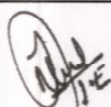


Name of the Work- Construction of Gairsain (Aagarchatti) to Syuni Malli Motor Road under PMGSY

**Comparison between identified alignments**

| Comparison between identified alignments |                                                                                                                    |                                                                                                                                                                                                                  |                     |                                                                                                                                                                                                                  |                                                                     |                     |      |
|------------------------------------------|--------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------|------|
| Sl. No.                                  | Variables                                                                                                          | Alignment No-1                                                                                                                                                                                                   |                     | Alignment No-2                                                                                                                                                                                                   |                                                                     |                     |      |
| 1                                        | Topography                                                                                                         | Mountainous                                                                                                                                                                                                      |                     | Mountainous                                                                                                                                                                                                      |                                                                     |                     |      |
| 2                                        | Length of Road                                                                                                     | 6.00 km                                                                                                                                                                                                          |                     | 7.150 km                                                                                                                                                                                                         |                                                                     |                     |      |
| 3                                        | Bridging requirement No. and Length                                                                                | Nil                                                                                                                                                                                                              |                     | Nil                                                                                                                                                                                                              |                                                                     |                     |      |
| 4                                        | Geometric                                                                                                          |                                                                                                                                                                                                                  |                     |                                                                                                                                                                                                                  |                                                                     |                     |      |
|                                          | (a) Gradients                                                                                                      | 01:20                                                                                                                                                                                                            |                     | 01:16                                                                                                                                                                                                            |                                                                     |                     |      |
|                                          | (b) Curves, H.P Bends                                                                                              | 06 numbers of H.P. Bends                                                                                                                                                                                         |                     | 09 numbers of H.P. Bends                                                                                                                                                                                         |                                                                     |                     |      |
| 5                                        | Existing Means of communication, mule path, jeep, Tracks etc.                                                      | By mule path                                                                                                                                                                                                     |                     | By 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 1207 m. The elevation at the starting point of the road is 1080 m and the elevation at the end point of the road is 1335 m. Thus the road achieves a height of 243 m. |                     | (iii) The General elevation of the road is 1187 m. The elevation at the starting point of the road is 1075 m and the elevation at the end point of the road is 1300 m. Thus the road achieves a height of 378 m. |                                                                     |                     |      |
|                                          | (iv) Variations extant and types.                                                                                  | 38 / 100 (Attached after comprative)                                                                                                                                                                             |                     | 38 / 100 (Attached after comprative)                                                                                                                                                                             |                                                                     |                     |      |
| 8                                        | Climate Condition:                                                                                                 |                                                                                                                                                                                                                  |                     |                                                                                                                                                                                                                  |                                                                     |                     |      |
|                                          | (a) Temperature Monthly max. & min. reading.                                                                       | (a) Temperature Monthly max. & min. reading (Avg. data of 12 years)                                                                                                                                              |                     |                                                                                                                                                                                                                  | (a) Temperature Monthly max. & min. reading (Avg. data of 12 years) |                     |      |
|                                          |                                                                                                                    | Month                                                                                                                                                                                                            | Temperature (in °C) |                                                                                                                                                                                                                  | Month                                                               | Temperature (in °C) |      |
|                                          |                                                                                                                    |                                                                                                                                                                                                                  | Max.                | Min.                                                                                                                                                                                                             |                                                                     | Max.                | Min. |
|                                          |                                                                                                                    | January                                                                                                                                                                                                          | 18                  | -1                                                                                                                                                                                                               | January                                                             | 18                  | -1   |
|                                          |                                                                                                                    | Feb.                                                                                                                                                                                                             | 22                  | 7                                                                                                                                                                                                                | Feb.                                                                | 22                  | 7    |
|                                          |                                                                                                                    | March                                                                                                                                                                                                            | 27                  | 13                                                                                                                                                                                                               | March                                                               | 27                  | 13   |
|                                          |                                                                                                                    | April                                                                                                                                                                                                            | 33                  | 18                                                                                                                                                                                                               | April                                                               | 33                  | 18   |
|                                          |                                                                                                                    | May                                                                                                                                                                                                              | 35                  | 20                                                                                                                                                                                                               | May                                                                 | 35                  | 20   |
|                                          |                                                                                                                    | June                                                                                                                                                                                                             | 32                  | 21                                                                                                                                                                                                               | June                                                                | 32                  | 21   |
|                                          |                                                                                                                    | July                                                                                                                                                                                                             | 31                  | 21                                                                                                                                                                                                               | July                                                                | 31                  | 21   |
|                                          |                                                                                                                    | August                                                                                                                                                                                                           | 30                  | 23                                                                                                                                                                                                               | August                                                              | 30                  | 23   |
|                                          |                                                                                                                    | September                                                                                                                                                                                                        | 30                  | 21                                                                                                                                                                                                               | September                                                           | 30                  | 21   |
|                                          |                                                                                                                    | October                                                                                                                                                                                                          | 29                  | 17                                                                                                                                                                                                               | October                                                             | 29                  | 17   |
| November                                 | 26                                                                                                                 | 12                                                                                                                                                                                                               | November            | 26                                                                                                                                                                                                               | 12                                                                  |                     |      |
| December                                 | 21                                                                                                                 | -1                                                                                                                                                                                                               | December            | 21                                                                                                                                                                                                               | -1                                                                  |                     |      |



