

Full title of the project: Rampur Hydro Electric Project (412 MW).

File No.: FP/HP/HYD/12761/2015

Date of Proposal:

CHECK LIST SERIAL NUMBER-17
SCHEME FOR COMPENSATORY AFFORESTATION.

Detail scheme for compensatory afforestation to be carried out in lieu of 0-83-74 ha of forest area to be diverted for construction of Rampur Hydro Electric Project (412 MW) in Tehsil Rampur.

1. Details of degraded forest land/non forest land:-

District: - Shimla Village:- Shandal
Tehsil: - Rampur Bushahr
Name of Forest Division: - Rampur Bushahr Range:- Rampur Range.
Block/Compartment/Survey No. 53 E/11 UF-Shandal
Area to be afforested: 1.6748 ha.

2. Description of area:-

- i. Whether the site selected for compensatory afforestation is a land bank or not: - Yes.
- ii. If the CA site is other than the land bank, reasons be given:- Not applicable.
- iii. In case of non forest area identified form A, then what is the distance of CA site from the adjoining forest boundary:- Not applicable
- iv. Soil type: - Clayey loam.
- v. Topography: - a. Hilly/undulating/plain
b. Slope: Steep/Medium/Gentle
- vi. Whether the area is bearing any root stock of vegetation: - No.

3. Plantation Model:-

Copy of the approved compensatory afforestation scheme/model showing component wise physical and financial break up is enclosed.

4. Schedule of plantation programme:-

Detail of year wise break-up of requirement of funds is as under:-

Year	Area	Rate	Amount
0 year i.e. year plantation	1.6748 ha.	116600	195282
1 st year maintenance	1.6748 ha.	27840	46626
2 nd year maintenance	1.6748 ha.	19760	33094
3 rd year maintenance	1.6748 ha.	16100	26964
4 th year maintenance	1.6748 ha.	12600	21103
5 th year maintenance	1.6748 ha.	13440	22509
6 th year maintenance	1.6748 ha.	14280	23916
7 th year maintenance	1.6748 ha.	15120	25323
8 th year maintenance	1.6748 ha.	15960	26730
9 th year maintenance	1.6748 ha.	16800	28137
10 th year maintenance	1.6748 ha.	17640	29543
Total =			479227
Departmental charges @ 17.5%			83865
Contingency Charges @ 5%			23961
C Total =			587053

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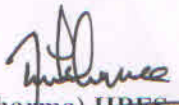
Detail of year wise break-up of requirement of funds is as under:-


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1 st year maintenance	1.6748 ha.	27840	46626
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3 rd year maintenance	1.6748 ha.	16100	26964
4 th year maintenance	1.6748 ha.	12600	21103
5 th year maintenance	1.6748 ha.	13440	22509
6 th year maintenance	1.6748 ha.	14280	23916
7 th year maintenance	1.6748 ha.	15120	25323
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Total =			479227
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5. Technical details:-

Technical details of compensatory afforestation scheme are as follows:-

- (a) General Details: - An area of 1.6748 ha. will be taken up for planting under compensatory afforestation scheme in UF-Shandal in a single compact patch. The area will be protected by Barbed wire fencing and a mixture of conifer and broad leaved species will be planted. 1500 plants will be planted per hectare.
- (b) Spacement:- 2.5 mtrs x 2.5 mtr
- (c) Species: - Deodar & other broad leave species.
- (d) Plantation Method:-Nursery grown one year old plants (in Polythene bags as well as naked root) will be planted in 45x45x45 cm pits in the selected area. Bush cutting will be done in the infested area. The plantation will be maintained for subsequent 10 years in which beating up of failures will be done. The plantation will be rainfed.
- (e) Soil Moisture Conservation Works: - Contour trenching will be done over the entire area to conserve the available moisture during rainy season so that moisture regime in the area is improved. Minor soil conservation works like gully plugging, check walls be done where ever required.
- (f) Protection (fencing, Watchman, People's participation etc.): -Area will be protected from grazing by erecting barbed wire fencing at all vulnerable places around the plantation. Further watch and ward as also fire protection will be ensured through regular departmental staff.
- (g) Proposed Monitoring Mechanism:- The plantation will be monitored as per existing monitoring mechanism in the forest department. The plantation will also be monitored by GOI representatives as per instructions. The plantation site will be approachable from Lalsa Shandal road.
- (h) Any other information: - Nil.


 (Amit Sharma) HPFS
 Divisional Forest Officer,
 Rampur Forest Division,
 Rampur Bushahr.

