Annexure- 2.4

Name of the Work- Construction of Bagoli to Chula Motor Road under PMGSY

Comparison between identified alignments

Sl. No.	Variables	Alignment No-1	Alignment No-2
1	Topography	Mountainous	Mountainous
2	Length of Road	7.275 km	9.00 km
3	Bridging requirement No. and Length	Nil	Nil
4	Geometric		
	(a) Gradients	01:20	01:20
	(b) Curves, H.P Bends	numbers of H.P. Bends	numbers of H.P. Bends
5	Existing Means of communication, mule path, jeep, Tracks etc.	Mule Path	Mule Path
6	Right of way, bringing out. construction on account of built up areas, monuments and other structures.	Right of way is available for carrying out the construction work. There are no built up area, monuments or other important structures along this alignment	Right of way is available for carrying out the construction work. There are no built up area, monuments or other important structures along this alignment
7	(a) Terrain & Soil Condition.	The terrain is hilly and the soil is a mix of Earth and Boulders, Soft Rock and Hard Rock.	The terrain is hilly and the soil is a mix of Earth and Boulders, Soft Rock and Hard Rock.
	(i) Cliffs and gorges.	(i) None	(i) None
	(ii) Drainage characteristics of the area including susceptibility to flooding .	(ii) The natural Drainage characteristics of the area is good and there is no susceptibility to flooding	(ii) The natural Drainage characteristics of the area is good and there is no susceptibility to flooding.
	(iii) General elevation of the road indicating maximum and minimum height negotiated by main ascends and descends.	(iii) The General elevation of the road is m. The elevation at the starting point of the road is m and the elevation at the end point of the road is m. Thus the road achieves a height of m.	(iii) The General elevation of the road is m. The elevation at the starting point of the road is m and the elevation at the end point of the road is m. Thus the road achieves a height of m.
	(iv) Variations extant and types.	52/100 (Attached after comprative)	52/ 100 (Attached after comprative)
8	Climate Condition:		
	(a) Temperature Monthly max. & min. reading. Source:-climate-data.org/ (print attached)	(a) Temperature Monthly max. & min. reading.	(a) Temperature Monthly max. & min. reading.

Month	Temperature (in ^{0}C)	
	Max.	Min.
January	18	5
Feb.	19	6
March	21	10
April	30	15
May	32	19
June	33	21
July	26	21
August	27	19
September	27	18
October	24	12
November	20	9
December	18	6

Month	Temperature (in ^{0}C)	
	Max.	Min.
January	18	5
Feb.	19	6
March	21	10
April	30	15
May	32	19
June	33	21
July	26	21
August	27	19
September	27	18
October	24	12
November	20	9
December	18	6

	(b) Rainfall data average annual peak intensities monthly distribution (to the	(b) Rainfall data average annual peak intensities monthly distribution	(b) Rainfall data average annual peak intensities monthly distribution

