

**SCHEME FOR COMPENSATORY AFFORESTATION FOR DIVERSION OF FOREST LAND
FOR CONSTRUCTION OF 33 KV POWER LINE CORRIDOR ON N.B.L.S TOWER FROM
220/33 KV GRID SUB-STATION, KHAIRPUT, GOVINDAPALLI OF OPTCL TO 33 KV SUB-
STATION SITE NEAR SAPTADHARA H.E.P..**

Introduction:-

This scheme is prepared for Compensatory Afforestation in Forest land in view of diversion of forest by M/s Sri Avantika Power Projects Pvt. Ltd., Hyderabad as required under section-3 of forest (Conversion) act -1980. M/s Sri Avantika Power Projects Pvt. Ltd., Hyderabad has entered into a memorandum of understanding with Govt. of Odisha for construction of 33 KV power line corridor on N.B.L.S tower from 220/33 KV Grid sub-station, Khairput, Govindapalli of OPTCL to 33 KV Sub-station site near Saptadhara H.E.P.. The Transmission line is proposed over a total area of 32.358 Ha. out of which 6.084 Ha. area is under Reserved Land & 4.719 Ha. Revenue Forest (Jungle Kissam) category, which is scattered over of 50 nos. of Forest Patches. However, the M/s Sri Avantika Power Projects Pvt. Ltd., Hyderabad has agreed of provide fund for raising of compensatory plantation over 22 Ha. having forest land (Tandiki RF) in lieu of 10.803 Ha. Forest Land of Malkangiri Division.

1. DETAILS OF LAND FOR COMPENSATORY AFFORESTATION

District- Malkangiri

Division- Malkangiri

Range- Mathili

The Reserved Forest land for compensatory has been identified in Tandiki RF over 22.0 Ha. under Mathili Range of Malkangiri Forest Division. The Range Officer, Mathili vide his Memo No. 191 dated 15.03.2021 reported that the proposed area is free from encroachment and encumbrances and suitable for plantation from management point of view is outlined as below.

Land schedule of land prepared for Compensatory Afforestation.

Division	Range	Name of Forest Block	Extent of Area in Ha	Proposed area for plantation in Ha.	Status
Malkangiri	Mathili	Tandiki RF	140.6313 Ha.	22.0 Ha.	RF

2. Description of Area:-

i. Whether the site selected for compensatory Afforestation is a land bank or not:

This identified forest land is under the control of Forest department and classified as "Reserved Forest" and it is not a land bank.

ii. If the CA Site is other than the land bank, reasons be given:-

There is no alternate suitable land is available. Therefore the Govt. Land area has been selected for CA.

iii. In case of non-forest area identified for CA , then what is the distance of CA site from the adjoining forest boundary:-

The CA site is selected inside the Tandiki Reserved Forest.

iv. Soil type:- Loamy Soil

v. Topography:- The topography configuration of the identified site is small hilly.

vi. Slope:- Gentle to moderate slope.

vii. Whether the area is bearing any root stock of vegetation: - No


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5. Technical Details:-

Objective of the scheme:-

i) The main objective of the scheme is to take up the Block Plantation in forest land and every possible effort shall be made to successful establishment of plantation.

ii) Creation of asset for the community meets their bonafide requirements and also generate employment to improve the socio-economic status during the implementation of the scheme.

a) General Details:-

i) **Survey and demarcation of boundary:-** The identified area is to be surveyed and GPS co-ordinate of each pillar will be taken. Survey and posting of R.C.C pillars will be done by User Agency.

ii) **Spacement:-** The spacement adopted for plantation is 2.5 mtr x 2.5 mtr .

iii) **Species:-** Although indigenous species are to be preferred in the plantation, considering adverse soil and moisture conditions the following species are to be planted.

Sl. No.	Common name	Scientific name	Remarks
1	Sal	Shorea robusta	
2	Bahada	Terminalia belierica	
3	Sirisa	Albizia lebbek	
4	Mahagany	Syietenia nahagoni	
5	Mundi	Mitragyna parviflora	
6	Mahula	Madhuca indica	
7	Bamboo	Dendrocalamus strictus	
8	Tentuli	Tamarindus indica	
9	Amla	Emblica officinalis	

iv) **Method of raising plantation:-** Block plantation over 22.0 Ha shall be taken up with 1600 plants per Ha at a spacing of 2.5 mtr x 2.5 mtr. The standard size of pit 30 cm x 30 cm x 30 cm shall be dug in the entire area. The planting of polypot seedlings will be taken up after onset of monsoon. At the time of planting, insecticides and fertilizers shall be applied as a basal doze depending on the requirement.