Office Seal 

SCHEME FOR COMPENSATORY AFFORESTATION IN RESPECT OF DIVERSION OF LAND FOR THE CONSTRUCTION RAMPUR HYDRO ELECTRIC PROJECT (412 MW) WITHIN THE JURISDICTION OF RAMPUR FOREST DIVISION, DISTT. SHIMLA H.P

Area proposed for compensatory afforestation	1.6748 ha				
Name of the proposed plantation area	UF-Shandal				
Plants to be planted per hectare	1500				
Total number of plants to be planted	2512				
Species to be planted	Coniferous and other broad live species.				
Particulars of works	Unit cost at wage structure for 2015-16 onwards	Year of execution of works	Cost escalation	Unit cost after applying cost escalation	Total amount
Initial cost for raising compensatory afforestation over an area of 1.6748 hectare	106000	2016-17	10%	116600	195282
1 st year maintenance	23200	2017-18	20%	27840	46626
2 nd year maintenance	15200	2018-19	30%	19760	33094
3 rd year maintenance	11500	2019-20	40%	16100	26964
4 th year maintenance	8400	2020-21	50%	12600	21103
5 th year maintenance	8400	2021-22	60%	13440	22509
6 th year maint.	8400	2022-23	70%	14280	23916
7 th year maint.	8400	2023-24	80%	15120	25323
8 th year maint.	8400	2024-25	90%	15960	26730
9 th year maint.	8400	2025-26	100%	16800	28137
10 th year maint.	8400	2026-27	110%	17640	29543
Total =					479227
Departmental charges @ 17.5%					83865
Contingencies Charges @ 5%					23961
G. Total =					587053


 Divisional Forest Officer
 Rampur Forest Division
 Rampur Bushahr
 Divisional Forest Officer
 Rampur Forest Division
 Rampur Bushahr (H.P.)

Per Hactare cost norm for model plantation under Compensatory Afforestation 1500 plants per hactare with RCC fence post at the wage rate of Rs. 180/-

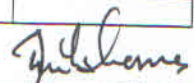
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Sr. No.	Particulars of work	Qty.	Rate in Rs.	Amount in Rs.
Fencing				
1	Survey and demarcation of plantation area	1 hac.	88.70 p/ha.	88.7
2	Preparation/purchase of RCC fence posts	60 No.	300 each	18000
3	Carriage of RCC Fence posts upto 2 kilometer	60 Nos	1093%	655.8
4	Preparation / digging of holes 20-30cm dia and 50cm deep	60 No	786.00%	471.6
5	Fixing of RCC fence posts including strutting	60 No	603.25%	361.95
6	Carriage of barbed wire over distance of 2 Km	0.90 Qtl	147.85 per Qtls per Kms	266.13
7	Stretching and fixing of Barbed wire in four strands	720 Rmtr	4.10 p/Rmtr	2952
8	Preparation of inspection path 60cm width	250 Rmtr	9.40/Rmtr	2350
9	Preparation of water retention mounds/trenches	LS		3000
10	Interlacing of thorny bushes along the fence	180Rmtr	3.55 p/Rmtr	639
	Total			28785.18
	Enhancement due to increase in wage rate		38.46%	11070.78023
	Total fencing cost			39856.0
Planting				
1	Digging of pits 45x45x45cm	1500	827.15%	12407.2
2	Filling of pits 45x45x45cm	1500	236.95%	3554.25
3	Carriage of plants in per bags over distance 2km uphill	1500	295.45%	8863.5
4	Planting of entire plans raised in per bag	1500	189.15%	2842.5
5	Planting of grass tufts/preparation of strips including sowing in strips 100x30x5cm for grass sowing along contour	500 strips	797.40%	3987
	Total			31654.45
	Enhancement due to increase in wage rate		38.46%	12174
	Total planting cost			43829
Material				
1	Cost of barbed wire	0.90 Qtl	8500 p/ctl	7650
Nursery cost of plants				
2	Polythene bags plant	1500	10 each	15000
	Total			15000
	Grand Total			106335
	1st year maintenance-30% Mortality		Say Rs.	106000
1	Re-digging of pits 45x45x45 cm	450	413.65%	1861.42
2	Filling of pits 45x45x45cm	450	236.95%	1066.27
3	Planting of per bag plants	450	189.15%	851.17
4	Planting of grass tufts/preparation of strips including sowing in strips 100x30x5cm for grass sowing along contour	200 strips	797.40%	1594.8
5	Carriage per bags plants distance 2km uphill	450	295.45%	2659.05
6	Nursery cost plants	450	10 each%	4500
7	Repair of fence	180Rmtr	1.35p/rmt	243
8	Repair of inspection path	LS		1000
9	Moisture conservation works	LS		1500
	Total			15275.7
	Enhancement due to increase in wage rate		38.46%	5875.0
	G. Total			21150.7
	Add 10% increase each year			2115.1
				23265.77
	2nd year maintenance-20% Mortality		Or say	23200
1	Re-digging of pits 45x45x45 cm	300	413.65%	1240.95
2	Filling of pits 45x45x45cm	300	236.95%	710.85
3	Planting of per bag plants	300	189.15%	567.45
4	Carriage per bags plants distance 2km uphill	300	295.45%	1772.7
5	Nursery cost plants	300 no.	10 each%	3000
6	Repair of fence	180Rmtr	1.35p/Rmt	243
7	Repair of inspection path	LS		1000
8	Moisture conservation works	LS		1500
	Total			10034.95
	Enhancement due to increase in wage rate		38.46%	3859.44
	G. Total			13894.39
	Add 10% increase each year			1389.43
	Total			15283.82
	3rd year maintenance-15% Mortality		Or say	15200
1	Re-digging of pits 45x45x45 cm	225	413.65%	930.71
2	Filling of pits 45x45x45cm	225	236.95%	533.13
3	Planting of per bag plants	225	189.15%	425.58

