

## **Scheme**

**For Compensatory Afforestation on identified Non Forest Land in Village Kerajodi under Kankadahada Tahasil of District Dhenkanal in lieu of Proposed Forest Diversion for 23.80 ha of Forest land coming within Mining Lease of Kalarangiatta Chromite Mine, At: Kalarangiatta under Sukinda Tahasil of District: Jajpur of M/s Ferro Alloys Corporation Limited.**

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**For Plantation of Balance Seedlings over Degraded Forest Land in Dolia Reserved Forest in Mahabirod Range of Dhenkanal Division**

**By**

**Divisional Forest Officer,  
Dhenkanal Division**

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## Land Suitability Certificate

*This is to Certify that the land allotted for Compensatory Afforestation purpose at village Kerajodi, district Dhenkanal against diversion of 23.80 ha of forest land within Mining Lease of Kalarangiatta Chromite Mine, at Kalarangiatta under Sukinda Tahasil of District Jajpur of M/s Ferro Alloys Corporation Ltd vide letter no 153 dated 05.02.2016 of District Office, Dhenkanal measuring 24.0 ha as detailed below is free from encroachment and encumbrances. The area is suitable for plantation and management purpose.*

### Land Schedule:

Land Schedule of land allotted for Compensatory Afforestation						
Tahsil	Kankadahad					
Village	Khata No	Plot No	Total Plot Area in Acre	Area allotted in Acre	Kisam	Remark
Kerajodi	155(AAA)	315	62.00	27.25	Parbat-I	Part
		318	56.25	32.25	Parbat-I	Part
	<b>Total</b>		<b>118.25</b>	<b>59.50 Ac= 24.0 Ha</b>		

Place: Dhenkanal

Date:

  
Divisional Forest Officer,  
Dhenkanal Division

## Scheme

**For Compensatory Afforestation on identified Non Forest Land in Village Kerajodi under Kankadahada Tahasil of District Dhenkanal in lieu of Proposed Forest Diversion for 23.80 ha of Forest land coming within Mining Lease of Kalarangiatta Chromite Mine, At: Kalarangiatta under Sukinda Tahasil of District, Jajpur of M/s Ferro Alloys Corporation Limited.**

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- 1. Introduction:** The Kalarangiatta Chromite Mining Lease is over an area of 23.80 ha. The entire area is non forest land as per Hal Settlement and Lease has been executed basing on Land Schedule of Hal Settlement. Subsequently, it has been found that the land involve in the Mining Lease is of Forest Kisam as on 25.10.1980 (Sabik Settlement). The User Agency M/s Ferro Alloys Corporation has filed forest Diversion Proposal Vide Proposal No FP/OR/MIN/16453/2015. On application for providing Compensatory Afforestation Land, Government Non Forest Land over an area of 24 ha has been allotted by the Collector, Dhenkanal vide Letter No153 dated 05.02.2016 at village Kerajodi under Kankadahada Tahasil of District Dhenkanal. The selected land is coming in Kamakshyanagar (West) Range of Dhenkanal Division. **(Annexure-I)**
- 2.** The Compensatory Afforestation land so selected was examined by Regional Office, MoEF&CC, Bhubaneswar and observed that 14 ha out of 24 ha provided for Compensatory Afforestation is of Open Forest and balance 10 ha is of MDF (Medium Dense Forest) and advised to select another 10 ha of Non Forest land basing on the then Guideline for Compensatory Afforestation Land selection. (Copy of the letter No5-ORC 288/2016-BHU dated 18.11.2016 is at **Annexure-II**)
- 3.** That in the meantime, the MoEF&CC, Government of India vide letter no F. No. 5-/2017- FC dated 28th March, 2019 has issued revised guidelines. Any Non Forest Land irrespective of its crop density is acceptable for Compensatory Afforestation. The relevant Para in the revised guide line dated 28.03.2019 reads as follows.

### **“Para2.4**

***(v) Any non-forest land for the purpose of Compensatory afforestation (CA), selected by the State Government, in lieu of forest land to be diverted may be accepted by MoEF&CC irrespective of crown density. All such lands shall be mutated in favour of State forest department and declared as protected forest prior to stage II approval.”***

- 4.** That in light of the revised guidelines on FC Act, 1980 dated 28.03.2019 the land selected at village Kerajodi and allotted by Collector, Dhenkanal with the following land schedule

is accepted for “Compensatory Afforestation” purpose against proposed diversion of 23.80ha of forest land including 2.24 ha in Safety Zone.

