

Forest Proposal No: - FP/JK/ROAD/143808/2021

Project: Construction & Upgradation of 2 lane with paved shoulder from design km 80.675(Start of Kishtwar bypass) to km 95+550(end of Helmet top bypass) of Length 14.875km & link road from 0+000 to 1.871 of length 1.87km total length 16.746km (including link road) on khellani-kishtwar-chattroo-khanabal section of Nh-244 in the Union territory of jammu & Kashmir on EPC Mode(Pkg-IV)

UNDERTAKING

It is hereby submitted that Muck generates during the Construction & Upgradation of 2 lane with paved shoulder from design km 80.675(Start of Kishtwar bypass) to km 95+550(end of Helmet top bypass) of Length 14.875km & link road from 0+000 to 1.871 of length 1.87km total length 16.746km (including link road) on khellani-kishtwar-chattroo-khanabal section of Nh-244 in the Union territory of jammu & Kashmir on EPC Mode(Pkg-IV) will be dumped on approved designated muck disposal site. The state land has been designated for muck disposal and it will not affect any forest land.

Once the muck disposal site/land is filled up to brim i.e., the ground level, it will further be used by MoRTH/NHIDCL/Government of India, PSUs as Wayside Amenities/Road Furniture or further it can be used by any of UT/Govt of India for the purpose of public interest.





(Praveen Ahlawat)
General Manager (P),
NHIDCL, PMU-Kishtwar

c/s



Divisional Forest Officer
Forest Division Kishtwar



Joint Inspection for Muck Dumping and Wayside Amenities

FOREST PROPOSAL NO. - FP/JK/ROAD/143808/2021


Project: Construction and Upgradation to 2-lane with paved shoulder from Km. 80.675 (Start of Kishtwar bypass) to Km 95+550 (end of Helmet top bypass) of length 14.875 Km & link road from 0+000 to 1.871 of length=1.871 km total length = 16.746 km (including link road) on Khellani- Kishtwar-Chattoo-Khanabal section of NH-244 in Jammu and Kashmir

Area Proposed for Muck Dumping and Wayside Amenities on State/Government Land


(Non-Forest Land)

Sr. No	Plot/Survey No	Chainage		Length(m)	Area in Ha	Area in Kanal (local unit)	Nature of land	Remarks
		From	To					
1	270	81+300	81+800	500	3.1652	62.5710	State	Width in meter is variable from one location to another location
2	1089/867	82+900	83+450	550	2.0771	41.0610	State	
3	2421/1235	86+510	86+920	410	1.5238	30.1231	State	
4	911/517	91+790	92+000	210	1.5412	30.4671	State	
					8.3073	164.2223		

The state land has been designated for muck disposal. All Muck disposal/wayside amenities points fall outside of Forest land and muck management plan of which has been prepared by user agency which stands verified by Under Signed.


Site Engineer
N.H.I.D.C.L.
PMD-Kishtwar (J&K)


Divisional Forest Officer
Forest Division Kishtwar

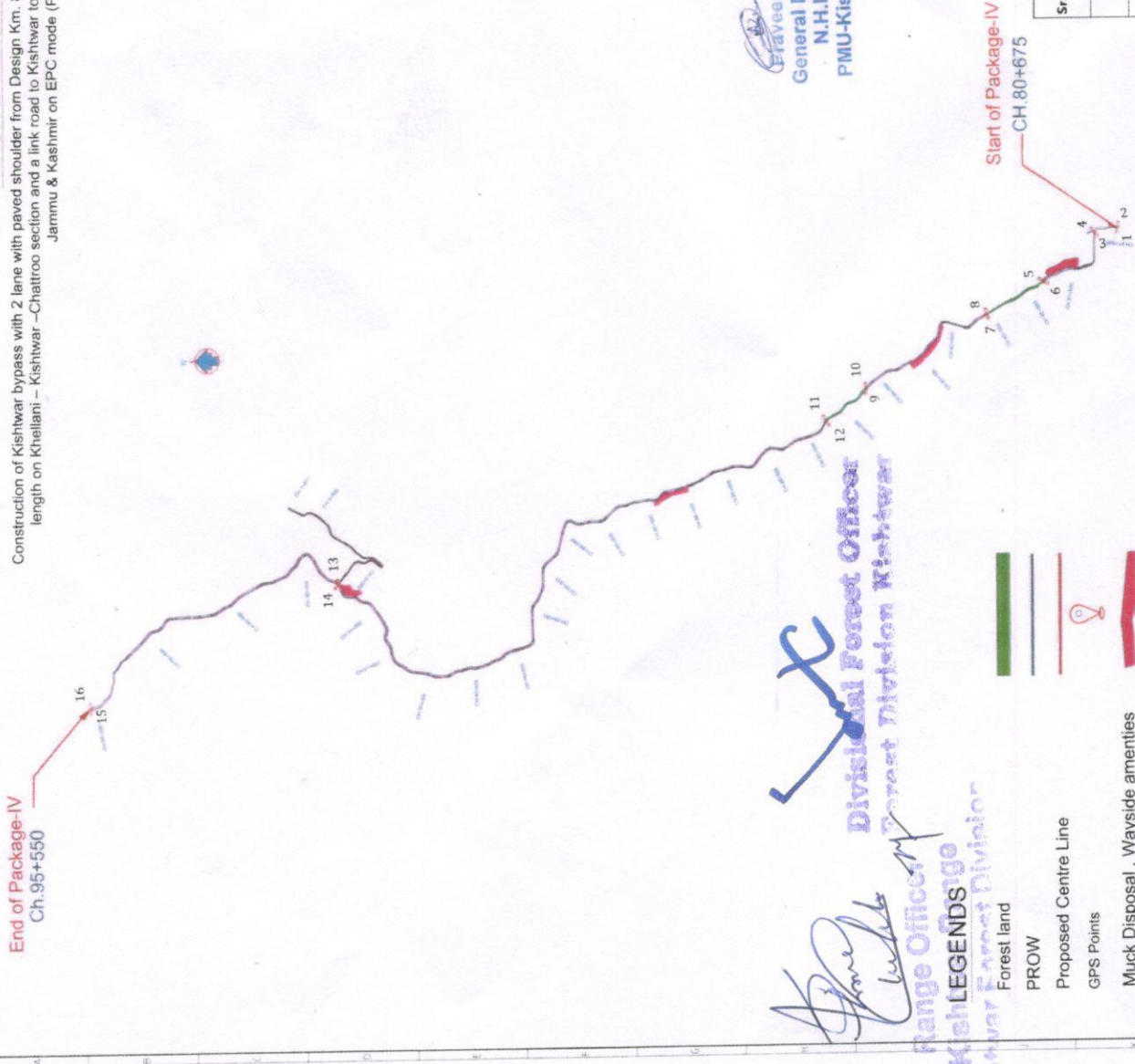

Range Officer
Kishtwar Range
Kishtwar Forest Division

PROJECT LAYOUT PLAN

Construction of Kishthwar bypass with 2 lane with paved shoulder from Design Km. 80.675 (Dulhasti) to Km 95.550 (bandarkoot) of 14.88 Km length on Khellani - Kishthwar - Chattroo section and a link road to Kishthwar town of 1.871 km on NH244 in the Union Territory of Jammu & Kashmir on EPC mode (Pkg -IV)

