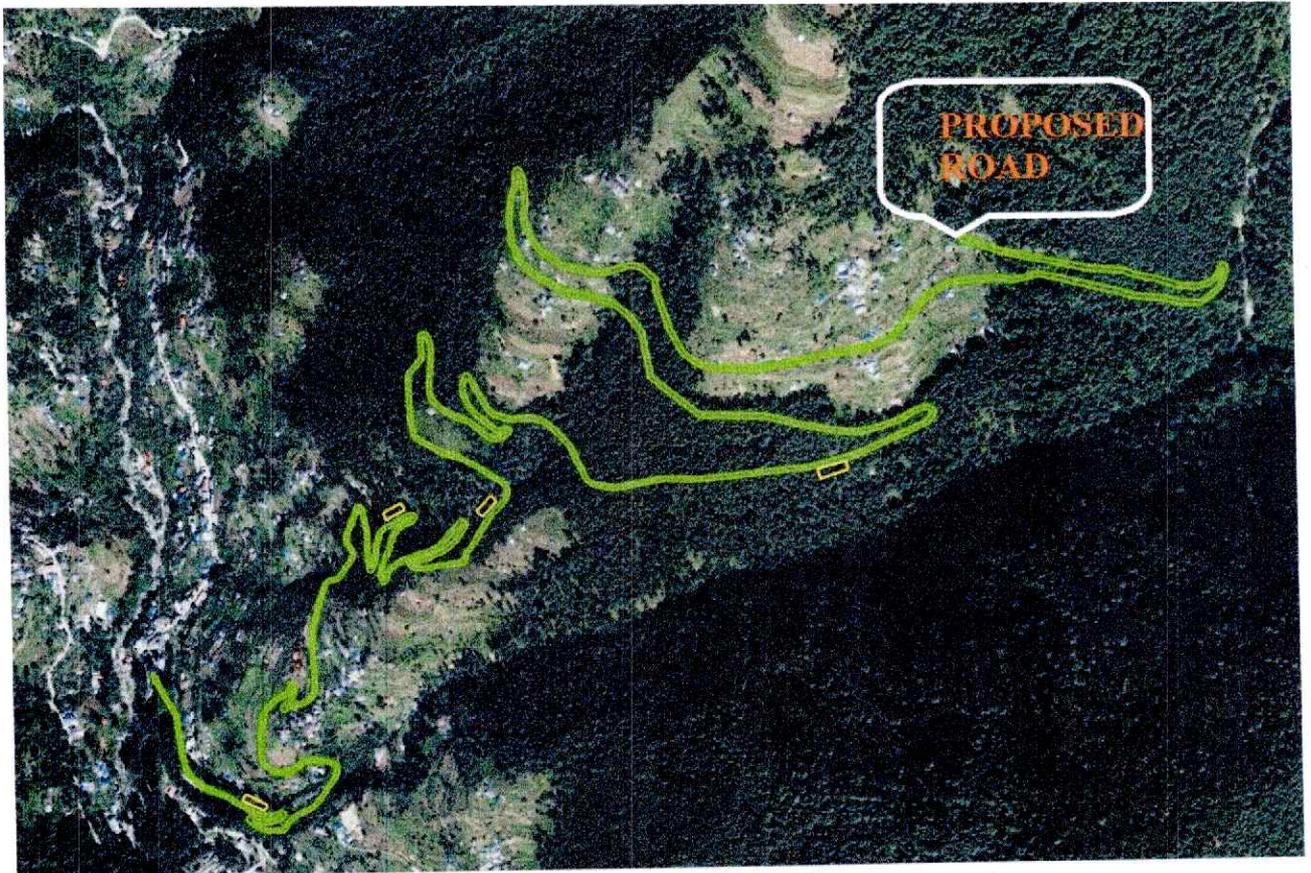


Figure Alignment Option I

Alignment Option-II

This option suggests that the road should be constructed 700 meters away from the 1st site situated on the same Road . In this case the area involved was 5.15 Hect. But the numbers of trees standing in the site were 118 No's which is more as compared to site no.1.further due One no. of Major Bridge was needed which was increasing the coast. And acquisition of Private Land was more than Alignment one.

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Figure Alignment Option II

Alignment Option-III

The 3rd alignment was considered at approx. 500 mtr away from the 1st and 2nd Site. But the site was not found feasible as the site was too steep and due to tough Terrain construction of the proposal was not possible; also the site was not fulfilling the purpose for which the proposal is being proposed including the large no of trees were to be felled as compared to alignment 1 & 2.

