

**Full Title of Project:** Diversion of 0.8223 Ha. of Forest Land for Construction of Jiwa-II SHEP 1.75 MW, Sub-Tehsil Sainj, GHNP Shamshi Forest Division, Distt. Kullu (H.P.)  
**File No.** :  
**Proposal No.** : FP/HP/HYD/147118/2021  
**Date of Proposal** :

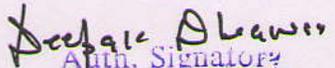
**Check List No 28**

**Dumping Sites and Reclamation Plans**

There is muck Generation, hence muck dumping sites are required. Detailed Reclamation plan along with Muck Dumping sites and with their cross section has been attached.

Date: .....  
Place: Shamshi

**Authorized Signatory**

  
Auth. Signatory  
Behal Motors  
Jiwa-II SHEP (1.75 MW)

CF

  
Divisional Forest Officer  
Great Himalayan National Park  
Shamshi, Kullu (H.P.)-175126

**RECLAMATION MUCK DUMPING PLAN FOR JIWA-II SHEP (1.75 MW)**

Sr. No.	Name Of Component From Where Muck Is To Be Produced	Provided Size Of Land In sqm	Actual Size Of Component In sqm	Total Qty. Of Muck Is To Be Produced (In cum)	Factor Of Increase In Volume After Excavation	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 Of Dumping In m	Area Of Dumping Place In sqm	Height Of Muck Dumping	Capacity Of Muck To Be Dumped cum	Remaining Capacity In cum	Remarks
1	Diversion Weir	19.88 X 11.36	15.00 X 8.00	120.00	45%	174.00	60.90	113.10					494.02	380.92	
2	Inake Tank	8.52 X 2.84	5.00 X 2.0	15.00	45%	21.75	7.61	14.14	Muck Dumping Site - I near Weir site	19.88 X 7.10	141.148	3.50	380.92	366.78	
	WCS-1	153.36x2.84	153.36 X2.84	459.00	45%	665.55	337.40	328.15					366.78	38.63	
4	Deslilling Tank	34.08 X 7.10	34 X5.0	170.00	45%	246.50	86.28	160.23	Muck Dumping Site - II near Deslilling Tank	19.88 X 7.10	141.148	3.50	494.02	333.79	Out Of Total Muck Generated About 35% Shall Be Used In Construction Of Gates, Protection Of Diversion Weir, Retaining Walls, Deslilling Tank, Silt Flushing & Rest Of The Muck Including Swell Factor (45%) Shall Be Dumped In Muck Dumping Site II.
5	Sour Pipe	22.72 X 1.42	22.72 X 1.0	22.72	45%	32.94	11.53	21.41					333.79	312.38	
6	WCS-2	1018.14 X 2.84	1018.14 X 0.5	509.07	45%	738.15	110.72	627.43	Muck Dumping Site - III,IV IN WCS-2	9.94 X 7.10	70.574	4.50	317.58	-309.85	
7	Forebay Tank	19.88 X 7.10	17.00 X 5.0	255.00	45%	369.75	129.41	240.34					381.10	140.76	
8	Penstock	139.16 X2.84	139.16 X1	139.16	45%	201.78	70.62	131.16					1397.37	1266.21	
9	Powerhouse Cum Switchyard	35.0 X 21.0	32.00 X 18	1152.00	45%	1670.40	584.64	1085.76	Muck Dumping Site - VI near Powerhouse	25.56 X 15.62	399.2472	3.5	1266.21	180.45	Out Of Total Muck Generated About 35% Shall Be Used In Protection, Retaining Walls and Rest Of The Muck Including Swell Factor (45%) Shall Be Dumped In Muck Dumping Site VI.
10	Tail Race	25.56 X 1.42	25.56x1.0	51.12	45%	74.12	25.94	48.18					180.45	132.27	
11	Interconnection Point	7.00 X 7.00	5 X 5.0	25.00	45%	36.25	12.69	23.56	Muck Dumping Site - VII In Road	19.88 X 9.94	197.6072	3	592.82	569.26	
12	Proposed Road upto Power House Site		337.40 X2.84	2871.24	45%	4163.30	3538.80	624.49					569.26	-55.24	
13	Total			5789.31		8394.50	4976.55	3417.95							
	Component Remaining Muck of MDS VII AND III,IV into MDS I, V & VI		624.04	310.39							1260.25				
<b>Total Qty. Of Muck Is To Be Produced (In cum)</b>				<b>5789.31</b>	<b>cum</b>		<b>Total Qty. Of Muck To Be Dumped On The Basis Of Increased Qty In cum =</b>							<b>8394.5</b>	
<b>Qty of Muck To Be Utilised ( In cum) =</b>				<b>4976.55</b>	<b>cum</b>		<b>Total Qty Of Muck Remaining After Utilisation =</b>							<b>3417.9</b>	
<b>Total Area Of Dumping Place In sqm</b>				<b>1260.25</b>	<b>sqm</b>		<b>Total Capacity Of Muck To Be Dumped</b>							<b>2460.64</b>	