End of Package-IV
Ch. 95+550

Start of Package-IV
CH. 80+675



Point	UTM Co-Ordinate		Degree, minute and Second	
	Easting	Northing	Latitude	Longitude
1	571579.9674	3681905.9332	33° 16' 25.726"	75° 46' 7.049"
2	571600.7242	3681902.3762	33° 16' 25.606"	75° 46' 7.85"
3	571540.8922	3682140.3404	33° 16' 33.346"	75° 46' 5.605"
4	571549.5214	3682160.1661	33° 16' 33.988"	75° 46' 5.944"
5	571040.8969	3682712.5282	33° 16' 52.044"	75° 45' 46.439"
6	571016.7994	3682700.7264	33° 16' 51.666"	75° 45' 45.504"
7	570686.9666	3683300.0207	33° 17' 11.203"	75° 45' 32.923"
8	570700.9380	3683307.8190	33° 17' 11.453"	75° 45' 33.465"
9	569911.8340	3684597.0698	33° 17' 53.499"	75° 45' 3.317"
10	569930.4880	3684610.7451	33° 17' 53.938"	75° 45' 4.042"
11	569596.3028	3685041.9385	33° 18' 8.017"	75° 44' 51.24"
12	569580.9846	3685024.7801	33° 18' 7.463"	75° 44' 50.643"
13	567940.2755	3690290.0381	33° 20' 58.798"	75° 43' 48.628"
14	567924.0006	3690309.0214	33° 20' 59.418"	75° 43' 48.004"
15	566638.5968	3692952.6541	33° 22' 25.544"	75° 42' 58.978"
16	566659.1190	3692957.1202	33° 22' 25.684"	75° 42' 59.773"

Component wise breakup

S.no	Component	Forest Land (ha.)	Non-Forest Land (ha.)
1	Road and Protection works	2.65072	32.51418
2	Wayside Amenities, Road Furniture and Muck Disposal	0	8.31
Total		2.65072	40.8241



Praveen Ahlawat
General Manager (P)
N.H.I.D.C.L.
PMU-Kishthwar (J&K)

Sr. No	Name of District	Name of Taluk	Name of Village	Survey/Plot/ Kharsa No.	Type of Land	Nature of Land	Area in Hectare	Length	Right of Way	Chainage Details
1	Kishthwar	Kishthwar	Hidyal	1081/1075/757 Min	Forest	Forest	1.282347	557	23.02239	From 84+200 To 84+757
2	Kishthwar	Drabshala	Ohli	282 Min	Forest	Forest	1.36837	691	19.8027	81+853 To 82+544
Forest Land							2.65072	1248		

ISSUE NO.	DATE	AMENDMENT	ISSUE DESCRIPTION	APPROVAL
	Nov-2021			

CLIENT	NATIONAL HIGHWAY & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. (MINISTRY OF ROAD TRANSPORT & HIGHWAY)
CONSULTANT	TPF OF TINA K. THORNTON & SONS 2008 MADRID SPAIN BODIC CONSULTANTS PVT. LTD. (JV) 1, JAI BHAGH MANSION (FIRST FLOOR), W-10, NEW DELHI - 110061 (INDIA)
PROJECT / ANNOT. PLAN	PROJECT / ANNOT. PLAN

1. MUCK GENERATION

The project shall generate a total quantum of about **881171 m³** of muck. The details are given in the Table. The excavated rock from the road would be generally moderately hard to very hard; these include Volcanic Traps- basalts, phyllites, limestones and slates etc. Apart from hard component the soft material comprise overburden which is existing as debris upon the slopes on the road alignment. The theoretical excavated estimated quantities are below.

Table: 01

Muck to be generated from Design Km. 80.675 (Dulhasti) to Km 95.550 (Bandarkoot) of 14.88 Km length on Khellani – Kishtwar –Chattroo section and a link road to Kishtwar town of 1.871 km on NH- 244 in the Union Territory of Jammu & Kashmir on EPC mode (Pkg –IV)

Description	Unit	Package-IV	Kishtwar Link Road	Total
Road Component	m ³	845000	36171	881171
Total Quantity of Excavation	m³	845000	36171	881171
Consumed Quantity	m³	124025	8444	132469
Quantity for Muck Disposal	m³	720975	27727	748702

1.1 Monitoring of Muck Disposal

It has already been made eloquent in the relevant muck management plan that the excavated material shall be evacuated from site with suitable usable muck to be utilized in project works by the project proponents and allowed to be used by private users and the non-usable muck is to be disposed off on designated areas so as not to interfere with either environment/ecology or the river flow regime. Thus, there is an imperative need to regularly monitor the quantum of muck generated and its disposal for which purpose the project concessioner shall furnish monthly statement of muck/debris disposal to project proponent (user Agency).

1.2 Sharing of Monitoring Results

The results of monitoring of various environment attributes either during or post construction would be shared by the monitoring agency, with the project proponents and other agencies of the Government as and when required. Monitoring agency may disseminate the results in any other forms.

2. MUCK MANAGEMENT PLAN

2.1 GENERAL

For construction of different components of Khellani-Khanabal-Chattru-Kishtwar Road Package-IV to be evacuated, disposed of and roller compacted or laid on mild slopes with the excavation work, to such designated areas where the muck piles do not substantially interfere with either environment/ ecology or the river flow regime and cause turbidity impairing the quality of water. The disposal of muck scientifically planned to keep in view the pecuniary aspects necessitating nearness to the generating

component of work, which understandably reduce the travel time of dumpers, interference to surface flow and ground water aquifer, and disposition of habitation. In the present case, the total quantity of muck / debris, to be generated due to the project, shall be 5.50 lac cum, out of which 0.59 lac cum shall be consumed on project work leaving 4.90 lac cum, to be disposed-off away from sites to make available the clear site for construction activities. The muck which is suitable for use as aggregate material for concrete on non-wearing surface, backfill concrete and for widening of the road shall be properly stacked. The muck unsuitable for use in concrete etc. shall be dumped on slopes and treated to mix and match with the surrounding environment with least change in landscape. During construction of the project, huge quantities of excavation will be carried out from the Road and shall be either roller compacted to provide stable terraces for erection of labour camps, job facilities and storage area, or dumped in designated areas to provide stable slopes.

2.2 Muck Disposal and Possible Sites

A huge quantity of muck (about **881171** m³), which will be generated during the construction work, needs to be disposed off. The dumping of rock spoil can potentially be a cause for environmental problems and land degradation. It would cause landslides and be an aesthetical damage to the natural landscape.

All Highway works in India are to be in accordance with the MORTH specifications and guidelines of Indian Roads Congress (IRC). The MORTH specifications have special provisions towards protection of environment under Clause 501, Annexure A and the contractor is to satisfy these provisions. Apart from this there are provisions for control of erosion, drainage, dust suppression, borrow area and haul road management under relevant sections.

Provisions of clause 501 Annexure A, cover the environmental aspects regarding the disposal of the muck, etc. For example, it is unambiguously clarified that.

- a. The contractor shall take all necessary measures and precautions to carry out the work in conformity with the statutory and regulatory environmental requirements.
- b. The contractor shall take all measures and precautions to avoid nuisance or disturbance from the work.
- c. In the event of any spoil, debris, waste, or any deleterious material from site being deposited on adjacent land, the same shall be removed and affected area shall be restored to its original state.
- d. The contractor shall prevent any interference with supply/abstraction of water resources
- e. Water used for dust suppression shall be reused after settlement of material in collected water
- f. Liquid waste products to be disposed of such that it does not cause pollution

- g. No debris is to be deposited or disposed into/adjacent to water courses Substantial quantity of muck

Praveen Anand
General Manager (P)
N.H.I.D.C.L.
PMU-Kishtwar (J&K)

can be put to various uses.

