

**Reclamation Plan for Dumping Site in respect of FCA proposal for construction of road from Kufar to Kanda km. 0/0 to 4/0 Gram Panchayat Halau Block Chopal Tehsil Chopal District Shimla, H.P.**

Diversion of 02-40-37 hac. of forest land has been proposed for the construction of Kufar to Kanda km. 0/0 to 4/0 Gram Panchayat Halau Block Chopal Tehsil Chopal Distt. Shimla, H.P.

The total length of the road is 4/0 kms, and the length i.e. 3717 mtrs. passes through the forest land and 283 mtrs through private land. The road will be constructed in cut and fill method. A total quantity of 39727.65 cum of muck will be generated during the construction of this road. Since after excavation of earth there will be some increase in volume of soil which is calculated @ 40%. The serviceable material will be stacked at site in the form of stone/aggregate i.e 3667.47 m<sup>3</sup>, 3667.47 m<sup>3</sup> of muck generated will be used in dry masonry & edge wall, nearly 15% of muck generated will be used for leveling of road. After increase in volume 42270.22 Cum muck will have to be disposed off in the identified dumping sites as per reclamation plan.

Thus all the muck generated will be dumped in the designated dumping sites. 3 numbers dumping sites designated as DS-1, DS-2, & DS-3 have been identified for dumping of muck/debris to be produced during the construction phase of the project. It is proposed that the dumping sites are treated in such a manner that these do not pose any problem to the environment management of the locality. This reclamation plan has been formulated with the following objective:-

- i. To arrest the dumped muck in situ so that it does not find its way to the nearby drainage channels, thus altering the drainage pattern of the area.
- ii. To rehabilitate the dumped area over a period of time so that it merges with the adjoining natural landscape and does not stand out as a sore point.
- iii. To improve the aesthetic view of the dumping grounds/dumping site by planting suitable plants and trees species thereby increasing the vegetable cover in the area.
- iv. To stabilize the dumping sites by vegetative and engineering structure.

### **Implementation**

The proposal will be implemented by the user agency itself at its own cost as detailed in this plan. The implementation of the plan will be supervised by the forest department from time to time and the progress will be periodically monitored. In case of default the sanction of diverted land may be revoked with suitable penalty as decided by the Govt. of India.

### **Strategy**

The two pronged approach will be followed for reclamation of the dumping sites. In the first instance crate walls will be erected around the dumping site so that required capacity for dumping of muck is created at the sites. The detailed drawings of the crate works to be undertaken are enclosed. The primary objective of the crate works will be to arrest the dumped muck to the dumping site and not to allow its spillage to the adjoining are eventually to nearby drainage lines. The capacity of the dumping sites has been calculated i.e. 43124.00 m<sup>3</sup> as detail in the table at page 81 and will be enough to hold the muck to be dumped in each of the sites.




In the second phase once the dumping is complete it will be ensured that the dumping site is planted with the grasses, bushes shrubs so that it gives an aesthetic look This vegetal cover will also help in binding the soil and will prevent its erosion For vegetating the dumping sites suitable local species will be preferred. However, it may be noted that bulk of the muck to be dumped will be excavated material which will be lacking in essential nutrients and organic matter and hence it will be desirable to increase the nutrients status of the top soil to be conducive to tree vegetal growth. For this purpose maturing of the top soil be done if requited the imported soil be brought to replenish the top soil. Intently the grasses and bushes will be planted in the area of improve the soil condition. Once these grasses and bushes take hold to the site the trees species will be planted, in the next phase. The trees species to be planted will be mainly Deodar (Cedrus deodara), Kail (pinus walichiana), Chir (Pinus roxburghii) BL (Baan). Grasses like Steria and Napier will also propagated. Trees will be planted at the closer spacing so that canopy is closed at the earliest. Hence the spacing will be kept at 1.5x1.5 mts. The total area involved in the dumping site is 15615.00 Sqm. Thus in all plants will be planted at the dumping site. Shrubs and bushes will be planted in between these trees. The dumping site will be fenced with barbed wire fencing to prevent the entry of the stray cattle thereby ensuring the protection of the plant from grazing. Also due to inert nature of the soil, plant will be need extra care for their establishment for the purpose imported soil/organic manure will be added in each pit for easy establishment of plants. Watering of the plant in dry session will be provided to prevent mortality. The plantation will be further maintained in project cost for ten years when beating up of failure will be done.


