

**DIVERSION OF 0.5151 HA. OF FOREST LAND FOR CONSTRUCTION OF LOWER IKU - I
SMALL HYDRO PROJECT 1 MW IN DISTRICT KANGRA (H.P.)**

FILE NO. : FP/HP/HYD/41533/2019

DATE OF PROPOSAL :

**RECLAMATION PLAN
LOWER IKU – I SMALL HYDRO PROJECT (1 MW) DISTRICT KANGRA (H.P.)**

Dumping sites for disposal of muck have been identified with due consideration of its distance and suitability of the area and Topography point of view.

Accordingly the following sites have been identified:

Sr. No.	Description	Mohal	Khasra No.	Area in Sq.m.
1.	Dumping Site – I	Bagiarra	1063 / 14 / 4	150.00
2.	Dumping Site – II	Bagiarra	1063 / 14 / 9	252.00
3.	Dumping Site – III	Bagiarra	1063 / 14 / 8	150.00
4.	Dumping Site – IV	Bagiarra	1066 / 2	225.00
5.	Dumping Site – V	Kand	3 / 2	169.00

Rehabilitation Proposal

Since there is no displacement of any population due to the construction of the Project, so there will be no rehabilitation problem.

Afforestation

Compensatory afforestation shall be carried out by the forest department for which compensation shall be paid by the user agency. Area to be taken for afforestation shall be twice the forest land required for the construction of project.

Retaining walls

RR Masonry/GI Wire crate filled with boulders/ stones reclaimed from excavation of road shall be used for construction of retaining walls for retaining the surplus excavated earth / muck as per standard design of HPPWD with due consideration to site condition.

Use of muck/debris

Most of the excavation muck/debris obtained from the project components shall be used for manufacture of aggregates for construction work, filling in wire creates, stone masonry works breast wall, etc. The remaining muck/ debris will be neatly stacked in dumping areas identified for the purpose.

Plantation

The dumping area and various sties shall be properly leveled after the completion of the project. The area will be landscaped the plantation carried out so as to merge with the natural surroundings.

MUCK DUMPING DETAIL FOR CONSTRUCTION OF LOWER IKU SHP (1 MW)

Location of Dumping	Area (in sq. m)	Slope of dumping place in degree	Qty. of muck generated (Cu. Mtr)	Qty. with Swell Factor (Cu. Mtr.) 35 %	Qty. muck to used (Cu. Mtr)	Qty of muck deposited (Cu. Mtr.)	Height of dumping expected in mtr
Dumping Site - I	150.00	15	459	620	246	374	2.80
Dumping Site - II	252.00	15	324	437	175	262	1.40
Dumping Site - III	150.00	20	420	567	142	425	3.20
Dumping Site - IV	225.00	18	842	1137	455	682	3.25
Dumping Site - V	169.00	15	520	702	316	386	2.60
TOTAL	420		2565	3463	1334	2129	2.65(Avg.)

Sr. No	Description	Khasra no.	Area in Sqm	Height in m	Capacity of Dumping Site Qty. in Cu.m.	Quantity of muck to be dumped in cu.m.
1.	Dumping Site - I	1063 / 14 / 4	150.00	2.80	420	374
2.	Dumping Site - II	1063 / 14 / 9	252.00	1.40	353	262
3.	Dumping Site - III	1063 / 14 / 8	150.00	3.20	480	425
4.	Dumping Site - IV	1066 / 2	225.00	3.25	731	682
5.	Dumping Site - V	3 / 2	169.00	2.60	439	386

For M/s Mongra Hydro Construction (P) Ltd.

Place : Dharamshala
Dated :

Authorised Signatory

MUCK DUMPING PLAN FOR LOWER IKU - I SMALL HYDRO PROJECT (1 MW)

Sr. No.	Name Of Component From Where Muck Is To Be Produced	Actual Size Of Component In sqm	Total Qty. Of Muck Is To Be Produced (in cum)	Soil Factor	Total Qty. Of Muck To Be Dumped On The Basis Of Increased Qty (In cum)	Qty Of Muck To Be Utilised (In cum)	Total Qty Of Muck Remaining After Utilisation	Name Of Dumping Place	Size	Area Of Dumping Place In sqm	Remaining Height Of Muck Dumped	Capacity Of Muck To Be Dumped	Quantity to be Dumped	Remarks
1	Weir Site	20.00 x 8.00	240	0.35	324	130	194	Muck Dumping I, II & Muck Dumping III	15.00 x 10.00	150.00	2.8	420.00	374.00	Out Of Total Muck Generated About 40% to 20 % Shall Be Used In Construction Of Crates, Protection Of Weir and Desilting Tank, Retaining Walls & Rest Of The Muck Including Swell Factor (35%) Shall Be Dumped In Muck Dumping Site I, II & III.
2	Conveyance Channel	9.00 x 2.00	9		12	2	10							
3	Desilting Tank	21.00 x 8.00	210		284	114	170							
4	Water Conductor	360.00 x 2.00	324		437	175	262		18.00 x 14.00	252.00	1.4	352.80	262.00	
5	Forebay Tank	10.00 x 10.00	420		567	142	425		15.00 x 10.00	150.00	3.2	480.00	425.00	
6	Penstock	445.00 x 2.00	668		902	361	541	Muck Dumping IV	15.00 x 15.00	225.00	3.25	731.25	682.00	About 40% Shall Be Used in Construction Of Crates, Protection Of Power House, Retaining Walls & Rest Of The Muck Including Swell Factor (35%) Shall Be Dumped In Muck Dumping Site IV
7	Power House	15.00 x 15.00	168.75		228	91	137							
8	Tail Race	6.00 x 2.00	5		7	3	4							
9	Road	260.00 x 4.00	520		702	316	386	Muck Dumping V	13.00 x 13.00	169.00	2.6	439.00	386.00	About 45% Shall Be Used in Construction Of Crates, aggregate, Protection Of Road, Retaining Walls & Rest Of The Muck Including Swell Factor (35%) Shall Be Dumped In Muck Dumping Site V
	Total		2564.75		3463.00	1334.00	2129.00			946.00		2423.05	2129.00	

For M/s Mongra Hydro Construction (P) Ltd

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**COST ESTIMATION OF DUMPING SITES & PLANTATION
LOWER IKU - I SMALL HYDRO PROJECT (1 MW)**

SR. NO.	DESCRIPTION	UNIT	QTY.	RATE (IN Rs.)	AMOUNT (Rs. IN LAKHS)
1	Cost of Surveying and Investigation	Lump-sum	1	25000	0.25
2	Cost of Carrying of muck to the dumping site and properly stacking.	CUM	2129	15	0.32
3	Providing Stone Filled Gabion Wire Crates for protection Work.	CUM	75	1450	1.09
4	Plantation of 300 plants @ Rs 30/- per plant.	Nos	300	30	0.09
5	Digging of pit for plantation.	Nos	300	40	0.12
6	Cost of Barbed wire Fencing for protection of Plants @ Rs. 50/- per plant.	Nos	300	50	0.15
7	Salary for Gardener for 3 years @ Rs.5500/- per month.	Months	36	5500	1.98
8	2 Nos. Beldar for protection of plantation for 2 years @ Rs.140/- per day.	Year	2	102200	2.04
9	Reclamation and restoration.	Lump-sum	1	40000	0.40
10	Landscaping and Beautification.	Lump-sum	1	50000	0.50
				Total	6.94 Lakhs

For M/s Mongra Hydro Construction (P) Ltd.



Authorised Signatory

Place : Shahpur

Dated :