Sl. No.	Variables	Alignment No-1		Alignment No-2	
	extent available) Source:-climate-data.org/ (print attached)	Month	Average Rainfall Data (in mm)	Month	Average Rainfall Data (in mm)
		January	74	January	74
		Feb.	67	Feb.	67
		March	71	March	71
		April	30	April	30
		May	47	May	47
		June	146	June	146
		July	390	July	390
		August	371	August	371
		September	185	September	185
		October	75	October	75
		November	10	November	10
		December	26	December	26
	(c) Snowfall data average annual peak intensities monthly distribution (to the extent available) .	(c) Snowfall data not abailable		(c) Snowfall data not abailable	
	(d) Wind direction and velocities.	(d) Owing to the nature of terrain local affect are pronounced and when the general prevailing winds not too strong to mask these effect, there is a tendency for diurnal reversal of winds, the flow being anabatic during the day and katabatic at night, the latter being of considerable force.		(d) Owing to the nature of terrain local affect are pronounced and when the general prevailing winds not too strong to mask these effect, there is a tendency for diurnal reversal of winds, the flow being anabatic during the day and katabatic at night, the latter being of considerable force.	
	(e) Fog Condition.	(e) Generally there are no fog conditions in the area. However, during the month of December and January, slight foggy conditions prevail during night, with clear sky in the day.		(e) Generally there are no fog conditions in the area. However, during the month of December and January, slight foggy conditions prevail during night, with clear sky in the day.	
	(f) Exposure to sun.	(f) The site is exposed to sun throughout the year.		(f) The site is exposed to sun throughout the year.	
	(g) Unusual weather condition like cloud burst etc.	(g) There is no record of unusual weather condition like cloud burst in the area since last 15 years where the site is located.(source:- Gram pradhan and villagers)		(g) There is no record of unusual weather condition like cloud burst in the area since last 15 years where the site is located.(source:- Gram pradhan and villagers)	
9	Facilities resources.				
	(a) Landing ground.	(a) None		(a) None	
	(b) Dropping Zone.	(b) None		(b) None	
	(c) Food stuffs.	(c) *Haldi, Adrak, Mirch, Lehsoon, Dhan, Ghehun, Aloo* etc.		(c) *Haldi, Adrak, Mirch, Lehsoon, Dhan, Ghehun, Aloo* etc.	
	(d) Labour local availability and need for import.	(d) Local labour is available for construction work.		(d) Local labour is available for construction work.	

Sl. No.	Variables	Alignment No-1	Alignment No-2
	(e) Construction material (Timber, Bamboo, Sand, Stone, Shingle etc. extent of their availability and lead involved.	(e) Stone required for the construction work shall be made available locally as it shall be obtained from hill side cutting. However, sand required for the construction work shall be procured from the approved quarry with a distance of 40 km.	(e) Stone required for the construction work shall be made available locally as it shall be obtained from hill side cutting. However, sand required for the construction work shall be procured from the approved quarry with a distance of 40 km.
10	Value of land, agricultural land, Irrigated land, built up land, forest land etc,	Value of the land required for the construction of the road in this alignment is as under- Private land 2.975Hect@150000= Rs 446250.00 Civil land 2.118Hect@935000.00= Rs 1980330.00 Thus total value of land = Rs. 2426580.00	Value of the land required for the construction of the road in this alignment is as under- Private land 2.975Hect@150000= Rs 446250.00 Civil land 3.326Hect@935000.00= Rs 3109810.00 Thus total value of land = Rs. 3556060.00
11	Approximate Const. Cost.	Rs. lacs	Rs. lacs
12	Access point indicating possibility of induction of equipment.	Access point available for induction of equipment	Access point available for induction of equipment
13	Period required for construction.	18months	18 months
14	Strategic Consideration.	Deployment of skilled manpower and efficient equipment / machinery shall be made for completion of the project.	Deployment of skilled manpower and efficient equipment / machinery shall be made for completion of the project.
15	Important villages, towns and markets centers to be connected.	The road shall provide connectivity to Village-chula with a population of 325 numbers.	The road shall provide connectivity to Village-Chula with a population of 325 numbers.
16	Recreational potential.	Nil	Nil
17	Economic Factors:		
	(a) Population served by the alignment.	(a) 574 numbers	(a) 574 numbers
	(b) Agricultures and economic potential of the area.	(b) Transportation of the cultivated crops by mechanical means (i.e.. through road) shall enhance the economical condition of the people residing in this area. Potential of the development of animal husbandry.	(b) Transportation of the cultivated crops by mechanical means (i.e.. through road) shall enhance the economical condition of the people residing in this area. Potential of the development of animal husbandry.
18	Other major development projects being taken up electric projects etc.	None	None
19	(i) Misc. Such as camping sites	(i) Camping sites to be located along the alignment of the road.	(i) Camping sites to be located along the alignment of the road.
	(ii) Law and other problem	(ii) There is no significant law and order problem in the area since last 15 years and the local administration takes care of such matters. (source:- Gram pradhan and villagers)	(ii) There is no significant law and order problem in the area since last 15 years and the local administration takes care of such matters. (source Gram pradhan and villagers)