**FOR BEHL MOTORS**  
*Deedle Deedle*  
 Auth. Signature!

VisioCal Forest Officer  
 Great Himalayan National Park  
 Shamshi, Kulu (H.P-175126)

**Detail of Muck Dumping sites in respect of JIWA-II 1.75 MW SHEP in Forest Range  
Jiwanala , GHNP Shamshi Forest Division in Distt. Kullu (H.P.)**

Sr. No.	Name of Dumping Site	Location	Length in m	Width in m	Area in sqm	Height in m	Capacity of Dumping in cum	Remarks
1	Muck Dumping Site -1	Near Intake Tank	19.88	7.1	141.148	3.5	494.02	Forest Land
2	Muck Dumping Site -2	Near Desilting Tank	19.88	7.1	141.148	3.5	494.02	Forest Land
3	Muck Dumping Site -3	Near Water Channel	9.94	7.1	70.574	4.5	317.58	Forest Land
4	Muck Dumping Site -4	Near Water Channel	19.88	2.84	56.4592	4.5	254.07	Forest Land
5	Muck Dumping Site -5	Near Foreby Tank	19.88	12.78	254.0664	1.5	381.10	Forest Land
6	Muck Dumping Site -6	Near Power House	25.56	15.62	399.2472	3.5	1397.37	Forest Land
7	Muck Dumping Site -7	Near Rod Cum Transmission Line-III	19.88	9.94	197.6072	3	592.82	Forest Land
	<b>Total</b>				<b>1260.25</b>		<b>3930.97</b>	

Date

Place - Kullu

For BEHL MOTORS

*Deepak Shewcu.*  
Auth. Signatory

*[Signature]*  
Divisional Forest Officer  
Divisional Forest Officer  
GHNP Shamshi, National Park  
Shamshi, Kullu (H.P.)-175126

## Reclamation Plan

Reclamation plan of Muck Dumping Site areas in respect of JIWA-II SHEP (1.75 MW) Falling under forest rang Jiwanala, GHNP Shamshi forest division , Distt. Kullu, Himachal Pradesh

The reclamamation plan has been prepared as per proposal about 5789.31 cum (8394.50 cum including 45% swell factor) of muck will be generated form various components, out of which about 4976.55 cum of muc will supposed to be utilized in various projects components for construction of retaining walls, breast walls etc. for strengthening of components and rest of muck 3417.95 (including 45% swell factor) will be dumped in ten dumping sites as shown in the proposal. As per requirement 1260.25 sqm area hs been taken at two different places for dumping of muck in forest area for dumping site. The overall capacity of muck dumping sites 3930.97 cum is more than the muck to be dumped 3417.95 cum. Therefore to stabilize the muck in well protected manner, the work shall be done as under:-

### ESTIMATE FOR RECLAMATION OF DUMPING AREA FOR JIWA-II SHEP 1.75 MW

Sr. No.	Item of Work	Description	Quantity	Unit	Rate in Rs.	Amount in Rs.	Total Amount in Lacs	Remarks
19.88	7.1	<b>MDS - 1</b>						2.20
1	MDS - 1	Excavation in all kinds of soil for foundations of Retaining Walls	89.97	cum	180.00	16194.82		m Base Width of
2		Plain Cement Concrete in foundations 1:6:12 (1Cement : 6 Sand : 12 Aggregate 40mm nominal dia)	11.25	cum	4760.00	53532.86		Random Rubble Stone Masonary,
3		Random Rubble Stone Masonary in cm 1:6 (1Cement : 6 Sand)	190.85	cum	2954.00	563764.99		
4		Laying a layer 30cm fertile soil over the dumped muck i/c watering and Ramming.	42.34	cum	180.00	7621.99		1.00
5		P/L a layer of Geo - membrane over the freshly laid soil.	141.15	sqm	230.00	32464.04		m Top Width and
6		Planting locally grow able shrubs & trees.	141.15	sqm	24.00	3387.55		3.50
7		Periodic watch, ward and maintenance charges for seven years.	141.15	sqm	18.00	2540.66	6.80	m Avg Height
19.88	7.1	<b>MDS - 2</b>						2.20
1	MDS - 2	Excavation in all kinds of soil for foundations of Retaining Walls	112.46	cum	180.00	20243.52		m Base Width of
2		Plain Cement Concrete in foundations 1:6:12 (1Cement : 6 Sand : 12 Aggregate 40mm nominal dia)	11.25	cum	4760.00	53532.86		Random Rubble Stone Masonary,
3		Random Rubble Stone Masonary in cm 1:6 (1Cement : 6 Sand)	190.85	cum	2954.00	563764.99		
4		Laying a layer 30cm fertile soil over the dumped muck i/c watering and Ramming.	42.34	cum	180.00	7621.99		1.00
5		P/L a layer of Geo - membrane over the freshly laid soil.	141.15	sqm	230.00	32464.04		m Top Width and
6		Planting locally grow able shrubs & trees.	141.15	sqm	24.00	3387.55		3.50
7		Periodic watch, ward and maintenance charges for seven years.	141.15	sqm	18.00	2540.66	6.84	m Avg Height