Table-02 Details Regarding the Utility of Muck Generated

Total Muck Generation	881171 m ³
Re-use of Muck Quantity	132469 m ³
Balance Muck Requiring Disposal	748702 m ³

Depending upon the characteristics of the excavated material, it can be used for different purposes after appropriate sorting from the areas where it is dumped. The following can be the chief reuses:

- Producing aggregate for construction purposes. Basalts and limestones can be used. The use as backfill material, material for road, Bridge as well as material for filter and drainage layers is most suitable. If the material has sufficient quality for use as in sub-base layers or as mineral aggregates for concrete must be further investigated.
- Earth filling works. Slope debris material, slates and phyllites can only be used for unloaded/uncharged landfills.

Total Excavation	Total Disposal	Identified Muck disposal (State Barren Land)
881171 m ³	748702 m ³	164.45 Kanal
		83189.11 sq. m. (8.31 Ha)

Muck disposal site identify on Government (State Barren Land) for Muck Disposal Construction from Design Km. 80.675 (Dulhasti) to Km 95.550 (Bandarkoot) of 14.88 Km length on Khellani – Kishtwar – Chattroo section and a link road to Kishtwar town of 1.871 km on NH-244 in the Union Territory of Jammu & Kashmir on EPC mode (Pkg –IV)

The muck to be generated shall have to be appropriately dumped in tips at various suitable locations so that it does not degrade the various elements of the natural environment. For final disposal of the material convenient locations have been identified viz-a-viz to environmental aspects. The most suitable locations for dumping the muck that would be generated from the Khellani-Chattru-Khanabal road section Package-IV and Kishtwar Link Road.

The details of Muck Disposal plan as **Annexure**

3. STABILIZATION OF DUMPED MUCK

The utilization and management of the remaining muck needs to be planned well in advance. The spoil tips must be built where flatter to moderate spaces is available enabling the tips to maintain an angle of repose. The efforts will be made to relocate and rehabilitate the material within short distances from sites of its generation. For the stabilization of the dumped muck, various engineering measures (construction of wire crate retaining walls, breast walls, sausage walls, gabions etc. wherever needed) and biological measures are recommended. All efforts should be made to find ways to dispose of the material in such a manner that negative impacts on the environment are avoided and it is washing away into the river water.

Praveen Anand
General Manager (P)
N.H.I.D.C.L.
PMU-Kishtwar (J&K)

Spoil tips be spread and levelled. Stabilization of dumped muck through biological measures include adopting measures like turfing, resurfacing, and re-vegetating of exposed areas to grow a plant cover on it. Biotechnological approach is also currently in vogue as a restoration measure for the consolidation of unused dumped material to stabilize the same with vegetation by employing traditional method of afforestation supplemented by modern biotechnological approach. The spoil tip areas are treated through turfing and afforestation of suitable plant species, using VAM-Vascular Arbuscular Mycorrhiza-and nitrogen fixing bacteria. This method be also tried. Under this combined approach the fungi form partnership with plant roots. The fungus grows on and extends the reach of plant roots for water and nutritional requirements. The seedlings inoculated with VAM survive better after transplanting and grow faster in nutrient poor soils.

3.1 Implementation of Engineering & Biological Measures

As already explained engineering measures like providing of GI wire crates Gabion Wall, Retaining Walls and compaction of muck will provide stability to the profile of muck piles.

3.2 Engineering Measures

It has been observed that after excavation the disposal of muck creates problem as it is susceptible to scattering unless the muck disposal yards are supported with engineering measures such as retaining structures, crate walls and gabions. All the dumping sites need proper handling to avoid spilling of muck either on the adjoining and or into the river/stream/nallah water while dumping and in the post dumping stages. The muck disposal sites shall have to be developed from below the ground level by providing retaining wall with height of 4.0m - 6.0m including 0.75 m of buffer to avoid any rollover falling to the riverbed. 8 SWG GI wire crates for side protection with 10 cm x 10 cm mesh and dimension 1.15 m x 1.15 m x 1.15 m in multi tiers will be laid with 0.5 m wide offset, concurrently with the dumping of muck. After preparing the RCC wall at muck disposal site, the muck brought in dumpers shall be dumped and manually spread behind the wall in such a manner that rock mass is properly stacked behind the wall with minimum of voids. The muck pile shall be later rehabilitated by afforestation of herbs and shrubs. Geo-coir textile should also be provided on surface of muck piles where top surface is to be vegetated.

3.3 Biological Measures

Biological measures, however, require special efforts as the muck disposed in disposal yards will in general be devoid of nutrients and soil contents to support vegetation. The selection of soil for spreading over such an area would require nutrient profiling of soil for different base elements. Suitable admixture of nutrients would be done before placing the soil on the top surface of muck disposal areas to have administered growth of forest canopy.

3.4 Plantation Technique

In view of the peculiar site conditions particularly the soil conditions, the planting technique for all the

Praveen K. Javali
General Manager (P)
N.H.I.D.C.L.
PMU-Kishtwar (J&K)

categories of the plants must be very site specific and suited to the stress conditions as anticipated and discussed above. The planting substrates would need to be considerably improved to support the plants in their initial stages of establishment. The moisture retention capability, availability of nutrients and soil aeration, permeability and porosity would require intervention and assistance.

Multistore and multipurpose plantations are proposed to be raised on the muck dumping sites as also in roadside strips using grasses, shrubs and bushes in the under story and trees in the upper story. Nursery raised grass slips, seedlings of shrubs & bushes and tree species would be planted in the area combined with grass sowing in patches. In addition, cuttings of bushes and shrubs can also be planted to supplement the nursery raised stock, but this would substitute requirement of raising the nursery of these species. Intimate mixture of species would be avoided right at the planning stage and would be strictly followed during planting. Each patch should contain maximum of two species. Grasses would be mixed by groups in rows, shrubs, and bushes by group again in rows.

Grass slip planting and grass seed sowing would be done in strips at 0.10 m x 0.10 m spacing in the prepared staggered patches of 1 m x 0.5 m with a depth of 0.30 m. Soil mixture would be used while filling the patches. Balance dug up soil/muck will be stacked along the patch on the downhill side for rainwater tapping and enhanced percolation in the patch. Number of such patches in each hectare is proposed at 500.

Shrubs and bushes would be planted in elongated strips of 1.5 m x 0.5 m with a depth of 0.45m. Soil mixture would be used while filling the patches. Balance dug up soil/muck will be stacked along the patch on the downhill side for water tapping and better percolation in the patch. These would be staggered throughout the area numbering 500 per hectare. Each patch would have two rows of planting with staggered spacing between plants in a row as 15 cm and distance between rows as 15 cm.

Planting of trees would be done in contour staggered pits of 0.45 m x 0.45 m x 0.45 m size numbering 800 per hectare. Out of these 800 plants, about 200 plants per hectare are meant for planting along the periphery of the area. If the periphery gets filled up with lesser numbers, the remainder would be planted in the core/main area. Soil mixture would be used while filling the pits. Balance dug up soil/muck will be stacked on downhill side of the pit for trapping the rainwater and allowing it to percolate in the pit.