<b>Land Schedule of land allotted for Compensatory Afforestation by District Office, Dhenkanal.</b>						
Tahsil	Kankadahad					
Village	Khata No	Plot No	Total Plot Area in Acre	Area allotted in Acre	Kisam	Remark
Kerajodi	155(AAA)	315	62.00	27.25	Parbat-I	Part
		318	56.25	32.25	Parbat-I	Part
	<b>Total</b>		<b>118.25</b>	<b>59.50 Ac= 24.0 Ha</b>		
<i>Reference: District Office, Dhenkanal Letter No153 dated 05.02.2016</i>						

## 5. DGPS Survey, Mapping & Authentication of CA Land.

As per the revised guidelines of Chief Executive, ORSAC, the User Agency has taken up DGPS Survey by empanelled vendors and the same has been authenticated by ORSAC vide his letter no ORSAC /DGPS-FD/1064/2022/2204(2) Dated 23.06.2022 and due endorsement has been furnished on DGPS surveyed Map. The DGPS Map, Corresponding Topo map (Survey of India map F 45 1:50000 Scale) are enclosed to this Scheme. The KML File of the area is submitted in a CD. (Letter of Authentication at **Annexure-III**)

The Latitude / Longitude of Survey Points as per DGPS authenticated Map is furnished below.

<b>DGPS OBSERVATION CO-ORDINATES OF BOUNDARY PILLARS</b>			
<b>SL.NO</b>	<b>MAP ID</b>	<b>LONGITUDE</b>	<b>LATITUDE</b>
1	A	85°31'40.17211"	21°06'46.03264"
2	B	85°31'58.06526"	21°06'45.98947"
3	C	85°31'58.08829"	21°06'29.79743"
4	D	85°31'44.22240"	21°06'30.00379"
5	E	85°31'44.23356"	21°06'33.84047"
6	F	85°31'40.04854"	21°06'33.81198"

## 6. Topography & Soil:

The identified area is partly hilly and partly rocked terrain. The soil depth is low. The soil is lateritic and gravelly.

## 7. Present Vegetation:

The identified land bears dry deciduous mixed vegetation. Sal, Asan, Karada, Kendu, Jamu, Mango, Bahada, Mahula etc are observed. Thorny bushes are also observed. The crop density is less than 40% over 14 ha and >40 and <50% over balance 10 ha.

## 8. Adjacent Forest Blocks& Convenience for Management:

The area Selected in Village Kerajodi under Kankadahada Tahasil of Dhenkna District. In recent past three Protected Forests have been notified comprising Non Forest Land taken for Compensatory Afforestation Purpose in the same village. The Protected Forests notified and area, Notification Number and date are furnished below.

Name of Protected Forest	Notification No & date	Area in Ha	Remark
Kerajodi A Protected Forest	10F(Cons)77/2020/19366/F&E dated 01.12.2020	11.5381	Copy of Notification at Annexure--IVA
Kerajodi B Protected Forest	10F(Cons)77/2020/19373/F&E dated 01.12.2020	51.572	Copy of Notification at Annexure--IVB
Kerajodi C Protected Forest	10F(Cons)77/2020/19380/F&E dated 01.12.2020	97.7277	Copy of Notification at Annexure--IVC
<b>Total</b>	<b>3 Block</b>	<b>160.8378</b>	

On event of this identified area Planted up and declared as Protected Forest under Odisha Forest Act,1972, it will be a continuous patch and will be suitable and convenient for management.

### Details of Forest / Civil Administrative Unit:

Forest Administrative Jurisdiction		Civil Jurisdiction	
Beat	Kirtanpur	Village	Kerajodi
Section	Kirtanpur	Tahasil	kankadahada
Range	Kamakshyanagar (West) Range	PS:	Kankadahada
Division	Dhenkanal	Tahasil	Kankadahada
Circle	Angul	District	Dhenkanal

## 9. Planting Model;

The land identified bears natural vegetation. Its tending operation will help maintaining a good forest cover adjacent to habitation. Considering the vegetation, terrain and soil of the area it is proposed to adopt a planting model of **ANR @200 Plants / ha with 10 year maintenance** (Ref: Annexure-6 of One time Cost norm for Compensatory Afforestation issued vide Office Order No 1109/9F-(Misc)- 387/2021).