The cost estimate of dumping site is enclosed as Annexure R1 at page and the cost of trees will be met from the yearly programme of plantation during rainy season. The plantation work will be started from the year following the completion of dumping site. However erection of the crate walls around the dumping sites will be done prior to actual dumping.

The total cost of the reclamation Plan is Rs. 4,63,760.00 only.

#### **Post reclamation arrangements:**

Since the area in question is required by the user agency only for the temporary use of dumping, hence the area will be reverted back to the forest department after implementing the reclamation plan, if so stipulated by Govt. of India. However if at the time of so reverting back the forest department if any activity as per this reclamation plan is found wanting then the forest department may realize the cost of that activity from the user agency at the prevailing wage rates applicable in forest department and may get the same done departmentally at the project cost.

  
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(Er. J.C. Kanungo)  
Executive Engineer  
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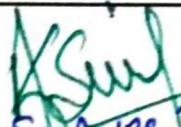


(81)

Name of work : C/o road from Kufar to Kanda road km. 0/0 to 4/0.

### Muck Disposal Plan

1	Total quantity of muck being produced.	39727.65
2	Deduction	1986.38
	Deduction for useful stone as required under the clause of agreement to be executed by the contractor and Executive Engineer of Project implementing unit division on behalf of Governor of H.P. for using in project.	
	Net balance quantity of debries/Muck.	37741.27
3	Quantity available on site with swell factor @ 40% of (A)	15096.51
	Grand Total (B)	52837.77
	Deduction	
	(i) Deduction for material required for the construction of dumping place in dry masonry wall @ 5% of (B)	-2641.89
	(ii) Less for material/Muck required for the levelling of the proposed road @ 15% of (B)	-7925.67
	Net Qty.(C)	
4	Net Material/Muck to be dumped in dumping site (B-C) in cum	42270.22
	In tonne	26418.89
5	Proposed dumping sites.	3 Nos.
	Material/Muck left at the site which required carriage for the proper dumping at the recognized site as per the instructions of forest and Environment Ministry reinforced by various judgements of the Apex court Govt. of India.	