It is proposed to use soil mixture in the pits & patches consisting of soil imported from nearby areas mixed with compost or human or vermin-compost or all of these. The ratio for the mix would be 5 parts: Compost/manure 2 parts: Sand 2 part: and humus or vermin-compost 1 part. This will make nutrients available for the plants in the preliminary stages and help increase soil aeration, porosity & permeability and improved moisture available for the plants. The stabilization sites from the time of execution of biological measures would be protected with barbed wire fencing on 2m high RCC posts and provided with inspection paths. Since the muck dumping sites are being provided with either RCC walls or the wire crate (gabion) wall on the valley side (towards river) which is not negotiable by animals and human

Praveen Kumar
General Manager (P)
N.H.I.D.C.L.
PMU-Kishtwar (J&K)

beings, fencing would not be required along the entire perimeter. Hence, it would be done on the vulnerable sections i.e., towards the hillside only. The proposed costs include nursery costs for initial planting and for mortality replacement. The biological measures shall be taken up towards the end of construction. The plantations would be maintained for a period of 5 years by irrigating the plantation during dry seasons, mortality replacement and repair of fencing & inspection paths within the area. The task of irrigation would be performed by the watch & ward (chowkidar / rakha) provided in the cost estimate.

3.5 Species for Plantation

Afforestation with suitable plant species of high ecological and economic value and adaptable to local conditions will be undertaken at the rate of 800 plants per hectare in accordance with canopy cover requirement. The major plant species which can be used in the area shall belong to indigenous species.

4. ESTIMATED COST FOR MUCK MANAGEMENT

The estimated cost of these measures would be Rs. 0.47 Cr. This cost includes the cost of turfing of slopes, preparation of ground, spreading of manure, etc., providing 5 cm of soil cover and transportation and carriage. It also includes the Suitable engineer structure like Breast wall and Gabion Wall, cost of fencing, irrigation, watch and ward, etc.

4.1 Financial Requirement

The estimated cost of the relocation and rehabilitation of excavated material given below Table. The total cost of these measures will be Rs. **47.24 lakhs**.

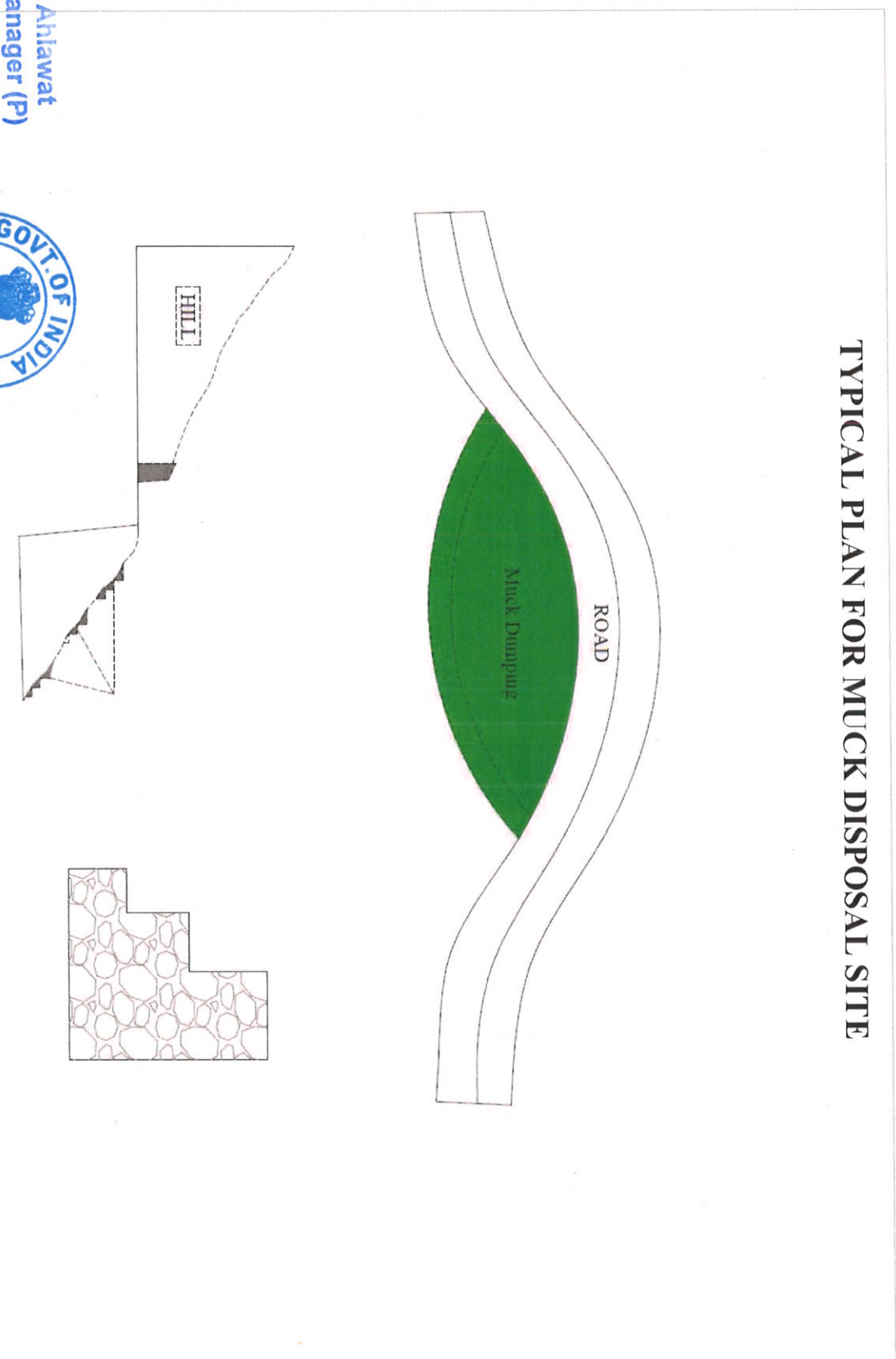
Financial requirements for implementation of Muck Disposal Plan

S. No.	Item	Package-IV (Rs.in lakhs)	Kishtwar Link Road	Total
1	Engineering measures	28.75	5.35	34.1
2	Biological measures	11.34	1.80	13.14
Total		40.09	7.15	47.24

Placed by
General Manager (P)
N.H.I.D.C.L.
PMU-Kishtwar (J&K)