## 10. Choice of Species:

Considering the soil, topography and present vegetation observed in and around, it is proposed to Plant the following species on the identified land in suitable available blanks. Species proposed for planting are

- i) *Acacia Catechew (Khair)*
  - ii) *Bombax Ceiba ( Simili)*
  - iii) *Emblica officinalish ( Anla)*
  - iv) *Terminalia belerica (Bahada)*
  - v) *Terminalia tomentosa ( Asana)*
  - vi) *Mangifera indica ( Aamba)*
  - vii) *Pterocarpus marsupium ( Bija)*
  - viii) *Syzygium cumini (Jamu)*
- ( NB: The area is not a bamboo Zone)

## 11. Silvicultural Tending & Planting Technique to be adopted:

### ***i) Survey, Demarcation and Pillar Posting:***

The identified area has been surveyed & pillars posted. It is to be resurveyed and missing pillars if any to be reposted as per Latitude / Longitude provided in the DGPS Map authenticated.

### ***ii) Preparation of Treatment map (Digital map):***

The Kml file of the area has been provided by the user agency after DGPS survey. The same will be updated with treatment design basing on physical position at the time of implementing the Plantation Scheme. The Range Officer will update the position with help of GIS cell of the Division / PCCF Office or through outsourcing.

### ***iii) Site Preparation:***

After demarcation of the area, site preparation mostly clearing of invasive weeds will be taken up at available planting sites to be identified by field staff.

### ***iv) Silvicultural Tending Operation:***

The selected area is having Sal shoots of promising vigour and natural regeneration. It is proposed to take up Silvicultural cleaning over the area. The activities are intended to

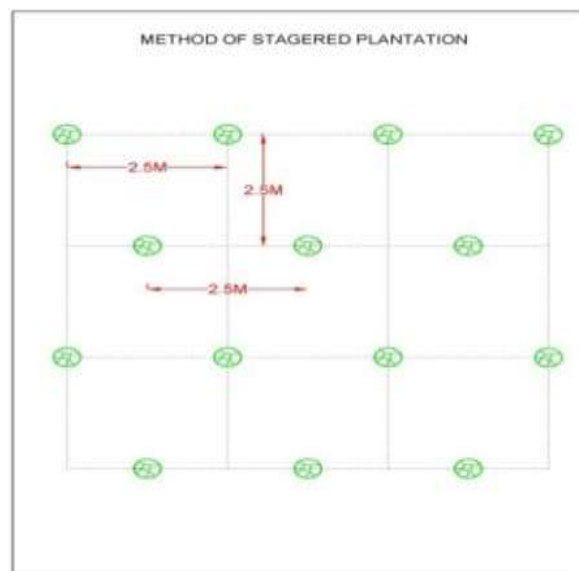
achieve healthy growth of existing seedlings / saplings / coppice shoots of favored species. The operation includes

- Cutting back of high stumps with preference to living stumps and having a good coppicing power.
- Cutting of climbers those are of annual nature and uprooting them wherever possible.
- Singling out of multiple coppice shoots and retaining most promising ones.
- Pruning of whippy plants available within the area.

The natural seedlings available in the treatment area are to be given appropriate attention to ensure its establishment.

**v) Alignment & Stacking:**

The plantation Model is ANR with 200 plants planting per ha. In available blank space alignment & stacking will be taken up at a probable spacing of 2.5mx2.5m. The alignment will be of staggered manner to check runoff in sloppy terrain. The desired model is depicted below.



**vi) Digging of Pits (45cmx45cmx45cm):**

It is proposed to dugout pits of size 45cmx45cmx45cm preferably in month of February / March. The dugout earth will be kept at pit head on both sides separately. The top soil will be kept on one side and bottom soil on another side. Soil within 30cm from ground level will be considered as top soil and rest as bottom soil. The pits will be left for weathering due to Sun & Rain.