9.94	7.1	<b>MDS - 3</b>						2.20
1	MDS - 3	Excavation in all kinds of soil for foundations of Retaining Walls	79.66	cum	180.00	14339.16		m Base Width of
2		Plain Cement Concrete in foundations 1:6:12 (1Cement : 6 Sand : 12 Aggregate 40mm nominal dia)	7.97	cum	4760.00	37919.11		Random Rubble Stone Masonary,
3		Random Rubble Stone Masonary in cm 1:6 (1Cement : 6 Sand)	173.81	cum	2954.00	513428.83		
4		Laying a layer 30cm fertile soil over the dumped muck i/c watering and Ramming.	21.17	cum	180.00	3811.00		1.00
5		P/L a layer of Geo - membrane over the freshly laid soil.	70.57	sqm	230.00	16232.02		m Top Width and
6		Planting locally grow able shrubs & trees.	70.57	sqm	24.00	1693.78		4.50
7		Periodic watch, ward and maintenance charges for seven years.	70.57	sqm	18.00	1270.33	5.89	m Avg Height
19.88	2.84	<b>MDS - 4</b>						2.20
1	MDS - 4	Excavation in all kinds of soil for foundations of Retaining Walls	67.48	cum	180.00	12146.11		m Base Width of
2		Plain Cement Concrete in foundations 1:6:12 (1Cement : 6 Sand : 12 Aggregate 40mm nominal dia)	8.43	cum	4760.00	40149.65		Random Rubble Stone Masonary,
3		Random Rubble Stone Masonary in cm 1:6 (1Cement : 6 Sand)	184.03	cum	2954.00	543630.53		
4		Laying a layer 30cm fertile soil over the dumped muck i/c watering and Ramming.	16.94	cum	180.00	3048.80		1.00
5		P/L a layer of Geo - membrane over the freshly laid soil.	56.46	sqm	230.00	12985.62		m Top Width and
6		Planting locally grow able shrubs & trees.	56.46	sqm	24.00	1355.02		4.50
7		Periodic watch, ward and maintenance charges for seven years.	56.46	sqm	18.00	1016.27	6.14	m Avg Height
19.88	12.78	<b>MDS - 5</b>						2.20
1	MDS - 5	Excavation in all kinds of soil for foundations of Retaining Walls	149.95	cum	180.00	26991.36		m Base Width of
2		Plain Cement Concrete in foundations 1:6:12 (1Cement : 6 Sand : 12 Aggregate 40mm nominal dia)	15.00	cum	4760.00	71377.15		Random Rubble Stone Masonary,
3		Random Rubble Stone Masonary in cm 1:6 (1Cement : 6 Sand)	109.06	cum	2954.00	322151.42		
4		Laying a layer 30cm fertile soil over the dumped muck i/c watering and Ramming.	76.22	cum	180.00	13719.59		1.00
5		P/L a layer of Geo - membrane over the freshly laid soil.	254.07	sqm	230.00	58435.27		m Top Width and
6		Planting locally grow able shrubs & trees.	254.07	sqm	24.00	6097.59		1.50
7		Periodic watch, ward and maintenance charges for seven years.	254.07	sqm	18.00	4573.20	5.03	m Avg Height

25.56	15.62	MDS - 6						2.20
1	MDS - 6	Excavation in all kinds of soil for foundations of Retaining Walls	149.95	cum	180.00	26991.36		m Base Width of
2		Plain Cement Concrete in foundations 1:6:12 (1Cement : 6 Sand : 12 Aggregate 40mm nominal dia)	18.74	cum	4760.00	89221.44		Random Rubble Stone Masonary,
3		Random Rubble Stone Masonary in cm 1:6 (1Cement : 6 Sand)	318.08	cum	2954.00	939608.32		
4		Laying a layer 30cm fertile soil over the dumped muck i/c watering and Ramming.	119.77	cum	180.00	21559.35		1.00
5		P/L a layer of Geo - membrane over the freshly laid soil.	399.25	sqm	230.00	91826.86		m Top Width and
6		Planting locally grow able shrubs & trees.	399.25	sqm	24.00	9581.93		3.50
7		Periodic watch, ward and maintenance charges for seven years.	399.25	sqm	18.00	7186.45	11.86	m Avg Height
19.88	9.94	MDS - 7						2.20
1	MDS - 7	Excavation in all kinds of soil for foundations of Retaining Walls	131.21	cum	180.00	23617.44		m Base Width of
2		Plain Cement Concrete in foundations 1:6:12 (1Cement : 6 Sand : 12 Aggregate 40mm nominal dia)	13.12	cum	4760.00	62455.01		Random Rubble Stone Masonary,
3		Random Rubble Stone Masonary in cm 1:6 (1Cement : 6 Sand)	190.85	cum	2954.00	563764.99		
4		Laying a layer 30cm fertile soil over the dumped muck i/c watering and Ramming.	59.28	cum	180.00	10670.79		1.00
5		P/L a layer of Geo - membrane over the freshly laid soil.	197.61	sqm	230.00	45449.66		m Top Width and
6		Planting locally grow able shrubs & trees.	197.61	sqm	24.00	4742.57		3.00
7		Periodic watch, ward and maintenance charges for seven years.	197.61	sqm	18.00	3556.93	7.14	m Avg Height
<b>Total Cost to Develop all Muck Dumping Sites</b>							<b>49.70</b>	