  
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## DUMPING CAPACITY PLAN

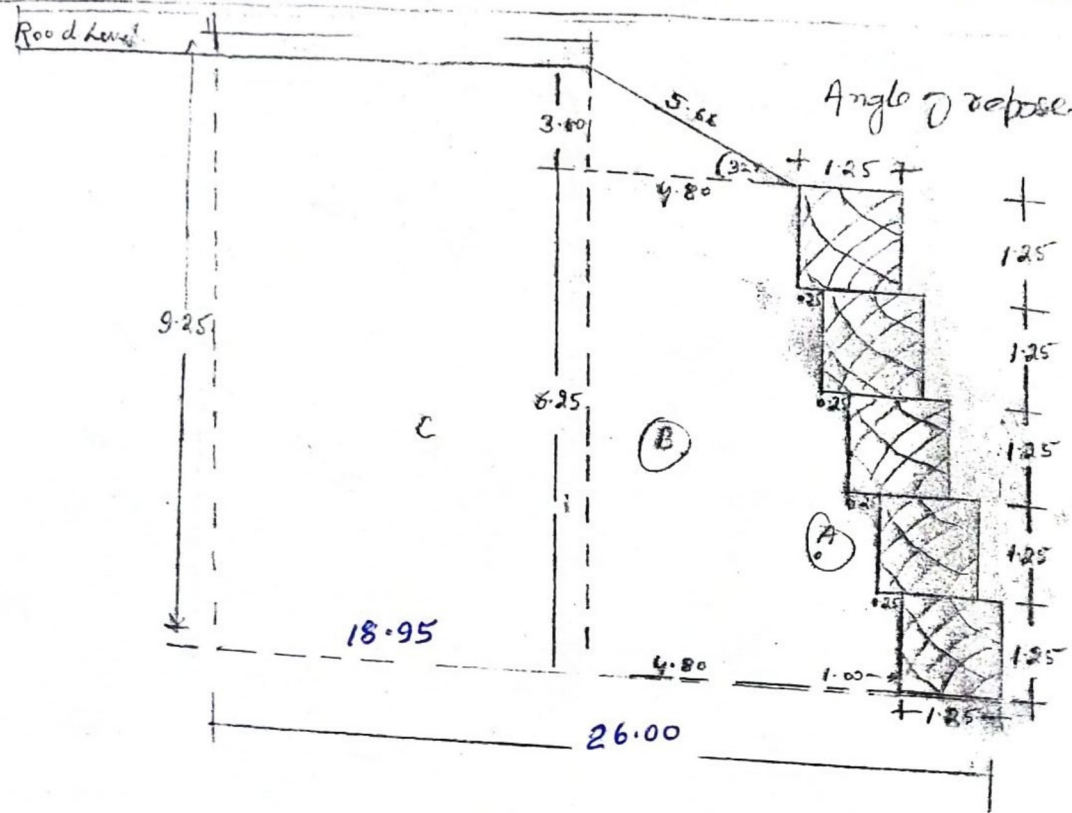
Sl. No.	Dumping site No.	R.D.	Designj annexed Yes/No.	Capacity (in cum)
1	Kumar	0/023 to 0/073	D1	10781.00
2	Kanda	1/364 to 1/414	D2	10781.00
3	Kanda	3/199 to 3/299	D3	21562.00
			<b>TOTAL</b>	<b>43124.00</b>

  
 Ankit Singh (TPS)  
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NAME OF WORK: 90 road from Kufar to Kanda road km. 6/0 to 7/0.

D, (83)



TOTAL CAPACITY OF DUMPING PLACE:

$$A = 0.25 + 1.00 \times 5.00 = 3.13 \text{ m}^2$$

$$B = 4.80 \times 6.25 + \frac{1}{2} \times 4.80 \times 3.00 = 37.20 \text{ m}^2$$

$$C = 18.95 \times 9.25 = 175.29 \text{ m}^2$$

$$\text{Total} = 215.62 \text{ m}^2$$

$$= 215.62 \times 50 \text{ m} = 10781.00 \text{ cum}$$

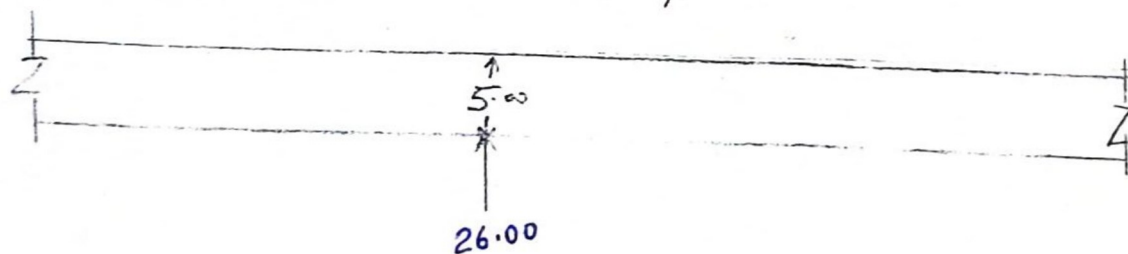
AREA OF DUMPING PLACE

$$D_1 = 50 \times 26 = 1300 \text{ Sqm}$$

$$\text{Or} = 00-13-00 \text{ Hectare}$$

$$\text{Wire Fence} = 5 \times 30 \times 4 \times 25 \times 125 = 1250.00 \text{ m}^2$$

$$\text{Boulder} = 5 \times 50.00 \times 1.25 \times 1.25 = 390.63 \text{ m}^3 \times 1 = 390.63 \text{ m}^3$$