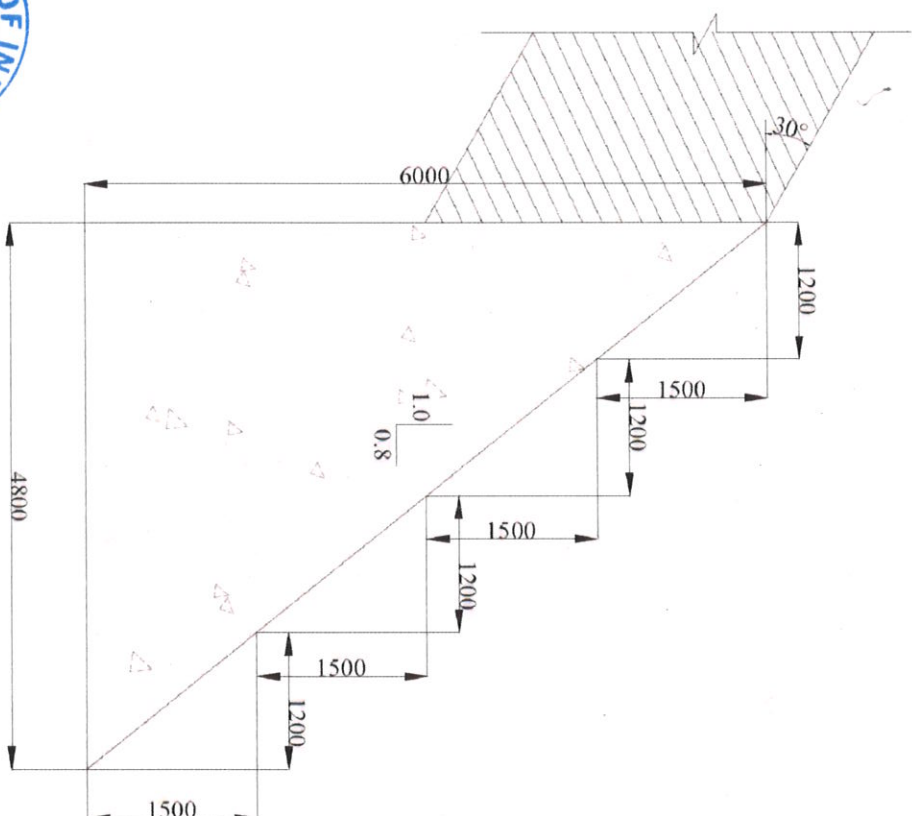
TYPICAL PLAN FOR MUCK DISPOSAL SITE




Praveen Ahlawat
General Manager (P)
N.H.I.D.C.L.
PMU-Kishtwar (J&K)



TYPICAL PLAN FOR DEVELOPMENT OF A MUCK DISPOSAL SITE FOR KHELLANI CHHATRU ROAD SECTION

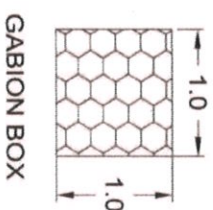
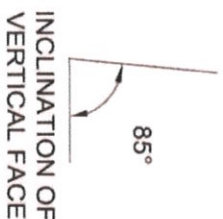
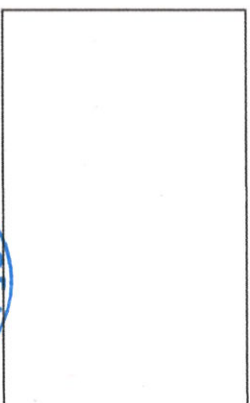
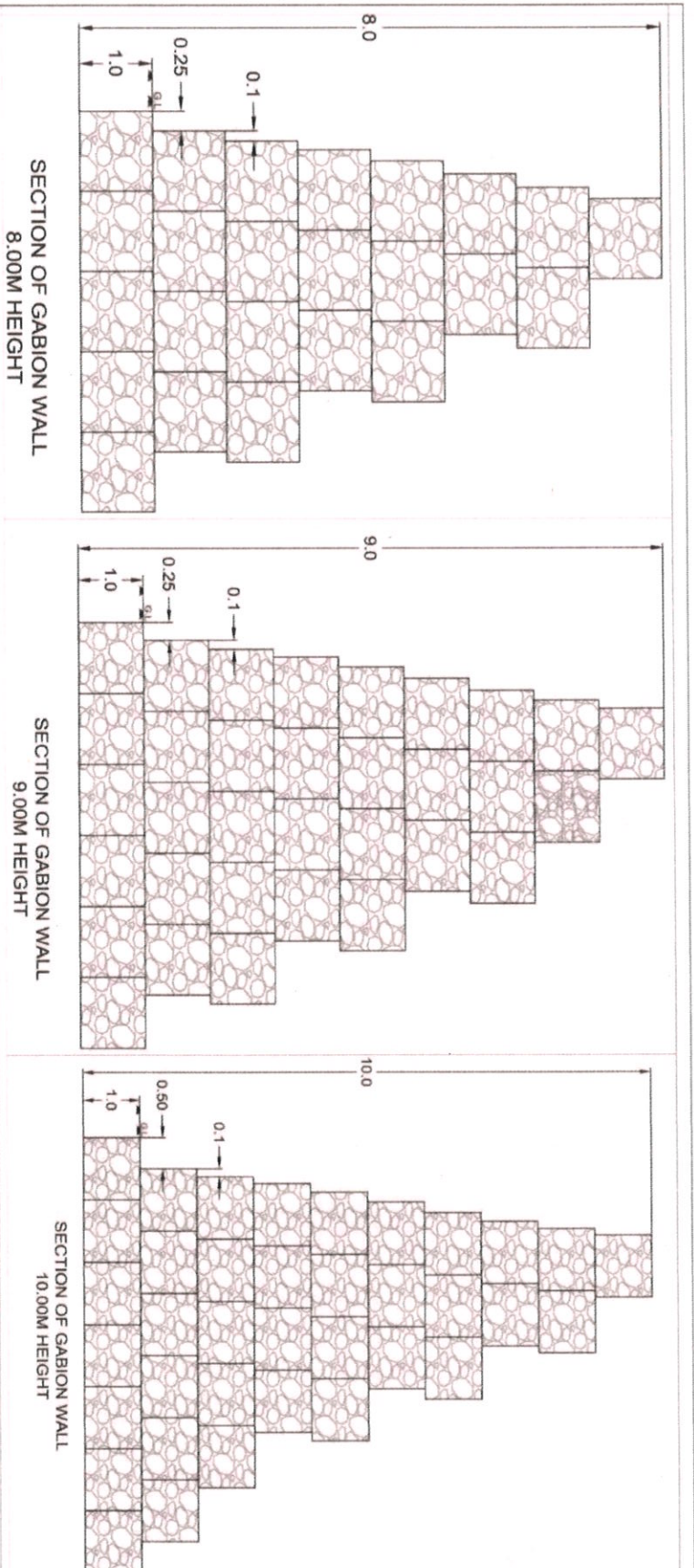



Praveen Ahlawat
General Manager (P)

N.H.I.D.C.L.

PMU Kishwar (J&K)