A) This part of construction of chec walls with wire crates stones and filling of excavated material shll be done by the user agency itself. As per proposal Rs. 49.70 Lakhs is proposed for civil engineering works. These works will be carried out before dumping the muck at dumping site.

B) The second part for raising suitable plantation etc. on the muck dumping sites shall be implemented by the Forest Development at the cost of user agency. As per the proposal Rs **175865 (Rupees One Lakhs Seveny Five Thousand Eight Hundred And Sixty Five Only)** with the forest department for raising suitable plantation. Necessary rehabilitation measures for the unused dumping material at different sites shall be carried out by afforestation to provide vegetation cover there on.

Date :

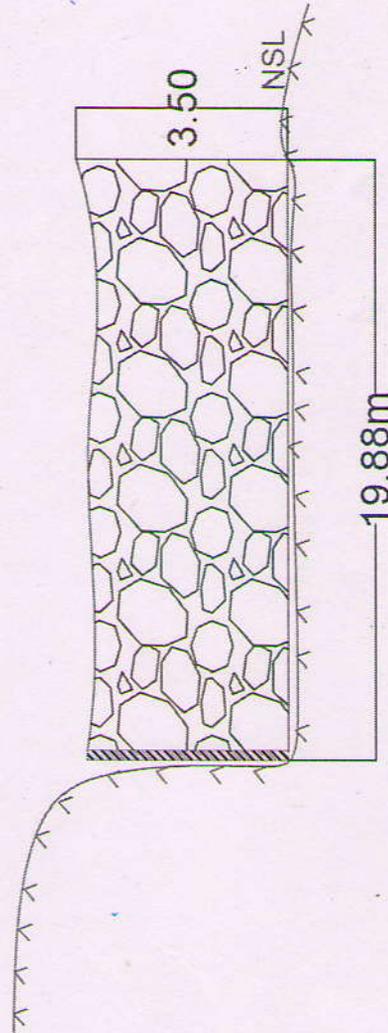
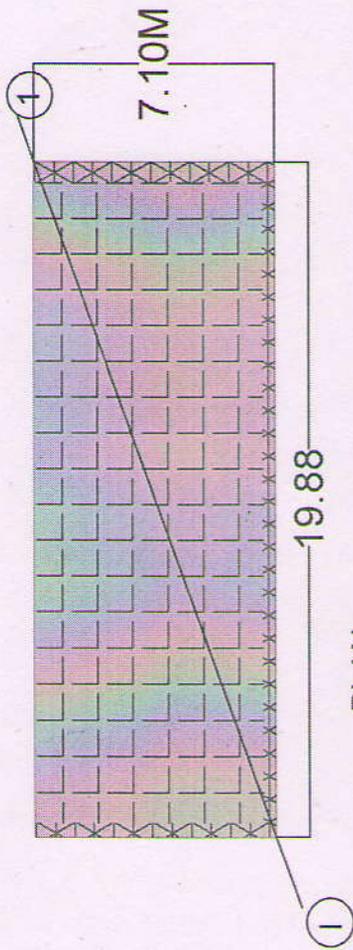
Place : Kullu

Counter Signed By

For BEHL MOTORS

*Deejan Deewan*  
Auth. Signatory

*[Signature]*  
Divisional Forest Officer  
Great Himalayan National Park  
Shamshi Distt. Kullu (HP)  
Shamshi, Kullu (H.P.)-175126