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Karanprayag-1

Executive Engineer  
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| Sl. No. | Variables                                                                                          | Alignment No-1                                                                                                                                                                                                                                                                                      | Alignment No-2                                                                                                                                                                                                                                                                                      |
|---------|----------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|         | (b) Rainfall data average annual peak intensities monthly distribution (to the extent available) . | (b) Rainfall data average annual peak intensities monthly distribution                                                                                                                                                                                                                              | (b) Rainfall data average annual peak intensities monthly distribution                                                                                                                                                                                                                              |
|         |                                                                                                    | Month      Average Rainfall Data (in mm)                                                                                                                                                                                                                                                            | Month      Average Rainfall Data (in mm)                                                                                                                                                                                                                                                            |
|         |                                                                                                    | January      80                                                                                                                                                                                                                                                                                     | January      80                                                                                                                                                                                                                                                                                     |
|         |                                                                                                    | Feb.      92                                                                                                                                                                                                                                                                                        | Feb.      92                                                                                                                                                                                                                                                                                        |
|         |                                                                                                    | March      66                                                                                                                                                                                                                                                                                       | March      66                                                                                                                                                                                                                                                                                       |
|         |                                                                                                    | April      36                                                                                                                                                                                                                                                                                       | April      36                                                                                                                                                                                                                                                                                       |
|         |                                                                                                    | May      60                                                                                                                                                                                                                                                                                         | May      60                                                                                                                                                                                                                                                                                         |
|         |                                                                                                    | June      180                                                                                                                                                                                                                                                                                       | June      180                                                                                                                                                                                                                                                                                       |
|         |                                                                                                    | July      325                                                                                                                                                                                                                                                                                       | July      325                                                                                                                                                                                                                                                                                       |
|         |                                                                                                    | August      298                                                                                                                                                                                                                                                                                     | August      298                                                                                                                                                                                                                                                                                     |
|         |                                                                                                    | September      190                                                                                                                                                                                                                                                                                  | September      190                                                                                                                                                                                                                                                                                  |
|         |                                                                                                    | October      45                                                                                                                                                                                                                                                                                     | October      45                                                                                                                                                                                                                                                                                     |
|         |                                                                                                    | November      10                                                                                                                                                                                                                                                                                    | November      10                                                                                                                                                                                                                                                                                    |
|         |                                                                                                    | December      25                                                                                                                                                                                                                                                                                    | December      25                                                                                                                                                                                                                                                                                    |
|         | (c) Snowfall data average annual peak intensities monthly distribution (to the extent available) . | (c) Snowfall occurs in the month of December and January upto 15 cm in depth on an average.                                                                                                                                                                                                         | (c) Snowfall occurs in the month of December and January upto 15 cm in depth on an average.                                                                                                                                                                                                         |
|         | (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 where the site is located.                                                                                                                                                                                         | (g) There is no record of unusual weather condition like cloud burst in the area where the site is located.                                                                                                                                                                                         |
|         |                                                                                                    |                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                     |
| 9       | Facilities resources.                                                                              |                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                     |
|         | (a) Landing ground.                                                                                | (a) None                                                                                                                                                                                                                                                                                            | (a) None                                                                                                                                                                                                                                                                                            |
|         | (b) Dropping Zone.                                                                                 | (b)03                                                                                                                                                                                                                                                                                               | (b)03                                                                                                                                                                                                                                                                                               |
|         | (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.                                                                                                                                                                                                                                                |

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| 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 30 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 30 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-<br>- Private land, 0.280 hectare @ Rs. 2500000.00= Rs. 560000.00<br>Reserve Forest Land, 4.370 hectare @ Rs. 9,39,000= Rs. 4103430.00<br>Thus total value of land = Rs. 4663430.00 | Value of the land required for the construction of the road in this alignment is as under-<br>- Private land, 0.280 hectare @ Rs. 2500000.00= Rs. 560000.00<br>Reserve Forest Land, 5.175 hectare @ Rs. 9,39,000= Rs. 4859325.00<br>Thus total value of land = Rs. 5419325.00 |
| 11      | Approximate Const. Cost.                                                                                             | Rs.480.00 lacs                                                                                                                                                                                                                                                                | Rs. 560.00 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.                                                                                    | 15 months                                                                                                                                                                                                                                                                     | 15 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- Syuni Malli with a population of 425 numbers                                                                                                                                                                                  | The road shall provide connectivity to Village- Syuni Malli with a population of 425 numbers                                                                                                                                                                                  |
| 16      | Recreational potential.                                                                                              | Nil                                                                                                                                                                                                                                                                           | Nil                                                                                                                                                                                                                                                                           |
| 17      | Economic Factors:                                                                                                    |                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                               |
|         | (a) Population served by the alignment.                                                                              | (a) 425 numbers                                                                                                                                                                                                                                                               | (a) 425 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.                                                                                                                                                                                                              |

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| Sl. No. | Variables                                                                             | Alignment No-1                                                                                                          | Alignment No-2                                                                                                          |
|---------|---------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
|         | (ii) Law and other problem                                                            | (ii) There is no significant law and order problem in the area and the local administration takes care of such matters. | (ii) There is no significant law and order problem in the area and the local administration takes care of such matters. |
|         | (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 in a year                                                                                                 | (v) 09 months in a year                                                                                                 |
| 20      | Total No. of trees to be removed.                                                     | 573 numbers                                                                                                             | 625 numbers                                                                                                             |
| 21      | Average Density of forest cover.                                                      | 0.4 (Dense Forest)                                                                                                      | 0.4 (Dense Forest)                                                                                                      |
| 22      | Total No. of Merits                                                                   | 15                                                                                                                      | 10                                                                                                                      |
| 23      | Total No. of Demerits                                                                 | 04                                                                                                                      | 09                                                                                                                      |

**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.**

*[Signature]*  
A.E.

*[Signature]*  
A.E.  
Assistant Engineer  
RWD PMGSY  
Karanprayag-1

*[Signature]*  
D.F.O.

*[Signature]*  
E.E.