Post planting operations shall be including causality replacement, weeding, soil working and other operations to be carried out as per calendar of operations.

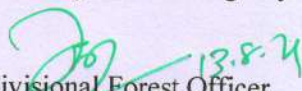
v) **Soil and moisture conservation works:-** Half-moon trenches should be constructed on down side of the plants. In the slopes staggered trenches of 2.5m x 0.5m x 0.5m should be dug in between the planting line along the contours. On the other hand Gully plugging, check dams and percolation pits to be constructed as per site specification.

vi) **Protection:-** Protection should be done by way of watch and ward and people's participation.

6. **Proposed monitoring mechanism:-** The scheme shall be executed by the department staffs through regular inspection and checking. All prescribed records are to be maintained by the department staffs.

7. **Any other information:-** Work to be carried out as per the technical advice of the concerned forestry experts such as D.F.O, ACF and Range Officer concerned .

8. **Total cost of the project:-** The total cost of the project will be Rs. 86, 07, 505.00 (Rupees Eighty six lakh seven thousand five hundred) only, which shall be payable by the User Agency as per the advice of Divisional Forest Officer.


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viii. Temperature:- This area experiences cold weather between November to January when the temperature drops less than 12° C . The summer is very severe in Malkangiri and sometimes the temperature rises from February onwards reaching 42° C to 45° C in summer.

ix. Climate and Rainfall:- The area has a tropical to sub-tropical climate with monsoon rains from 2nd week June to September and occasional rains during winter. This area also occasional gusty wind to heavy thunderstorms during summer seasons (April to June). The rainfall is about 1410.00 mm.

3. Plantation Model:- The identified site is Tandiki RF over 22 Ha. has poor soil depth with gentle slope. It is proposed for taking of block plantation @ 1600 plants/Ha.

4. Schedule of Plantation programme:-

Details of year wise break up of requirements of funds as under:

Year	Area in Ha	Rate / Ha	Total Amount
Previous Year (Adv Work)	22.0 Ha.	17472.84	384402.48
0 th year	-do-	62836.38	1382400.33
1 st year	-do-	32764.20	720812.40
2 nd year	-do-	21478.17	472519.74
3 rd year	-do-	12465.60	274243.20
4 th year	-do-	5877.90	129313.80
5 th year	-do-	5877.90	129313.80
6 th year	-do-	5877.90	129313.80
7 th year	-do-	5877.90	129313.80
8 th year	-do-	5877.90	129313.80
9 th year	-do-	5877.90	129313.80
10 th year	-do-	5877.90	129313.80
Total	22.0 Ha.	188162.49	4139574.75 Or Say 4139600.00
Cost of Vegetative fencing around periphery of the identified degraded forest land of 22.0 Ha., around identified CA land in Tandiki RF @ 126 mtr. Per Ha. @ Rs. 136.00 per Mtr. (126 Mtr X 22 Ha.) = 2562 Mtr X 136.00 Per Mtr = 348432.00			348432.00
Total			4488032.00
Maintenance of fencing on 2 nd , 3 rd & 4 th year (2% of cost per each year)			20906.00
Total			4508938.00
Cost of Cattle Proof Trench of 2MtrX1MtrX1.5 Mtr=2.25 Cum @ 130.62/- per Cum= 2.25 Cum X 210 MtrX130.62=61718.00			61718.00
Total			4570656.00
Add 15% of total cost towards EPA/incentive to VSS			685598.00
Total			5256254.00
Add Escalation Cost (20%)			1051251.00
Total			6307505.00
INFRASTRUCTURE (Tobe provided in Kinds):			
One high end Laptop for office use of Divisional Forest Officer			100000.00
One No. of Colour Xerox-cum-Printer Machine			100000.00
One No. of Inverter for Office use			100000.00
One Four Wheeler Scorpio Vehicle to be provided by User Agency for monitoring of Compensatory Afforestation			2000000.00
Grand Total			8607505.00


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**COST NORM FOR BLOCK PLANTATION FOR COMPENSATORY AFFORESTATION AT TANDIKI RF UNDER
MATHILI RANGE OF MALKANGIRI FOREST DIVISION, DIST:MALKANGIRI**

Spacing: 2.5 Mtr x 2.5 Mtr

No. of Plants to be Planted: 1600 Plants/Ha.