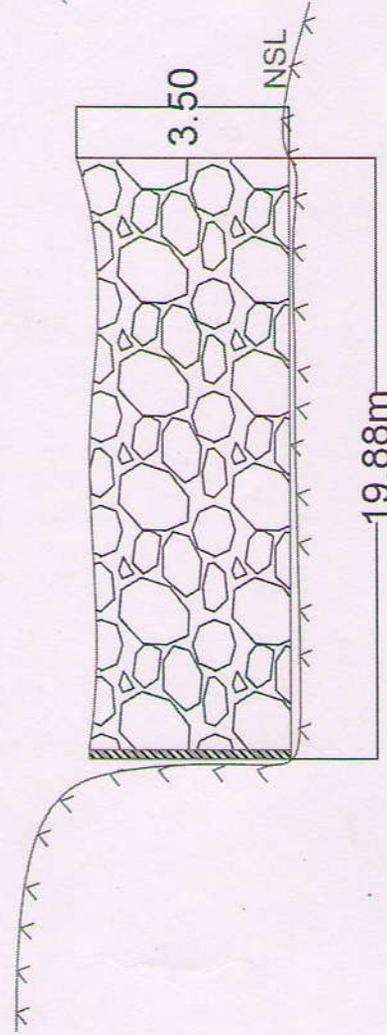
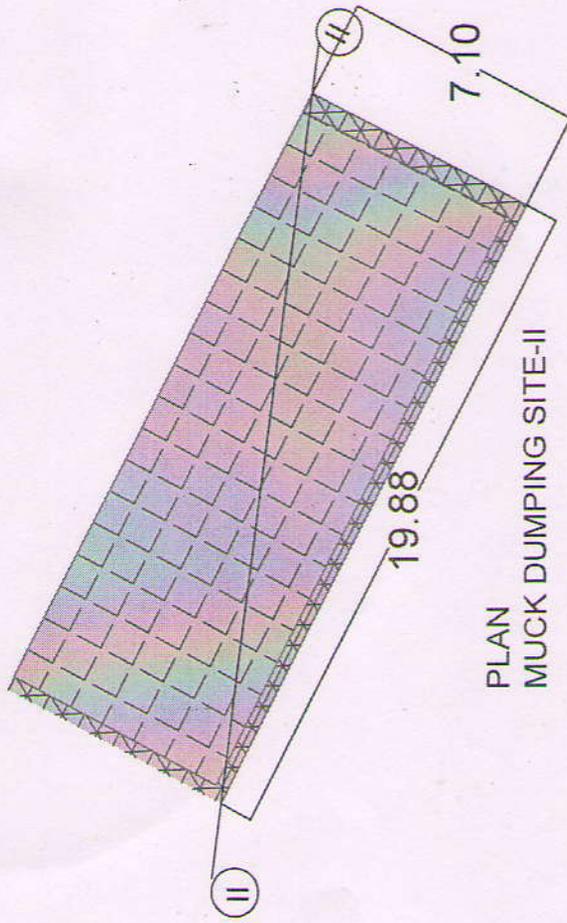
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 =494.02M<sup>3</sup>

DETAIL OF MUCK DUMPING  
 SITE-I NEAR WEIR SITE  
 M/S BEHL MOTORS

JIWA-II SHEP 1.75MW

FOR BEHL MOTORS  
*Dr. Rajan Sheela*  
 Auth. Signatory

*[Signature]*  
 Divisional Forest Officer  
 Great Himalayan National Park  
 Shamshi, Kullu (H.P.)-175126



AREA-19.88MX7.10M  
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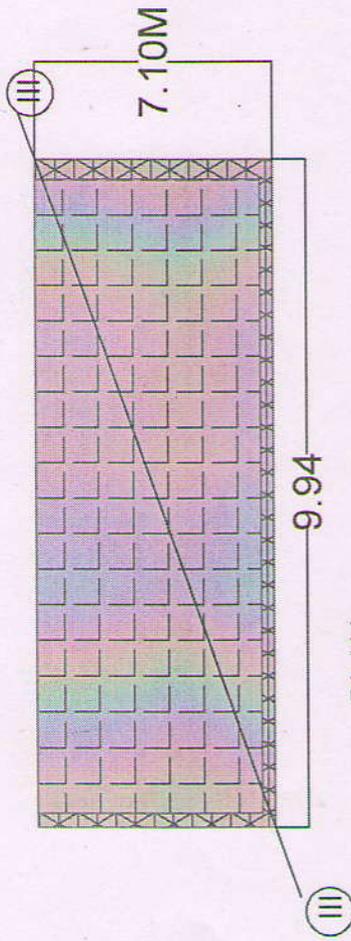
DETAIL OF MUCK DUMPING  
 SITE-II NEAR D-TANK  
 M/S BEHL MOTORS