Sl. No.	Variables	Alignment No-1	Alignment No-2
	(iii) Royalty	(iii) Royalty is paid to the Revenue Department.	(iii) Royalty is paid to the Revenue Department.
	(iv) Availability of contractors for collection and carriage of construction material	(iv) Available	(iv) Available
	(v) Working period available for construction of work.	(v) 09 months	(v) 09 months
20	Total No. of trees to be removed .	131 numbers	Approximately 225 numbers.
21	Average Density of forest cover .	0.8 (Dense Forest)	0.8 (Dense Forest)
22	Total No. of Merits	17	11
23	Total No. of Demerits	04	10

Note- Colour filled Cell is the de-merit of the alignment whereas no fill is the merit of the alignment

RECOMMENDATIONS:

Alignment no. -1 is Recommended for approval being more economical, useful & technically feasible.

J.E.

A.E.

सहायक अभियन्ता
पी.एम.जी.एस.वाई. खण्ड
लो.नि.वि. कर्णप्रयाग (चमोली)

E.E.

Executive Engineer
P.M.G.S.Y. DIV
PWD Karanprayag (Chamoli)

D.F.O.

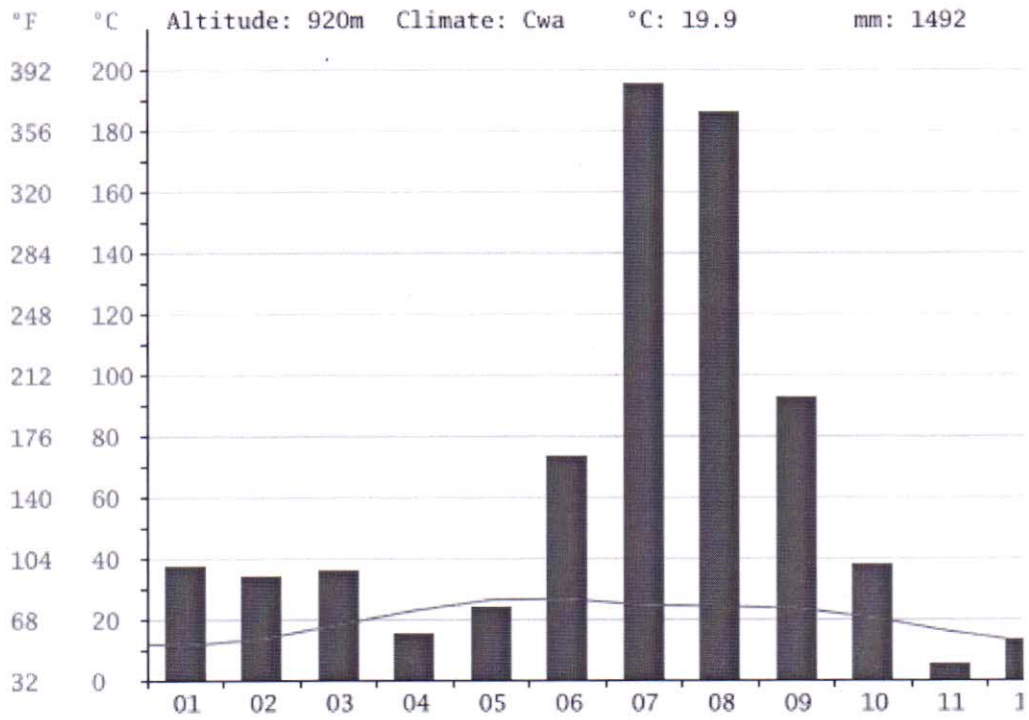
वन क्षेत्राधिकारी
असेड़ सिमली रेंज
नारायणबगड़