**vii) Refilling of Pits & application of organic Compounds / CDM/ FYM:**

The pits will be refilled by altering the dugout soil of the pits i.e. top soil on bottom of the pit and bottom soil on top. Application of organic Compounds / CDM/ FYM & mixing the same properly before refilling is suggested. This will provide necessary nutrients to the plant as well as help in retaining soil moisture for a longer period.



**viii) *Transportation of Seedlings including short carriage & watering at Pit site.***

In the approved cost norm, provisions have been made to plant 18month old. As seedlings will be above 1m height invariable, careful transportation of seedlings will be of paramount importance. In case of top breaking of seedlings, the benefit of 18month old seedlings will be reduced substantially. Transportation of seedlings from Nursery site to Planting site and then short carriage has to be taken up carefully. Wherever water is available, the plants are to be watered before short carriage to minimize the shock to plants during long carriage by tractors / vans etc.

**ix) *Planting of Seedlings:***

After application of FYM/ CDM/ Organic manure, seedling will be planted carefully. The standard planting procedure is to be followed. As the pit size is of 45cm x 45cm x 45cm the following care will be taken during planting.

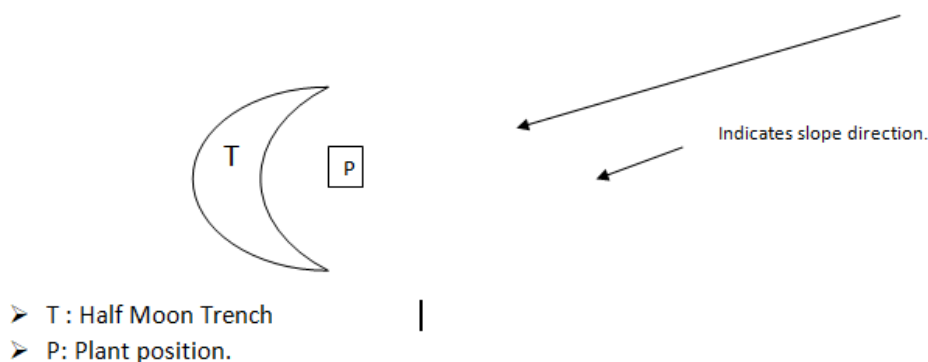
- Chemical fertilizer / insecticides applied as basal doze to be thoroughly mixed with soil.
- Seedlings collar zone will be at Ground Level or at best 2.5cm below the ground level. In no case it will not be more than 3cm below Ground Level.
- The Poly bags containing the seedlings are to be carefully removed. It is better to use a blade to cut open the bag so as to cause least disturbance to the ball of earth containing the seedlings.
- After planting the soil is to be compacted leaving 3" around the plant and the compact soil may be at Ground Level or 1" above the Ground level – allowance for soil settlement.
- In no case it should be a sunken around the plant.
- The planted plant should stand erect, if it is tilted due to speedy growth, a support with a stick collected locally to be provided.

**x) *Casualty Replacement:***

Casualty replacement is an important operation to achieve a 100% survival in a plantation. After planting there is possibility of casualty in planted seedlings. There is a provision to replace casualty up to 10% in 1<sup>st</sup> year and 10% in 2<sup>nd</sup> year operation in the approved cost norm. The same is to be carried out with good promising seedlings those can come up to a height of previous planted seedlings. During replacement in 2<sup>nd</sup> year application of fertilizers etc as in 1<sup>st</sup> year is to be followed.

### ***xi) Weeding & application of Fertilizer:***

Two Weeding around the planted seedlings at a diameter of 1.00m has been prescribed in the approved cost norm. During 2<sup>nd</sup> weeding deep soil working around the plants at 1.00m diameter has also been prescribed. 1<sup>st</sup> weeding will be taken up just after one month of planting and 2<sup>nd</sup> weeding and soil working in month of September / October. As there is occasional rainfall in October providing half moon trench in sloppy terrain around each plant is suggested. A half moon trench model is given below.



During weeding (1<sup>st</sup>& 2<sup>nd</sup>) there is a provision of application of fertilizer to plants. Application of NPK @30gms per plant x 2 times is suggested. In no case 2<sup>nd</sup> weeding can be delayed beyond 15<sup>th</sup> of October.