JIWA-II SHEP 1.75MW

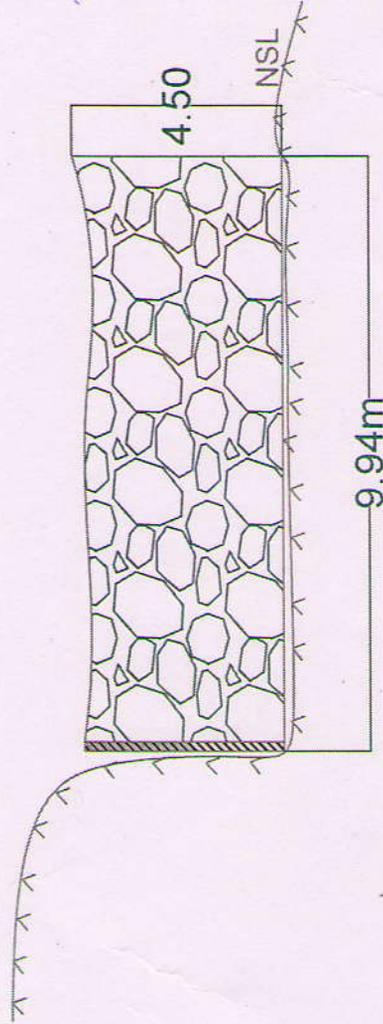
For BEHL Motors  
*Sheela*

Auth. Signatory

Divisional Forest Officer  
 Great Himalayan National Park  
 Shimla, Kulu (H.P.)-175126



PLAN  
MUCK DUMPING SITE-III



SECTION III-III

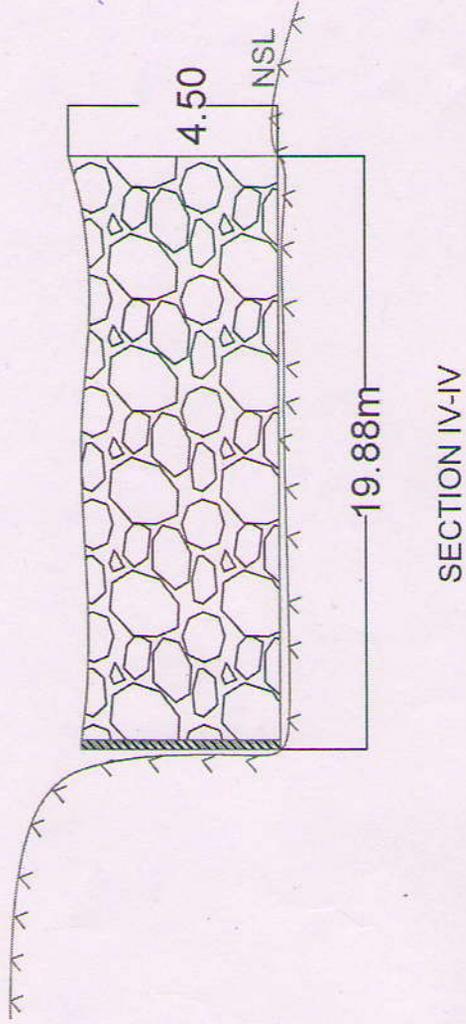
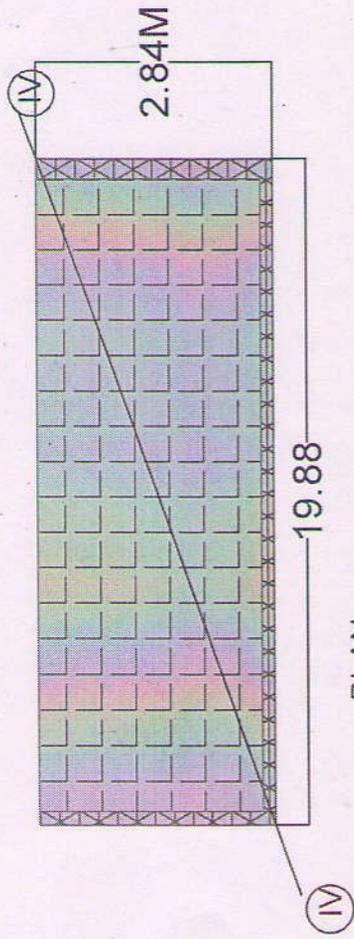
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DETAIL OF MUCK DUMPING  
 SITE-III NEAR WCS-2 SITE  
 M/S BEHL MOTORS

JIWA-II SHEP 1.75MW

M/S BEHL MOTORS  
*Deepu D Singh*  
 Auth. Signatory

Divisional Forest Officer  
 Great Himalayan National Park  
 Shamshi, Kulu (H.P.)-175126



