

**DIVERSION OF 0.6806 HA. OF FOREST LAND FOR CONSTRUCTION OF LOWER IKU
SMALL HYDRO PROJECT 1 MW IN DISTRICT KANGRA (H.P.)**

FILE NO. : FP/HP/HYD/41472/2019

DATE OF PROPOSAL :

**RECLAMATION PLAN
LOWER IKU SHP (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	819 / 4	100
2.	Dumping Site – II	Bagiarra	876 / 2	100
3.	Dumping Site – III	Bagiarra	826 / 4	110
4.	Dumping Site – IV	Bagiarra	1063 / 5	121
5.	Dumping Site – V	Bagiarra	1063 / 9	100
6.	Dumping Site – VI	Bagiarra	1063 / 8	100
7.	Dumping Site – VII	Bagiarra	1063 / 7	110

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)

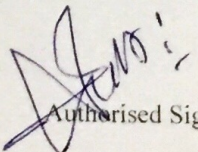
Location of Dumping	Area (in sq. m)	Slope of dumping place in degree	Qty. of muck generated (Cu. Mtr)	Qty. with Swell Factor (Cu. Mtr.) 35 %	Qty. muck to used (Cu. Mtr)	Qty. of muck deposited (Cu. Mtr.)	Height of dumping expected in mtr.
Dumping Site - I	100	15	460	621	243	378	3.80
Dumping Site - II	100	20	1394	1724	690	1034	4.80
Dumping Site - III	110	25					5.20
Dumping Site - IV	121	20					3.50
Dumping Site - V	100	15	1306.5	1764	794	970	4.4
Dumping Site - VI	100	20					4.2
Dumping Site - VII	110	15					4.4
TOTAL	621		3601	4618	3361	2680	4.18(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	819 / 4	100	3.80	380	377
2.	Dumping Site - II	876 / 2	100	4.80	1052	1034
3.	Dumping Site - III	826 / 4	110	5.10		
4.	Dumping Site - IV	1063 / 5	121	3.50	423	313
5.	Dumping Site - V	1063 / 9	100	4.40	1344	970
6.	Dumping Site - VI	1063 / 8	100	4.20		
7.	Dumping Site - VII	1063 / 7	110	4.40		

For M/s Sanjeev Hydro Projects (P) Ltd.

Place : Dharamshala

Dated :


Authorised Signatory

MUCK DUMPING PLAN FOR LOWER IKU 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	10.00 x 10.00	100.00	3.8	380.00	377.00	Out Of Total Muck Generated About 40% and 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.
2	Conveyance Channel	20.00 x 2.00	20		27	5	22							
3	Desilting Tank	20.00 x 8.00	200		270	108	162							
4	Water Conductor	629.00 x 2.00	944		1274	510	764	Muck Dumping II	10.00 x 10.00	100.00	4.8	480.00	1034.00	Out Of Total Muck Generated About 40% Shall Be Used In Construction Of Crates, Protection Of Water Conductor System & Forebay Tank, Retaining Walls & Rest Of The Muck Including Swell Factor (35%) Shall Be Dumped In Muck Dumping Sites II and III.
5	Forebay Tank	10.00 x 10.00	450		450	180	270	Muck Dumping III	10.00 x 11.00	110.00	5.2	572.00		
6	Penstock	146.00 x 2.00	219		219	88	131	Muck Dumping IV	11.00 x 11.00	121.00	3.5	423.50	313.00	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 Sites IV.
7	Power House	20.00 x 15.00	225		304	122	182							
8	Tail Race	8.00 x 2.00	8		11	4	7	Muck Dumping V	10.00 x 10.00	100.00	4.4	440.00	970.00	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 Sites V, VI & VII.
9	Road	653.25 x 4.00	1306.5		1764	794	970							
								Muck Dumping VI	10.00 x 10.00	100.00	4.2	420.00	970.00	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 Sites V, VI & VII.
								Muck Dumping VII	11.00 x 10.00	110.00	4.4	484.00		
	Total		3612.50		4643.00	1941.00	2702.00			741.00		3199.50	2694.00	

For M/s Sanjeev Hydro Projects (P) Ltd

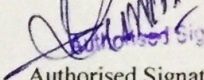
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**COST ESTIMATION OF DUMPING SITES & PLANTATION
LOWER IKU SMALL HYDRO PROJECT (1 MW)**

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	2680	15	0.40
3	Providing Stone Filled Gabion Wire Crates for protection Work.	CUM	100	1450	1.45
4	Plantation of 400 plants @ Rs 30/- per plant.	Nos	400	30	0.12
5	Digging of pit for plantation.	Nos	400	40	0.16
6	Cost of Barbed wire Fencing for protection of Plants @ Rs. 50/- per plant.	Nos	400	50	0.20
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	50000	0.50
10	Landscaping and Beautification.	Lump-sum	1	75000	0.75
				Total	7.85 Lakhs

For M/s Sanjeev Hydro Projects (P) Ltd.

Sanjeev Hydro Projects Pvt. Ltd.


Authorised Signatory

Place : Dharamshala

Dated :