### ***xii) Fire line Tracing & Inspection Path:***

Due to intensive protection grasses grow up within plantation. It is better to allow local people / VSS to cut the grasses take for stall feeding. In the present case where ANR is under implementation Grass growth is limited. Due to fallen dry leaves (Due to leaf shedding), there is possibility of fire hazards in February / March. It is suggested to have fire line at a width of minimum 3m all around the planting area, maintain inter partitioned line / both sides of foot path as a Fire line ( minimum 3m wide in 1<sup>st</sup> year and 2m in subsequent year). These lines will be maintained as inspection path also. It will be maintained till completion of 10<sup>th</sup> year.

### ***xiii) Watch & Ward***

Watch and ward is essentially required against grazing in first two years and illicit felling in subsequent years. Adequate provisions has been made in the approved cost norm. Watch & ward provisions will be implemented as per provide norm. Besides watch & ward

provided it is proposed to provide Bamboo Twig & Thorns fence around the Selected / identified area.

### **12. Provision for watering:**

The site selected is of hilly terrain. All total 4800 seedlings will be planted in small patches having 200-300 seedlings per patch. It is not convenient to have any watering provisions for this site. There is also no nearby water source to fetch water and carryout watering to plants in such a scattered manner.

### **13. Projected Cost for ANR @ 200 Plants per ha**

#### **a) Nursery Cost (Cost of Seedlings):**

As per the guidelines 18 month old seedlings will be used for planting. The choice of species suitable for the site has been discussed at Para 10 above. The total seedlings required  $24 \times 200 = 4800$  + 10% of 4800 for Casualty replacement in 1<sup>st</sup> Year + 10% of 4800 for 2<sup>nd</sup> year replacement. Total seedlings required; 5760 number.

The approved cost norm for raising 1000 seedling is Rs 58025/- (Projected year 2023-24). For 5760 seedlings the cost comes to Rs 3, 34,224/-

The year wise cost break up is as follows

Year	1 <sup>st</sup> FY	2 <sup>nd</sup> FY	3 <sup>rd</sup> FY	Total
For 1000 seedling	10122	34271	5917	50310
For Yr 2023-24	11160	39673	7192	58025
For 5760 seedlings	64282	228516	41426	334224

#### **b) Cost for ANR with Gap planting @200 Plants per ha**

The approved base cost norm for one ha ANR With gap planting @200 Plants per ha is at annexure V. The cost matrix for 2023-24 is furnished below.

**Matrix for ANR @200 plants per ha**

	I (21-22)	II(22-23)	III (23-24)	IV (24-25)	V(25-26)	VI(26-27)	VII(27-28)	VIII(28-29)	IX(29-30)	X (30-31)	XI (31-32)	XII(32-33)	XIII)33-34)	Total
Base norm	9400	21568	8006	6700	4800	4800	4800	4800	4800	4800	4800			
<b>2023-24</b>			<b>10364</b>	<b>24967</b>	<b>9730</b>	<b>8551</b>	<b>6432</b>	<b>6754</b>	<b>7092</b>	<b>7447</b>	<b>7819</b>	<b>8209</b>	<b>8621</b>	<b>105986</b>
<b>For 24 ha</b>			<b>248736</b>	<b>599208</b>	<b>233520</b>	<b>205224</b>	<b>154368</b>	<b>162096</b>	<b>170208</b>	<b>178728</b>	<b>187656</b>	<b>197016</b>	<b>206904</b>	<b>2543664</b>

For ANR @ 200 Plants per ha, the cost as per approved matrix is **Rs 105986/- per ha (Year 2023-24)**. Hence for 24 ha the projected cost comes to Rs 24x105986/- = **Rs 25,43,664/-**

#### 14. Bamboo Twig & Thorn Fencing:

##### i) Justification for Providing Bamboo Twig Fencing:

The selected areas are moderately dense over 10 ha and open forest over 14 ha. In the nearby area tree growth are also observed. It is also adjacent to Kerajodi Protected Forest A, B and C block extending over an area of **160.8378 ha** (Para-8 of the Scheme), the area is inhabited with wild animals like Mongoose, Bear, Snakes, Lizards, Rabbits, fox, fowl etc. As this is considered as forests all around and movement of wild animals are seen, it is proposed to provide Bamboo Twigs Fencing. Only 4800 plants are being proposed for plantation @ 200 seedlings per hectare.

