



**RECLAMATION PLAN  
FOR GARAN KASOL (5 MW)**

The construction of this project will generate muck to the extent of 17384 **Cubic Metre**. By taking a swell factor of **40% on Pick+Jumper work** the total muck become 24337 **cubic metre** (Detail in table below) Out of this 10952 **cubic metre** of muck will be used locally in filling, construction of masonry walls in dumping place and in levelling of road. The remaining 13385 **Cubic metre** of muck will require safe disposal. The user agency has identified 10 No. dumping sites having aggregate area 4770 square meter for the disposal of this muck. These dumping sites have been identified along the proposed site and the capacity of these dumping sites has been worked out to be 21465 **cubic metre** (considering 4.5 meter average height of muck in the dumping area, details at page -----) which is sufficient to hold the muck to be generated.

Dumping sites for different components of the project have been identified with due consideration of its distance from the component, suitability of the area and Topography point of view.

Accordingly the following sites have been identified

Sr. No.	Description	Component	Location	Khasra No.	Area
1.	DA-I	Trench Weir, Intake, Feeder channel			120 sq.m
2.	DA-II	Feeder channel, Desilting tank			180 sq.m
3.	DA -III	Desilting tank, Power channel, Silt gutter, Tunnel			800 sq.m
4.	DA-IV	Tunnel, Adit			800 sq.m
5.	DA-V	Forebay, Tunnel			600 sq.m
6.	DA-VI	forebay			60sq.m
7.	DA-VII	forebay			60 sq.m
8.	DA-VIII	forebay			600 sq.m
9.	RD-I	Tunnel, Powerhouse			750 sq.m
10.	RD-II	Powerhouse, Tail Race			800 sq.m

**Rehabilitation Proposal**

Since there is no displacement of any population due to the construction of the project 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.

**For Garhan Kasol Hydro Project**

*[Handwritten Signature]*

**Authorised Signatory**

### Retaining walls

RR Masonry/GI Wire crate filled with boulders/ stones reclaimed from excavation of various project components 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, switchyard, etc. The remaining muck/ debris will be neatly stacked in dumping areas identified for the purpose.

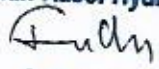
### Plantation

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 OF GARAN KASOL SHEP ( 5 MW)

Name of Component	Location of Dumping	Slope of dumping place in degre	Qty. of muck generated ( Cu. Mtr)	Qty. muck to used ( Cu. Mtr)	Qty. of muck deposited (Cu. Mtr.)	Height of dumping expected in mtr.
Trench Weir, Intake, Feeder channel	MD-I	30°	540	243	415.8	4.5 m
Feeder channel, Desilting tank	MD-II	30°	810	364.5	623.7	4.5 m
Desilting tank, Power channel, Silt gutter, Tunnel	MD-III	30°	3600	1620	2772	4.5 m
Tunnel, Adit	MD-IV	30°	3600	1620	2772	4.5 m
Forebay, Tunnel	MD-V	30°	2700	1215	2079	4.5 m
forebay	MD-VI	30 °	270	121.5	207.9	4.5 m
forebay	MD-VII	28 °	270	121.5	207.9	4.5 m
forebay	MD-VIII	28°	2700	1215	2079	4.5 m
Tunnel, Powerhouse	RD-1	30 °	3375	1518.75	2598.75	4.5 m
Powerhouse, Tail Race	RD-2	30 °	3600	1620	2772	4.5 m

For Garhan Kasol Hydro Project

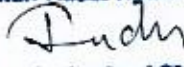


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Sr. No	Description	Khasra no.	Area in Sqm	Height	Qty. in Cu.m
1	MD-I		120 sq.m	4.5 m	540
2	MD-II		180 sq.m	4.5 m	810
3	MD-III		800 sq.m	4.5 m	3600
4	MD-IV		800 sq.m	4.5 m	3600
5	MD-V		600 sq.m	4.5 m	2700
6	MD-VI		60sq.m	4.5 m	270
7	MD-VII		60 sq.m	4.5 m	270
8	MD-VIII		600 sq.m	4.5 m	2700
9	RD-1		750 sq.m	4.5 m	3375
10	RD-2		800 sq.m	4.5 m	3600