Sr. No.	Particulars of work	Qty.	Rate in Rs.	Amount in Rs.
4	Carriage per bags plants distance 2km uphill	225	295.45%	1329.52
5	Nursery cost plants	225	10 each%	2250
6	Repair of fence	200 Rmtr	1.35p/Rmt	270
7	Repair of inspection path	L S		600
8	Moisture conservation works	LS		1200
	Total			7538.94
	Enhancement due to increase in wage rate		38.46%	2899.48
	G. Total			10438.42
	Add 10% increase each year			1044
				11482.26
			Or say	11500
4th year maintenance-10% Mortality				
1	Re-digging of pits 45x45x45 cm	150	413.65%	620.47
2	Filling of pits 45x45x45cm	150	236.95%	355.42
4	Planting of per bag plants	150	189.15%	283.72
5	Carriage per bags plants distance 2km uphill	150	295.45%	886.35
6	Nursery cost plants	150 Nos.	10 each%	1500
7	Repair of fence	200 Rmtr	1.35p/Rmt	270
7	Repair of inspection path	L S		400
8	Moisture conservation works	LS		1200
	Total			5515.96
	Enhancement due to increase in wage rate		38.46%	2121.44
				7637.39
	Add 10% increase each year			763.73
				8401.00
			Or say	8400
5th year maintenance-10% Mortality				
1	Re-digging of pits 45x45x45 cm	150	413.65%	620.47
2	Filling of pits 45x45x45cm	150	236.95%	355.42
4	Planting of per bag plants	150	189.15%	283.72
5	Carriage per bags plants distance 2km uphill	150	295.45%	886.35
6	Nursery cost plants	150 Nos.	10 each%	1500
7	Repair of fence	200 Rmtr	1.35p/Rmt	270
7	Repair of inspection path	L S		400
8	Moisture conservation works	LS		1200
	Total			5515.96
	Enhancement due to increase in wage rate		38.46%	2121.44
				7637.39
	Add 10% increase each year			763.73
				8401.00
			Or say	8400
6th year maintenance-10% Mortality				
1	Re-digging of pits 45x45x45 cm	150	413.65%	620.47
2	Filling of pits 45x45x45cm	150	236.95%	355.42
4	Planting of per bag plants	150	189.15%	283.72
5	Carriage per bags plants distance 2km uphill	150	295.45%	886.35
6	Nursery cost plants	150 Nos.	10 each%	1500
7	Repair of fence	200 Rmtr	1.35p/Rmt	270
7	Repair of inspection path	L S		400
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4	Planting of per bag plants	150	189.15%	283.72
5	Carriage per bags plants distance 2km uphill	150	295.45%	886.35
6	Nursery cost plants	150 Nos.	10 each%	1500
7	Repair of fence	200 Rmtr	1.35p/Rmt	270
7	Repair of inspection path	L S		400
8	Moisture conservation works	LS		1200
	Total			5515.96
	Enhancement due to increase in wage rate		38.46%	2121.44

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				7637.39
	Add 10% increase each year			763.73
				8401.00
			Or say	8400
8th year maintenance-10% Mortality				
1	Re-digging of pits 45x45x45 cm	150	413.65%	620.47
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10th year maintenance-10% Mortality				
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