P.L.A.N

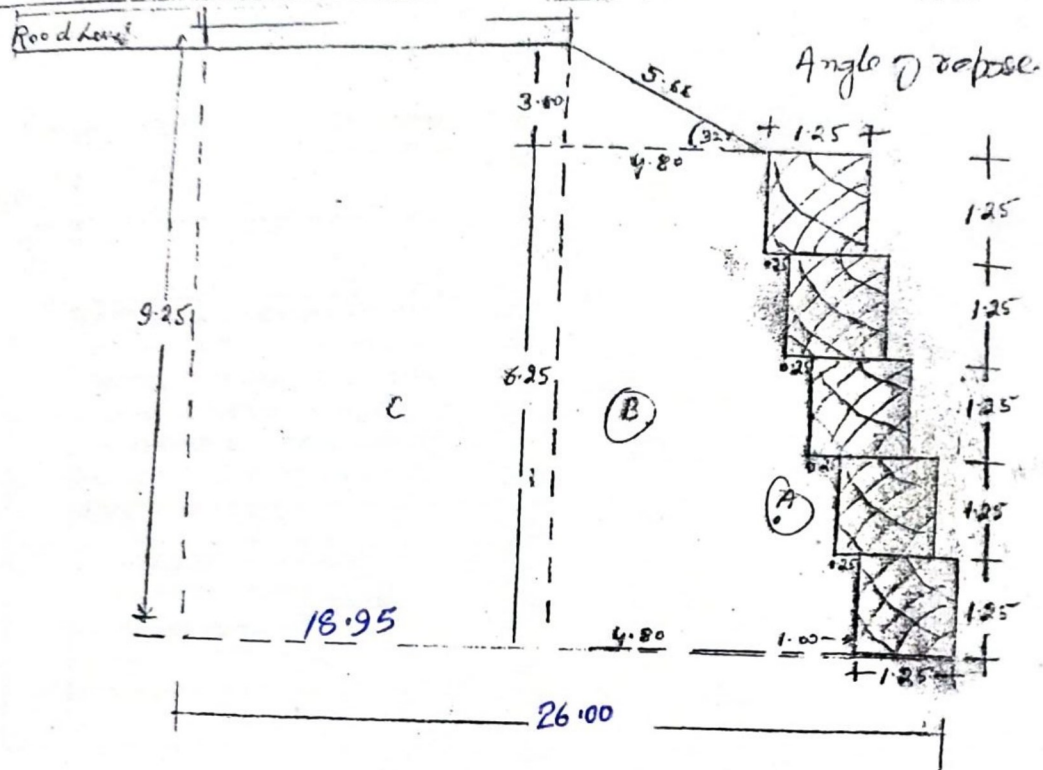
(An J. C. Kamboj)  
Executive Engineer  
B&R Division  
HPPWD Chopal

(Ankur Singh)  
Divisional Forest Officer  
Chopal Forest Division





NAME OF WORK: G/O road from Kufar to Kanda road b/w. o/o to 7/o.



TOTAL CAPACITY OF DUMPING PLACE:

$$A = 0.25 + 1.0 \times 5.00 = 3.13 \text{ m}^2$$

$$B = 4.80 \times 6.25 + \frac{1}{2} \times 4.80 \times 3.00 = 37.20 \text{ m}^2$$