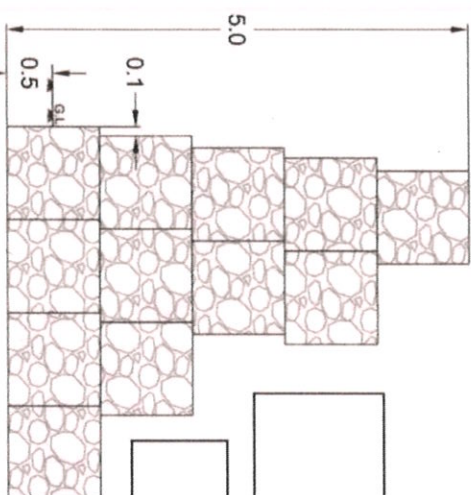
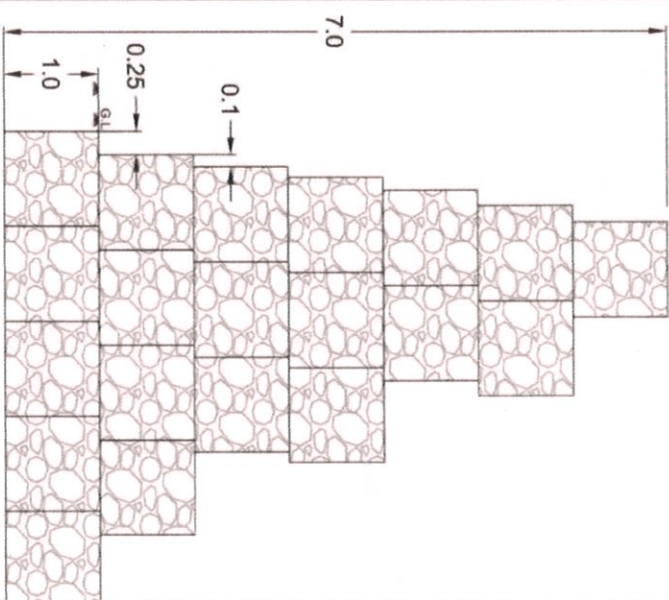
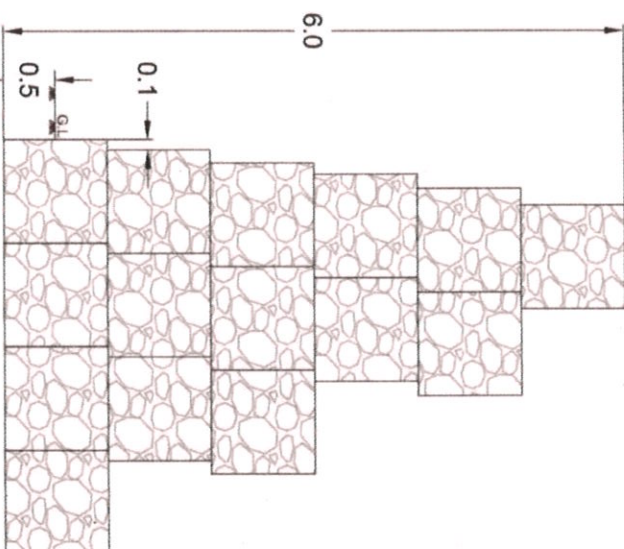
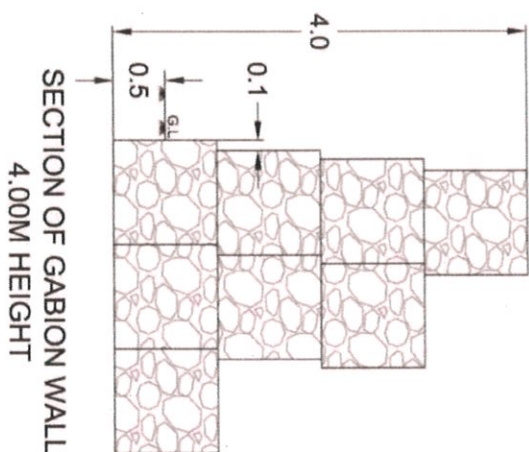




TYPICAL PLAN OF KHELLANI CHATTRU-KHANABAL

Praveen Ahlawat
 General Manager (P)
 N.H.I.D.C.L.
 PMU-Kishwar (J&K)





SECTION OF GABION WALL
6.00M HEIGHT

SECTION OF GABION WALL
7.00M HEIGHT

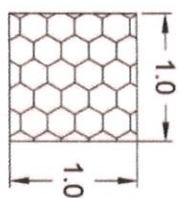
INCLINATION OF
VERTICAL FACE

85°

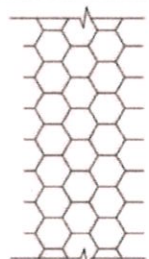
INCLINATION OF
HORIZONTAL FACE

5°

GABION BOX



ZINC COATED STEEL
WIRE GABION MESH



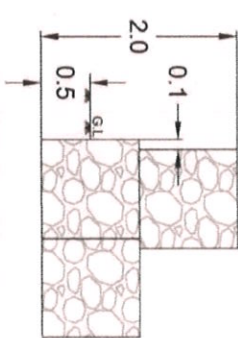
Praveen Ahlawat
General Manager (P)

5.00M HEIGHT

N.H.I.P.C.L.

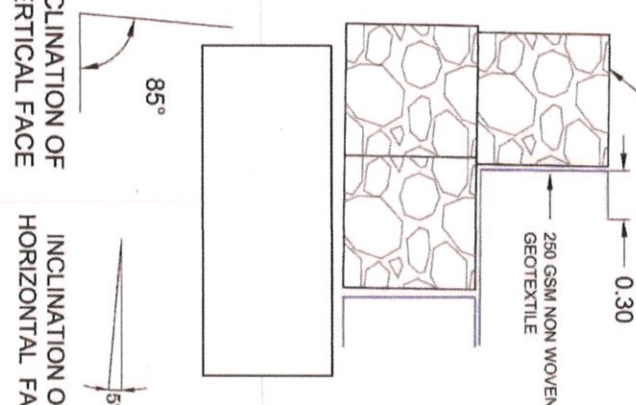
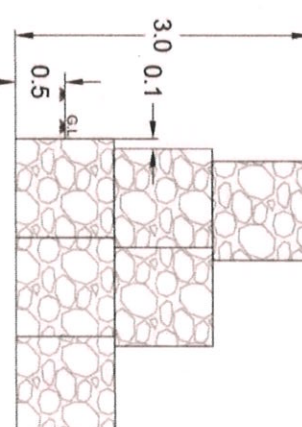
PMU-Kishwar (J&K)

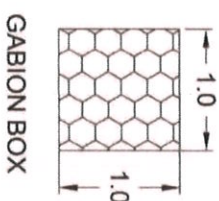


	 <p>SECTION OF GABION WALL 2.00M HEIGHT</p>
--	---

NOTES:

1. ALL DIMENSION ARE IN MILLIMETERS, UNLESS OTHERWISE SPECIFIED. LEVELS IN METERS.
2. MINIMUM DEPTH FOR EMBEDMENT AT BOTTOM SHALL BE 500MM FOR WALL HEIGHT 1 TO 6 M AND 1000MM FOR WALL HEIGHT ABOVE 6M.
3. MINIMUM DENSITY OF STONE (USING FOR GABION FILL) = 2.2 T/M^3
4. MINIMUM AND MAXIMUM SIZE OF STONE IS 1.5 TO 2.5 TIMES OF MESH OPENING.
5. CONSTRUCTION OF GABION WALL SHOULD BE AS PER THE IRC:SP:116-2018 AND MORTH 5TH REVISIONS.
6. BEARING CAPACITY SHOULD BE VERIFY AT FOUNDING LEVEL.
7. FORMATION LEVEL AND GROUND LEVEL SHALL BE VERIFIED AT SITE.
8. FOUNDATION SHALL BE ANCHORED IN FIRM STRATA.

	 <p>SECTION OF GABION WALL 3.00M HEIGHT</p>
--	---



(Signature)

Praveen Mishra

General Manager (P)

N.H.I.P.C.L.