##### ii) Periphery of the identified Land:

The periphery of the identified land is 2020m (2.02km).

##### iii) Financial Projection for Fencing:

The cost norm matrix approved for bamboo twig fencing (Year 2023-24) is as follows.

	Cost Norm Matrix approved for bamboo twig fencing (for 1 ha / 250m)								
	(21-22)	(22-23)	0 <sup>th</sup> (23-24)	1 <sup>st</sup> (24-25)	2 <sup>nd</sup> (25-26)	3 <sup>rd</sup> (26-27)	4 <sup>th</sup> (27-28)	5 <sup>th</sup> (28-29)	Total
Base norm	0	45759	7720	11895	11895	11895			89164
2023-24			0	52971	9384	15182	15940	16737	110214
For 2020 m(2.02km)				428006	75823	122671	128795	135235	890529

The cost norm for the year 2023-24 is Rs 1,10,214/- per 250 Rmt. The proposed cost per meter comes to Rs 440.85 per Rmt.

The total cost for bamboo twig & thorn fencing comes to **Rs 8,90,529/-** as calculated above (for 2.02 km).

The approved base cost norm and matrix is at **Annexure VI**.

#### 15. Soil & Moisture Conservation:

The area taken for Compensatory Afforestation Purpose is of hilly and moderately rolling terrain. For better development of both natural and planted seedlings the Soil & Conservation of Moisture measures as prescribed under Model C is suggested. Under this model Soil Conservation Measure structures like Staggered Trench, Percolation Pit, Contour

Trench, Graded Earthen Bond, LBCD, Wire mess LBCD, Sub Surface Dyke, & WHS as per Slope will be Provided. As per the approved matrix the cost projected for the Year 2023-24 is as furnished below.

Matrix for SMC per Ha									
	(21-22)	(22-23)	0 <sup>th</sup> (23-24)	1 <sup>st</sup> (24-25)	2 <sup>nd</sup> (25-26)	3 <sup>rd</sup> (26-27)	4 <sup>th</sup> (27-28)	5 <sup>th</sup> (28-29)	Total
Base norm	0	20215	3032	3032	3032	3032			32343
<b>2023-24</b>			<b>0</b>	<b>23401</b>	<b>3684</b>	<b>3870</b>	<b>4062</b>	<b>4267</b>	<b>39284</b>
<b>For 24 ha</b>				<b>561624</b>	<b>88416</b>	<b>92880</b>	<b>97488</b>	<b>102408</b>	<b>942816</b>

At the present site Staggered Trench, Percolation Pit, Contour Trench, LBCD, Wire mess LBCD, Sub Surface Dyke will be taken up as per site requirement. For 24 ha the projected Cost is 24x39284/- = **Rs 9,42,816/-**

The approved Cost norm Matrix for SMC (Model-C) is at **Annexure VII**

## 16. Involvement of VSS & EPA

### a) Demographic Profile of Village Kerajodi

Village	No_HH	TOT_P	TOT_M	TOT_F	P_SC	P_ST	P_LIT
Kerajodi	367	1708	903	805	245	677	1041
%			52.87	47.13	14.34	39.64	60.95

The demographic profile of village Kerajodi (As per Census data-2011) indicates that the male female ratio is 891 female for 1000 male. The ST population constitutes about 39.64% and SC population constitutes about 14.34%

### b) Provisions for EPA

The Local Village Committee i.e. **Vana Surakshy Committee (VSS)**, Kerajodi will be involved in all activities pertaining to Compensatory Afforestation. For fulfilling their pretty village community requirement EPA (**Entry Point Activities**) will be taken up. At the time of execution, the activities to be taken up will be decided after due consultation with VSS / Villagers. For this purpose 15% of Plantation cost is proposed in this Scheme. (15% of Rs **25,43,664/-** = Rs 3,81,550/-). Hence a sum of **Rs 3,81,550/-** is proposed under EPA in this Plan.