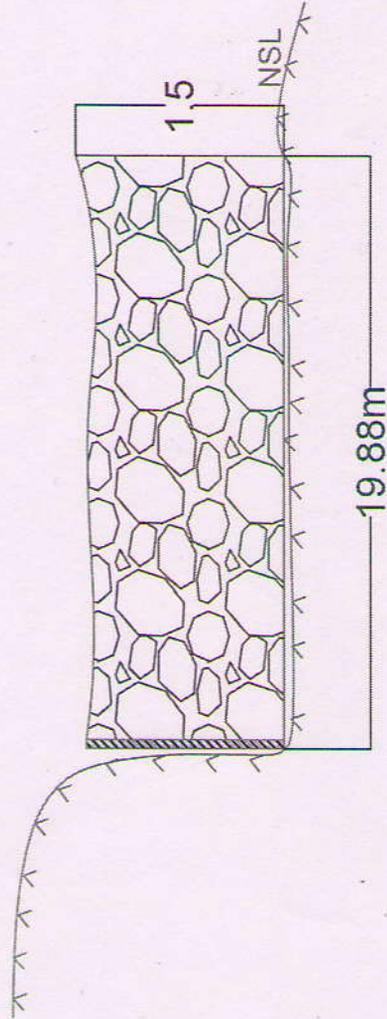
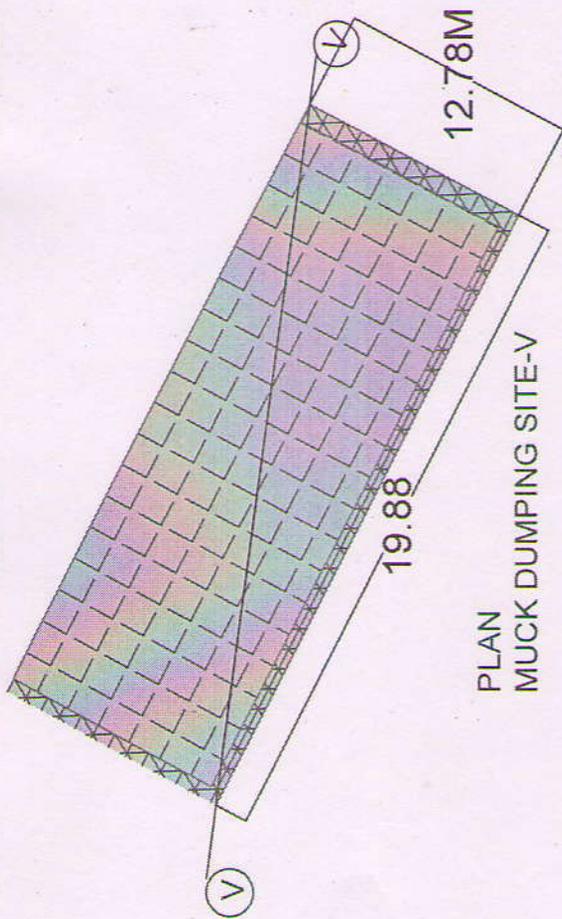
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DETAIL OF MUCK DUMPING  
 SITE-IV NEAR WCS-2 SITE  
 M/S BEHL MOTORS

JIWA-II SHEP 1.75MW

FOR BEHL MOTORS  
 Deepak Sharma  
 Auth. Signatory

Divisional Forest Officer  
 Great Himalayan National Park  
 Shamsi, Kulu (H.P.)-175126



AREA-19.88MX12.78M  
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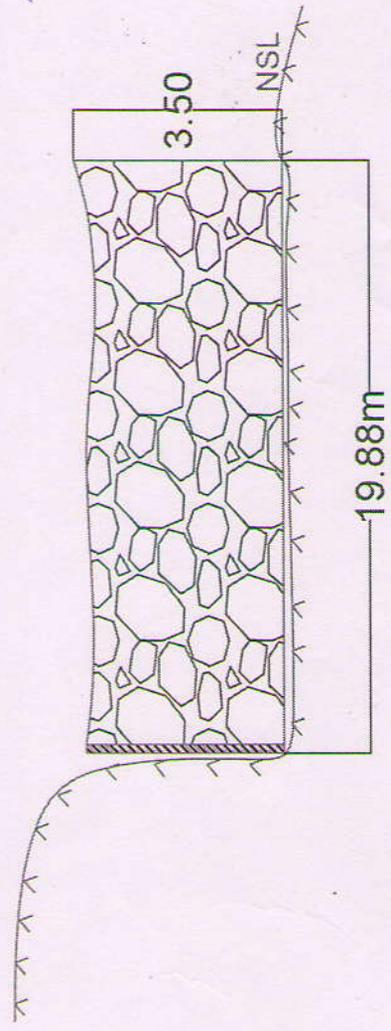
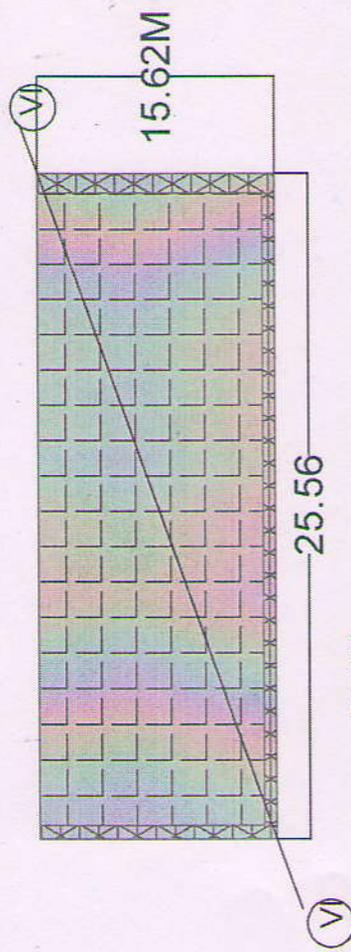
DETAIL OF MUCK DUMPING  
 SITE-V NEAR FOREBAY  
 SITE  
 M/S BEHL MOTORS  
 JIWA-II SHEP 1.75MW

g/s

M/S BEHL MOTORS  
 JIWA-II SHEP 1.75MW

Regional Forest Officer  
 Great Himalayan National Park  
 Shimshik, Kullu (H.P.)-175126