$$(C) = 18.95 \times 9.25 = 175.29 \text{ m}^2$$

$$\text{Total} = 215.62 \text{ m}^2$$

$$= 215.62 \times 100.00 = 21562.00 \text{ cum}$$

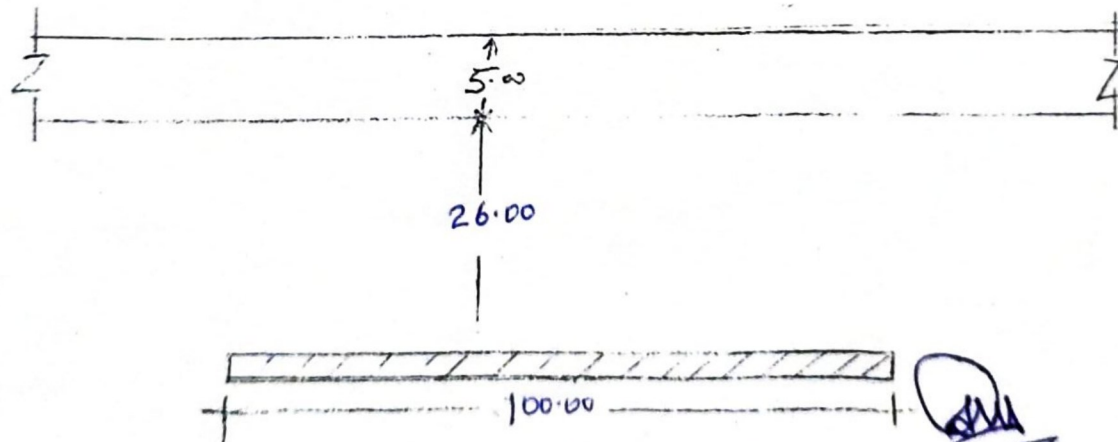
AREA OF DUMPING PLACE

$$D_3 = 100 \times 26 = 2600 \text{ Sqm.}$$

$$D_4 = 00.26.00 \text{ Hectare}$$

$$\text{Wire Gate} = 5 \times 30 \times 4 \times 25 \times 125 = 1250.00$$

$$\text{Boulder} = 5 \times 5000 \times 125 \times 125 = 390.63 \times 3 \times 10 = 390.63$$



PLAN

on T.C. Kamal  
Ex. Engineer  
B&R Division  
HPPWD Chopal

AS  
Divisional Forest Officer  
Chopal Forest Division





## ABSTRACT OF COST

Name of work : C/o Kufar to Kanda road km. 0/0 to 4/0  
(SH: F/C between km . 0/0 to 7/0)

Sl. No.	Description of item	Qty.	Rate	Unit	Amount
1	Earth work in excavation for structure as per drawing and technical specification cluses 305.1 including setting out, construction of shoring and bracing removal of stumps and other deleterious material in ordinary rock using manual means including loading in a truck and carrying of excavated material including carriage of all labour, material and disposal upto a lead of 50 mtr dressing of sides and bottom and back filling in trenches with excavated suitable material equipments to various location through all modes of transportation as per HPPWD specification 1990 vol.I and as per direction of Engineer in Charge at site in all leads and lifts.	62.50	128.15	Per cubic metre.	8009
2	Providing and laying of boulder apron laid in wire crate with 4mm dia conforming to IS 280 and 48.26 mesh design including joints laid in boulder weighing not less than 25 kg each as per drawing and dtechnical specification clause 1301 including carriage of all labour, material and equipments to various location through all modes of transportation as per HPPWD specification 1990 vol.I and as per direction of Engineer in Charge at site in all leads and lifts.	312.50	1458.40	Per cubic metre.	455750
TOTAL					463759

Says Rs. 4,63,760/-

  
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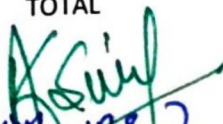
  
 (Er. J.C. Kanungo)  
 Executive Engineer,  
 Chopal Divn. HPPWD Chopal.




## Detail of Measurement

Name of work : C/o Bijmal to Halau via Shallan GP Halau km. 0/0 to 7/0  
(SH: F/C between km . 0/0 to 7/0)

Sl. No.	Description of items	No.	L	B	H	Qty.
1	Earth work in excavation for structure as per drawing and technical specification cluses 305.1 including setting out, construction of shoring and bracing removal of stumps and other deleterious material in ordinary rock using manual means.					
	D1, D2	(2 x 50)	x	1.25	x 0.25	= 31.25
	D3	(1 x 100)	x	1.25	x 0.25	= 31.25
	TOTAL					62.50
2	Providing and laying of boulder apron laid in wire crate with 4mm dia conforming to IS 280 and 48.26 mesh design including joints laid in boulder weighing not less than 25 kg each as per drawing and dtechnical specification clause 1301.					
	D1, D2	2 x (1 x 50)	x	1.25	x 1.25	= 156.25
	D3	1 x (1 x 100)	x	1.25	x 1.25	= 156.25
	TOTAL					312.50

  
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