Wage rate: @311/-Per MD

Previous Year (Advance Work) Nursery Raising

Sl. No	Item of Work	Preferable Period of execution	Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
1	Nursery cost (18 Month's old seedlings) @37.95/seedling Part (Rs. 9.45 to be released) for 1760 seedlings (1600+160)	Nov-Mar	44	13684.00	2956.80	16640.80	
	Total		44	13684.00	2956.80	16640.80	
2	Monitoring & Supervision charge 5% of the total cost					832.04	
	G. Total		44	13684.00	2956.80	17472.84	

"0" the Year

Sl. No	Item of Work	Preferable Period of execution	Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
1	Survey, Demarcation & Pillar posting	Nov/Dec	2	622.00	0.00	622.00	
2	Site Preparation	Nov/Dec	12	3732.00	0.00	3732.00	
3	Alignment & Stacking of pits	Jan/Feb	2	622.00	0.00	622.00	
4	Digging up pits (30 cm cube)	Feb/Mar	40	12440.00	0.00	12440.00	
5	Nursery cost (18 Month's old seedlings) @37.95/seedling Part (Rs. 24.10 to be released) for 1760 seedlings (1600+160)	Jan-Mar	111.67	34729.37	7698.80	42428.17	
	Total		167.67	52145.37	7698.80	59844.17	
6	Monitoring & Supervision charge 5% of the total cost					2992.21	
	G. Total		167.67	52145.37	7698.80	62836.38	

1st Year (Creation)

	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	
7	Nursery cost (18 Month's old seedlings) @37.95/seedling Part (Rs. 4.40 to be released) for 1760 seedlings (1600+160)	Apl-Jul	22	6842.00	915.00	7757.00	
8	Carriage & Planting	Jul/Aug	21	6531.00	0.00	6531.00	
9	Cost of insecticides and Fertilizer		0	0.00	3232.00	3232.00	
10	1st Weeding (Complete weeding)	Aug/Sept	7	2177.00	0.00	2177.00	
11	Manuring	Aug/Sept	5	1555.00	0.00	1555.00	
12	2nd Weeding (Complete weeding)	Sept/Oct	5	1555.00	0.00	1555.00	
13	Soil working (50cm radius around plants)	Sept/Oct	7	2177.00	0.00	2177.00	
14	Soil conservation measure (SMC)	Sept/Oct	10	3110.00	0.00	3110.00	
15	Fire line and inspection path (2Mtr wide fire line over 400 Mtr long)	Feb/Mar	3	933.00	0.00	933.00	
16	Watch & Ward for 8 month (August to March)	Aug-Mar	7	2177.00	0.00	2177.00	
	Total		87	27057.00	4147.00	31204.00	


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17	Monitoring & Supervision charge 5% of the total cost					1560.20	
	G. Total		87	27057.00	4147.00	32764.20	

2nd Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
18	Casualty Replacement with Nursery Cost	Jul/Aug	4	1244.00	5574.40	6818.40	
19	Weeding (Complete Weeding)	Sept/Oct	6	1866.00	0.00	1866.00	
20	Application of fertilizer	Sept/Oct	4	1244.00	0.00	1244.00	
21	Cost of fertilizer		LS	0.00	2752.00	2752.00	
22	Soil working (50cm Radius around plant)	Oct/Nov	7	2177.00	0.00	2177.00	
23	Fire line tracing (2 mtr wide fire line over 400 mtr long)	Feb/Mar	3	933.00	0.00	933.00	
24	Watch & Ward (12 months)	Apr-Mar	15	4665.00		4665.00	
	Total		39	12129.00	8326.40	20455.40	
25	Monitoring & Supervision charge 5% of the total cost					1022.77	
	G. Total		39	12129.00	8326.40	21478.17	

3rd Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
26	Weeding and Application of fertilizer	Aug/Sept	7	2177.00	0.00	2177.00	
27	Cost of fertilizer		0	0.00	1920.00	1920.00	
28	Soil working (50cm Radius around plant)	Oct/Nov	7	2177.00	0.00	2177.00	
29	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3	933.00	0.00	933.00	
30	Watch & Ward (12 months)	Apr-Mar	15	4665.00	0.00	4665.00	
	Total		32	9952.00	1920.00	11872.00	
31	Monitoring & Supervision charge 5% of the total cost					593.60	
	G. Total		32	9952.00	1920.00	12465.60	

4th Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
32	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3	933.00	0.00	933.00	
33	Watch & Ward (12 months)	Apr-Mar	15	4665.00	0.00	4665.00	
	Total		18	5598.00	0.00	5598.00	
34	Monitoring & Supervision charge 5% of the total cost					279.90	
	G. Total		18	5598.00	0.00	5877.90	