Auth. Signatory



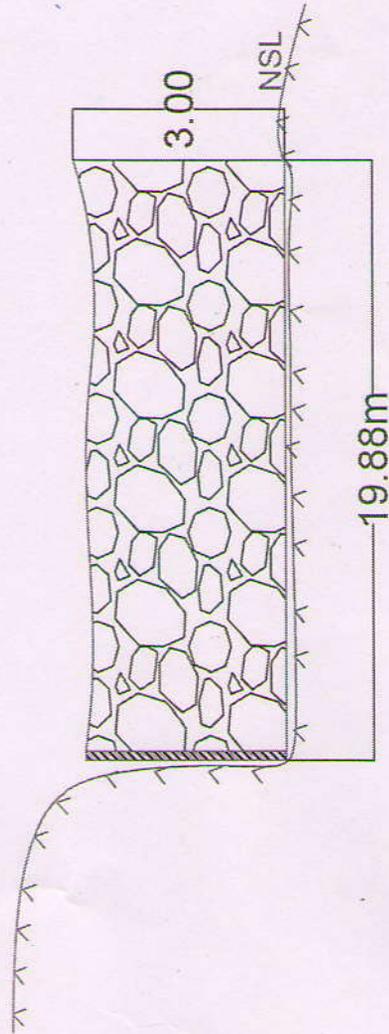
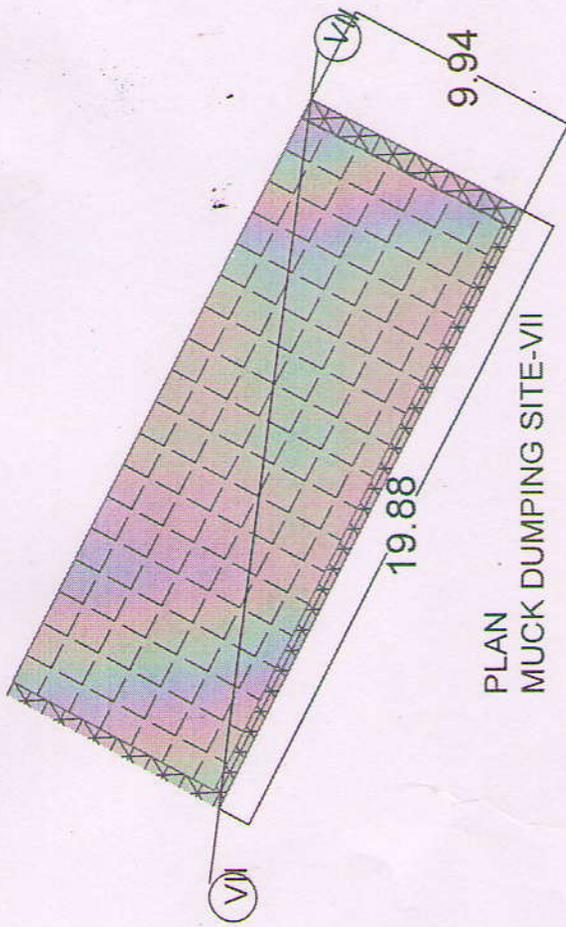
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 QTY=399.24M<sup>2</sup>X3.50M  
 =1397.37M<sup>3</sup>

DETAIL OF MUCK DUMPING  
 SITE-VI NEAR POWER  
 HOUSE SITE  
 M/S BEHL MOTORS  
 JIWA-II SHEP 1.75MW

95.

FOR BEHL MOTORS  
*Deepak Shekhar*  
 Auth. Signatory

Divisional Forest Officer  
 Great Himalayan National Park



AREA-19.88MX9.94M  
 =197.60M<sup>2</sup>  
 H-3.00M  
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 =592.82M<sup>3</sup>

DETAIL OF MUCK DUMPING  
 SITE-VII NEAR ROAD SITE  
 M/S BEHL MOTORS  
 JIWA-II SHEP 1.75MW

*Handwritten signature/initials*

M/S BEHL MOTORS  
*Handwritten signature*  
 Auth. Signatory

Divisional Forest Officer  
 Great Himalayan National Park  
 Shamshi, Kullu (H.P.)-175126