  
 Forest Range Officer  
 Kasol Forest Range

For Grahani Kasol Hydro Project

  
 Authorized Signatory

**PROFORMA-III**  
**Statement showing "Dumping places, Quality of Muck debris to be dumped" with other detail of GARAN KASOL SHEP ( 5 MW) Project in kulltu, Himachal Pradesh State.**

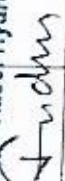
S. N O	Name of components from where muck debris is to be produced	Total Qty. of muck debris to be produced ( cum)	Qty. of muck debris to be utilized locally	Qty. of Muck Debris to be dumped on compact basis	Factor of increase in vol. for dumping	Qty. of muck debris to be dumped on the basis on increase	Name of dumping place	Slope of dumping place	Location of dumping place village police station & near by road	Distance of dumping place from nearby river with name of river ( Dst. in mtr)	Area of Dumping place with length & width	Area of Forest Land out Col. In square meter	Height of Muck Debris Dump Expected VCL+ AREA (MTRS)	Remarks
1.	Trench Weir, Intake, Feeder channel	540	243 (45%)	297	40%	415.8	MD-I	30°		3.2 m (above HFL)	120sq.m	120sq.m	4.5 m	Maximum muck will be used for construction of Retaining structure backfillin g and for protection works
2	Feeder channel, Desilting tank	810	364.5 (45%)	445.5	40%	623.7	MD-II	30°		3.2 m (above HFL)	180sq.m	180sq.m	4.5 m	Maximum muck will be used for construction of Retaining structure backfillin g and for protection works
3.	Desilting tank, Power channel, Silt gutter, Tunnel	3600	1620 (45%)	1980	40%	2772	MD-III	30°		4 m (above HFL)	800 sq.m	800 sq.m	4.5 m	Maximum muck will be used for construction of Retaining structure backfillin g and for protection works





**PROFORMA- V**

Statement showing "Details of places for disposal of muck / debris of GARAN KASOL SHEP ( 5 MW)

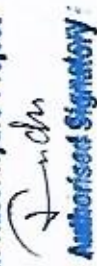
S.No	NAME OF DUMPING PLACE	Location of dumping place i.e, village and khasra no.	Slope of dumping place	Length/ breadth ( m)& area of dumping place ( m2)	Qty.of muck debris to be dumped in m3	Height of dumping site Expected in Mtrs. executed in meters)	Remarks
1	MD-I		30°	120 sq.m	540	4.5 m	Maximum muck will be used for construction of Retaining structure backfilling and for protection works
2	MD-II		30°	180 sq.m	810	4.5 m	Maximum muck will be used for construction of Retaining structure backfilling and for protection works
3	MD-III		30°	800 sq.m	3600	4.5 m	Maximum muck will be used for construction of Retaining structure backfilling and for protection works
4	MD-IV		30°	800 sq.m	3600	4.5 m	Maximum muck will be used for construction of Retaining structure backfilling and for protection works
5	MD-V	<b>For Garhan Kasol Hydro Project</b>  Authorised Signatory	30°	600 sq.m	2700	4.5 m	Maximum muck will be used for construction of Retaining structure backfilling and for protection works -----do-----

6	MD-VI		30°	60sq.m	270	4.5 m	-----do-----
7	MD-VII		28°	60 sq.m	270	4.5 m	-----do-----
8	MD-VIII		28°	600 sq.m	2700	4.5 m	-----do-----
9	RD-1		30°	750 sq.m	3375	4.5 m	-----do-----
10	RD-2		30°	800 sq.m	3600	4.5 m	-----do-----

  
 Forest Range Officer  
 Kasol Forest Range

  
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Per Graham Kasol Hydro Project

  
 Authorised Signatory