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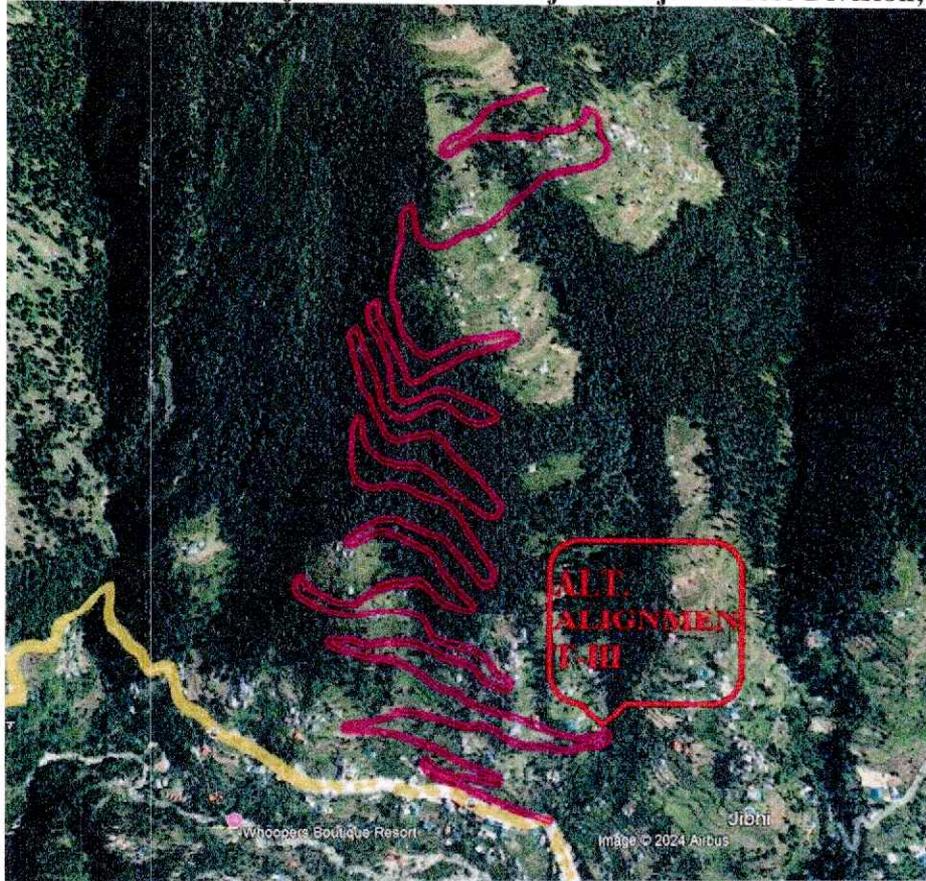


Figure Alignment Option III

Therefore, keeping in view, the above certain point in the favor of alignment No.1st the CONSTRUCTION OF TATTA PANI TO KHUN SALHANU DHAR ROAD KM. 0/0 TO 9/400. This alignment would save from huge damage to the forest as well as to environment and beautiful feature of the valley.

Ultimately the 1st alignment is finalized and adopted for the construction of proposed CONSTRUCTION OF TATTA PANI TO KHUN SALHANU DHAR ROAD KM. 0/0 TO 9/400 which is most economical feasible best and in over all public interest as well easy for construction in all respect. Detailed comparison of all the three alignments explores with merits of each alignment is mentioned in the table below.

Comparison of Alignment:

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S.No.	Description	Units	Alternate Option-I (Proposed)	Alternate Option-II (Rejected)	Alternate Option-III (Rejected)
1.	Design Chainage (Start)	Km	0.00	0.00	0.00
2.	Design Chainage (End)	Km	9+400	10+950	8+240
3.	Design Length	Km	9.4	10.950	8.40
4.	Terrain		Mountainous & Steep Terrain	Mountainous & Steep Terrain	Mountainous & Steep Terrain
5.	Design Speed	Kmph	20	20	20
6.	Proposed ROW	m	6	6	6
7.	Gradient		=45%	>45%	>55%
8.	Proposed length of green field alignment /bypass /realignment	Km	9.400	10.950	8.240
9.	Average Cutting	m	5-10	5-10	10-20
10.	Filling	m	5	5	10
11.	Number of Interchanges	no	00	00	00
12.	Major Bridge	no	0	0	0
13.	Minor Bridge	no	-	-	00
14.	Tunnel	nil	nil	nil	Nil
15.	Gradient Tunnel		NA	NA	NA
16.	Basic Civil Cost without Utility & GST	Cr.	Rs 6.58 (Approx.)	Rs 8.82(Approx.)	Rs 12.38 (Approx.)
17.	LA and Affected Structure Cost	Cr.	NA	NA	NA
18.	Total Cost(16+17)	Cr.	Rs 6.58 (Approx.)	Rs 8.82(Approx.)	Rs 12.38 (Approx.)
19.	Merit & Demerit Comparison		<ul style="list-style-type: none"> • Covering maximum Habitat. • Lesser No of trees to be felled. • Design Length is short as compared to Option-II. • Less Cost involved as Compared to other Alignment. • It avoids crossing of perennial Nala. • Geometry as per IRC Standards. • Partial Private Land Acquisition (Land 	<ul style="list-style-type: none"> • Covering lesser Habitat. • More No of trees to be felled. • Design Length is Longer as compared to Option-I & III • Cost involved as compared to Alignment - I is High. • Diversion of Forest Land is more than Alignment -I • It is crossing perennial Nala. • Geometry as per IRC 	<ul style="list-style-type: none"> • Covering lesser Habitat. as compared to proposed Alignment and Option-I. • Design Length is Shorter as compared to Option-I & II. • Civil Cost is Much more as compared to Proposed Alignment and Option-I. • The Site is too steep and loss to bio diversity and soil erosion is on higher side. • Diversion of Forest Land is more than Alignment -

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			<p>donated by Villagers) involved.</p> <p>NIL LA and Affected Structure cost compared to other options</p>	<p>Standards.</p> <p>Private Land Acquisition involved is more than Alignment -I</p>	<p>I.</p> <p>Private Land Acquisition not possible(villagers not ready to donate their land for this alignment.)</p>
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