5th Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
35	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3	933.00	0.00	933.00	
36	Watch & Ward (12 months)	Apr-Mar	15	4665.00		4665.00	
	Total		18	5598.00	0.00	5598.00	
37	Monitoring & Supervision charge 5% of the total cost					279.90	
	G. Total		18	5598.00	0.00	5877.90	


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6th Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
38	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3	933.00	0.00	933.00	
39	Watch & Ward (12 months)	Apr-Mar	15	4665.00		4665.00	
	Total		18	5598.00	0.00	5598.00	
40	Monitoring & Supervision charge 5% of the total cost					279.90	
	G. Total		18	5598.00	0.00	5877.90	

7th Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
41	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3	933.00	0.00	933.00	
42	Watch & Ward (12 months)	Apr-Mar	15	4665.00		4665.00	
	Total		18	5598.00	0.00	5598.00	
43	Monitoring & Supervision charge 5% of the total cost					279.90	
	G. Total		18	5598.00	0.00	5877.90	

8th Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
44	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3	933.00	0.00	933.00	
45	Watch & Ward (12 months)	Apr-Mar	15	4665.00		4665.00	
	Total		18	5598.00	0.00	5598.00	
46	Monitoring & Supervision charge 5% of the total cost					279.90	
	G. Total		18	5598.00	0.00	5877.90	

9th Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
47	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3	933.00	0.00	933.00	
48	Watch & Ward (12 months)	Apr-Mar	15	4665.00		4665.00	
	Total		18	5598.00	0.00	5598.00	
49	Monitoring & Supervision charge 5% of the total cost					279.90	
	G. Total		18	5598.00	0.00	5877.90	

10th Year (Maintenance)

Sl. No	Item of Work		Mandays	Amount	Material Cost (Rs)	Total(Rs)	Remarks
50	Fire line tracing (2mtr wide fire line over 400 mtr long)	Feb/Mar	3	933.00	0.00	933.00	
51	Watch & Ward (12 months)	Apr-Mar	15	4665.00		4665.00	
	Total		18	5598.00	0.00	5598.00	
52	Monitoring & Supervision charge 5% of the total cost					279.90	
	G. Total		18	5598.00	0.00	5877.90	


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ABSTRACT

Sl.No.	Name of the Project	Area to be afforested	Year of plantation	Cost norm per Ha (Rs)	Cost for 22.0 Ha.
1	2	3	4	5	6
1	Construction of 33 KV Power line corridor on N.B.L.S Tower from 220/33 KV Grid Sub-station, Khairput, Govindapalli of OPTCL to 33 KV Sub-station site near Saptadhara H.E.P.	22 ha.	Previous Year (Adv work)	17472.84	384402.48
2			"0"th Year(Adv.)	62836.38	1382400.33
3			1st Year	32764.20	720812.40
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7			5th Year	5877.90	129313.80
8			6th Year	5877.90	129313.80
9			7th year	5877.90	129313.80
10			8th year	5877.90	129313.80
11			9th year	5877.90	129313.80
12			10th year	5877.90	129313.80
	Total			188162.49	4139574.75
				Or say	4139600.00
13	Cost of Vegetative fencing around periphery of the identified degraded forest land of 22.0 Ha., around identified CA land in Tandiki RF @ 126 mtr. Per Ha. @ Rs. 136.00 per Mtr. (126 Mtr X 22 Ha.) = 2562 Mtr X 136.00 Per Mtr = 348432.00				348432.00
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14	Maintenance of fencing on 2nd, 3rd & 4th year (2% of cost per each year)				20906.00
	Total				4508938.00
15	Cattle Proof Trench				
	Cost of Cattle Proof Trench of 2MtrX1MtrX1.5 Mtr=2.25 Cum @ 130.62/- per Cum= 2.25 Cum X 210 MtrX130.62=61718.00				61718.00
	Total				4570656.00
16	15% of total Plantation cost towards EPA/Incentive to VSS				685598.00
	Total				5256254.00
17	Add Escalation Cost (20%)				1051251.00
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	INFRASTRUCTURE (Tobe provided in Kinds):				
18	One high end Laptop for office use of Divisional Forest Officer				100000.00
19	One No. of Colour Xerox-cum-Printer Machine				100000.00
20	One No. of Invertor for Office use				100000.00
21	One Four Wheeler Scorpio Vehicle to be provided by User Agency for monitoring of Compensatory Afforestation				2000000.00
	Grand Total				8607505.00

(Rupees Eighty six lakh seven thousand five hundred five)only

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