PMU-Kishtwar (J&K)



MUCK DISPOSAL LOCATION MAP

End of Package-IV
Ch.95+550

Construction of Kishtwar bypass with 2 lane with paved shoulder from Design Km. 80.675 (Dulhasti) to Km 95.550 (bandarkoot) of 14.88 Km length on Khellani – Kishtwar –Chattroo section and a link road to Kishtwar town of 1.871 km on NH244 in the Union Territory of Jammu & Kashmir on EPC mode (Pkg –IV)



Praveen Ahlawat
General Manager (P)
N.H.I.D.C.L.
PMU-Kishtwar (J&K)



LEGENDS

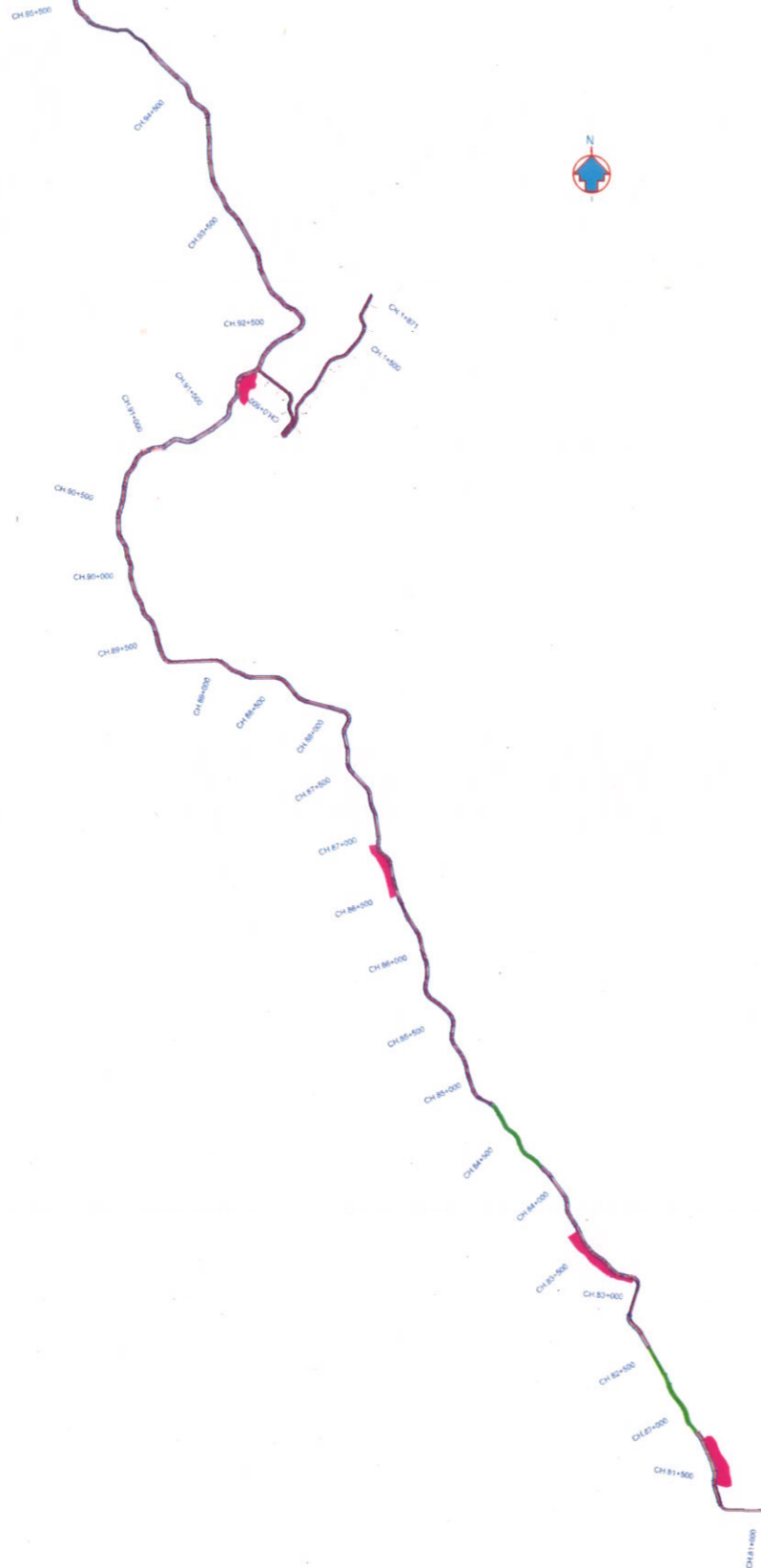
- Forest land
- PROW
- Proposed Centre Line
- Muck Disposal , Wayside amenities

ISSUE	DATE	AMENDMENT \ ISSUE DESCRIPTION	APPROVAL	CLIENT	CONSULTANT	Project
R0	Nov 2021			NATIONAL HIGHWAY & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. (MINISTRY OF ROAD TRANSPORT & HIGHWAY) GOVERNMENT OF INDIA	TPF GETINSA EUROESTUDIOS RAMÓN DE AGUINAGA, 8 28028 MADRID, SPAIN RODIC CONSULTANTS PVT. LTD. (JV) 1, JAI SINGH MARG (FIRST FLOOR), YMCA CULTURAL CENTRE BUILDING NEW DELHI - 110001 (INDIA)	Consultancy Services for Feasibility Study, Preparation of Detailed Project Report and providing pre-construction services for upgradation to 2 lane with paved shoulder from (i) Km44.500 to Km 142.00 of Chattroo Village & (ii) Km 235.00 (Vailoo Village) to Km 269.00 (Khanabal) of Khellani- Kishtwar- Chattroo- Khanabal Section of NH 244 in the state of Jammu & Kashmir.
				MUCK DISPOSAL LOCATION MAP (PACKAGE-IV, Ch.-80+675 to 95+550)		
				Scale:- 1:25000		
				Designed: _____ Drawn: _____ Checked: _____		
				MUCK DISPOSAL LOCATION MAP (PACKAGE-IV)		
				Date: _____ Project No. _____ Drawing No. _____ Sheet No. A1		

MUCK DISPOSAL LOCATION MAP

Construction of Kishtwar bypass with 2 lane with paved shoulder from Design Km. 80.675 (Dulhasti) to Km 95.550 (bandarkoot) of 14.88 Km length on Khellani – Kishtwar –Chattroo section and a link road to Kishtwar town of 1.871 km on NH244 in the Union Territory of Jammu & Kashmir on EPC mode (Pkg –IV)

End of Package-IV
Ch.95+550



Start of Package-IV
CH.80+675

Praveen Ahlawat
General Manager (P)
N.H.I.D.C.L.
PMU-Kishtwar (J&K)