CLIMATE-DATA.ORG

CLIMATE: KARNAPRAYAG

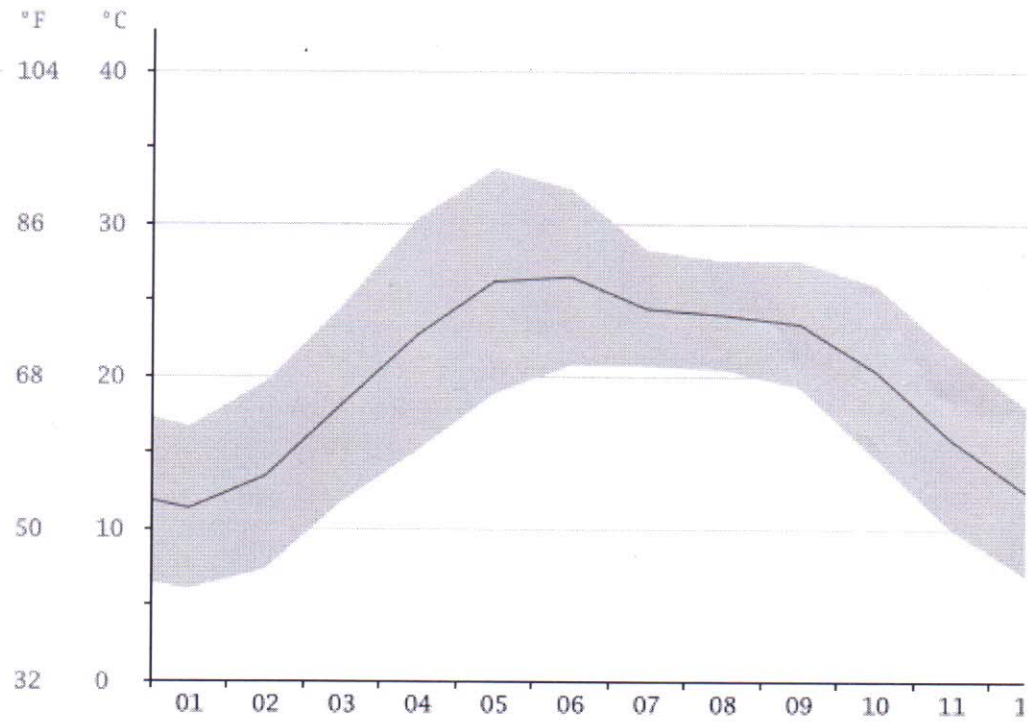
The climate is warm and ten summers here have a good have very little. This location and Geiger. The average ter 19.9 °C. Precipitation here a

CLIMATE GRAPH



The driest month is November, with 10 mm of rainfall. Most of the precipitation her mm.

TEMPERATURE GRAPH



The warmest month of the year is June, with an average temperature of 26.5 °C. J
with temperatures averaging 11.3 °C.

CLIMATE TABLE

month	1	2	3	4	5	6	7	8	9	10	
mm	74	67	71	30	47	146	390	371	185	75	
°C	11.3	13.4	18.1	22.7	26.2	26.5	24.4	24.0	23.4	20.3	15
°C (min)	6.0	7.3	11.7	15.1	18.8	20.7	20.6	20.4	19.2	14.6	9
°C (max)	16.7	19.6	24.6	30.4	33.6	32.3	28.3	27.6	27.6	26.0	21
°F	52.3	56.1	64.6	72.9	79.2	79.7	75.9	75.2	74.1	68.5	60
°F (min)	42.8	45.1	53.1	59.2	65.8	69.3	69.1	68.7	66.6	58.3	49
°F (max)	62.1	67.3	76.3	86.7	92.5	90.1	82.9	81.7	81.7	78.8	71

The difference in precipitation between the driest month and the wettest month is 3
temperatures vary by 15.2 °C.

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Data sources

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