LEGENDS

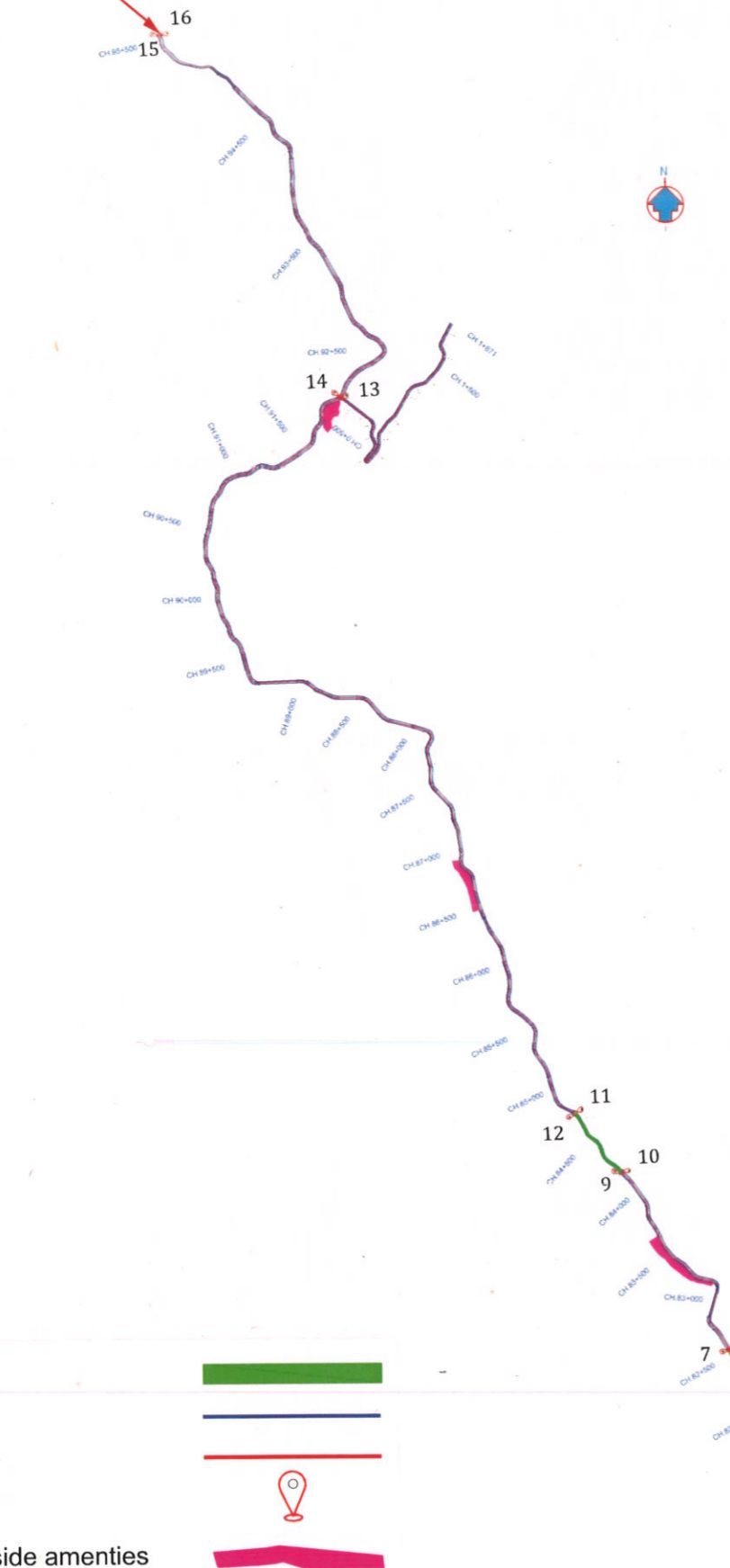
- Forest land
- PROW
- Proposed Centre Line
- Muck Disposal , Wayside amenities

ISSUE	DATE	AMENDMENT \ ISSUE DESCRIPTION	APPROVAL	CLIENT	CONSULTANT	Project
R0	Nov 2021			NATIONAL HIGHWAY & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. (MINISTRY OF ROAD TRANSPORT & HIGHWAY) GOVERNMENT OF INDIA	TPF GETINSA EUROESTUDIOS RAMÓN DE AGUINAGA, 8 28028 MADRID, SPAIN RODIC CONSULTANTS PVT. LTD. (JV) 1, JAI SINGH MARG (FIRST FLOOR), YMCA CULTURAL CENTRE BUILDING NEW DELHI - 110001 (INDIA)	MUCK DISPOSAL LOCATION MAP (PACKAGE-IV, Ch-80+675 to 95+550)
				Designed: _____ Drawn: _____ Checked: _____		
				Scale: - 1:25000		
				MUCK DISPOSAL LOCATION MAP (PACKAGE-IV)		
				Date: _____	Project No: _____	Drawing No: _____
				Sheet No: A1		

PROJECT LAYOUT PLAN

Construction of Kishtwar bypass with 2 lane with paved shoulder from Design Km. 80.675 (Dulhasti) to Km 95.550 (bandarkoot) of 14.88 Km length on Khellani – Kishtwar –Chattroo section and a link road to Kishtwar town of 1.871 km on NH244 in the Union Territory of Jammu & Kashmir on EPC mode (Pkg –IV)

End of Package-IV
Ch.95+550



LEGENDS

Forest land

PROW

Proposed Centre Line

GPS Points

Muck Disposal , Wayside amenties

Praveen Ahlawat
General Manager (P)
N.H.I.D.C.L.
PMU-Kishtwar (J&K)



Point	UTM CoOrdinate		Degree, minute and Second	
	Easting	Northing	Latitude	Longitude
1	571579.9674	3681905.9332	33° 16' 25.726"	75° 46' 7.049"
2	571600.7242	3681902.3762	33° 16' 25.606"	75° 46' 7.85"
3	571540.8922	3682140.3404	33° 16' 33.346"	75° 46' 5.605"
4	571549.5214	3682160.1661	33° 16' 33.988"	75° 46' 5.944"
5	571040.8969	3682712.5282	33° 16' 52.044"	75° 45' 46.439"
6	571016.7994	3682700.7264	33° 16' 51.666"	75° 45' 45.504"
7	570686.9666	3683300.0207	33° 17' 11.203"	75° 45' 32.923"
8	570700.9380	3683307.8190	33° 17' 11.453"	75° 45' 33.465"
9	569911.8340	3684597.0698	33° 17' 53.499"	75° 45' 3.317"
10	569930.4880	3684610.7451	33° 17' 53.938"	75° 45' 4.042"
11	569596.3028	3685041.9385	33° 18' 8.017"	75° 44' 51.24"
12	569580.9846	3685024.7801	33° 18' 7.463"	75° 44' 50.643"
13	567940.2755	3690290.0381	33° 20' 58.798"	75° 43' 48.628"
14	567924.0006	3690309.0214	33° 20' 59.418"	75° 43' 48.004"
15	566638.5968	3692952.6541	33° 22' 25.544"	75° 42' 58.978"
16	566659.1190	3692957.1202	33° 22' 25.684"	75° 42' 59.773"

Component wise breakup

S.no	Component	Forest Land(ha.)	Non-Forest Land(ha.)
1	Road and Protection works	2.65072	32.51418
2	Wayside Amenities, Road Furniture and Muck Disposal	0	8.31
Total		2.65072	40.8241

Sr. No	Name of District	Name of Taluk	Name of Village	Survey/Plot/ Khasra No.	Type of Land	Nature of Land	Area in Hectare	Length	Right of Way	Chainage Details	
										From	To
1	Kishtwar	Kishtwar	Hidyal	1081/1075/757 Min	Forest	Forest	1.282347	557	23.02239	84+200	84+757
2	Kishtwar	Drabshala	Ohli	282 Min	Forest	Forest	1.36837	691	19.8027	81+853	82+544
Forest Land							2.65072	1248			

ISSUE	DATE	AMENDMENT \ ISSUE DESCRIPTION	APPROVAL	CLIENT	CONSULTANT	PROJECT LAYOUT PLAN	Project
R0	Nov 2021			NATIONAL HIGHWAY & INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. (MINISTRY OF ROAD TRANSPORT & HIGHWAY) GOVERNMENT OF INDIA	TPF GETINSA EUROESTUDIOS RAMÓN DE AGUINAGA, 8 28028 MADRID, SPAIN RODIC CONSULTANTS PVT. LTD. (JV) 1, JAI SINGH MARG (FIRST FLOOR), YMCA CULTURAL CENTRE BUILDING NEW DELHI - 110001 (INDIA)	PROJECT LAYOUT PLAN (PACKAGE-IV, Ch.-80+675 to 95+550)	Consultancy Services for Feasibility Study, Preparation of Detailed Project Report and providing pre-construction services for upgradation to 2 lane with paved shoulder from (i) Km44.500 to Km 142.00 of Chattroo Village & (ii) Km 235.00 (Valloo Village) to Km 269.00 (Khanabal) of Khellani- Kishtwar- Chattroo- Khanabal Section of NH 244 in the state of Jammu & Kashmir.
				PROJECT LAYOUT PLAN (PACKAGE-IV)			
				Date:	Project No.	Drawing No.	Sheet No.
							A1