**17. Estimated Plantation Cost over 24ha of CA land at Village Kerajodi:**

Sl no	Item	Base Cost per Ha	Total projected cost per ha (2023-24)	Total cost for 24 ha
1	Seedling Cost / 1000 no	50310	58025	334224
2	ANR @200 Plants	79274	105986	2543664
3#	Bamboo Twig Fencing /250rmt	89164	110214	890529
4	SMC (Model-C)	32343	39284	942816
4	EPA (15% of planting Cost)			381550
	<b>Total</b>			<b>5092783</b>

# calculated over 2.02km as per actual requirement.

**(Rupees Fifty Lakhs Ninety Two Thousand Seven hundred and Eighty three only)**

## Additional Compensatory Afforestation Land identified and Planting Scheme to Plant Balance seedlings required to be planted:

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### 18. Introduction:

It is proposed for diversion of 23.80 ha of Forest Land including 2.24ha of Forest land in Safety Zone coming within Kalarangiatta Chromite Mines of M/s Ferro Alloys Corporation. Against this diversion Proposal 24.00 ha of Non Forest land has been identified in village Kerajodi under Kankadahad Tahasil, District- Dhenkanal. On verification of identified CA land it is observed that gap planting @200 plants could be planted over 24.0 ha against requirement of 24000 seedlings @1000 seedlings per ha. Balance seedling i.e. (24000-4800) = 19200 seedlings are required to be planted in Degraded Forest land as per Working Plan Prescription.

Description of Site	Area	Seedling required for planting	No Seedling suggested for planting	Remark
Compensatory Afforestation Land Identified (NFL)	24 ha	24000 @1000 seedlings / ha	4800 @200 plants per Ha	ANR Mode
Balance seedlings required to be accommodated / Planted		19200		To be planted at Dolia RF
<b>Proposed site</b>				
Dolia RF	7 ha	@1600 / ha	11200	Block Plantation @1600 plant / ha
	17 ha	@500/ ha	8500	ANR@500 plants per ha
<b>Total seedlings to be Planted in Dolia RF</b>			<b>19700</b>	<b>Against 19200 required.</b>

### 19. Degraded Forest Land Identified & Provided:

Degraded Forest Land over an area of 24.00 ha has been identified at Dolia Reserved Forests under Mahabirod Range of Dhenkanal Division. The area finds place in Survey of India Topo sheet No (1:50000 Scale)



## 20. DGPS Survey:

The identified area in Dolia Reserved Forests has been surveyed by DGPS. The Latitude / Longitude of survey points are furnished below.

CO-ORDINATES OF C.A LAND BOUNDARY POINTS							
SI No	PONIT ID	LOGITUDE	LATITUDE	SI No	PONIT ID	LOGITUDE	LATITUDE
1	PO.1	85° 26' 20.115"	21° 4' 56.385"	18	PO.18	85° 25' 56.751"	21° 5' 21.099"
2	PO.2	85° 26' 22.528"	21° 4' 57.286"	19	PO.19	85° 25' 56.147"	21° 5' 19.754"
3	PO.3	85° 26' 25.652"	21° 4' 56.928"	20	PO.20	85° 25' 55.835"	21° 5' 16.836"
4	PO.4	85° 26' 27.053"	21° 4' 58.727"	21	PO.21	85° 25' 56.089"	21° 5' 16.182"
5	PO.5	85° 26' 23.642"	21° 4' 59.672"	22	PO.22	85° 25' 56.985"	21° 5' 15.836"
6	PO.6	85° 26' 22.031"	21° 5' 0.837"	23	PO.23	85° 25' 59.556"	21° 5' 15.564"
7	PO.7	85° 26' 24.093"	21° 5' 3.656"	24	PO.24	85° 26' 0.919"	21° 5' 15.328"
8	PO.8	85° 26' 13.750"	21° 5' 20.272"	25	PO.25	85° 26' 3.705"	21° 5' 14.237"
9	PO.9	85° 26' 9.435"	21° 5' 24.817"	26	PO.26	85° 26' 4.577"	21° 5' 12.117"
10	PO.10	85° 26' 5.945"	21° 5' 23.193"	27	PO.27	85° 26' 3.551"	21° 5' 9.867"
11	PO.11	85° 26' 10.703"	21° 5' 15.773"	28	PO.28	85° 26' 6.290"	21° 5' 8.962"
12	PO.12	85° 26' 8.862"	21° 5' 14.293"	29	PO.29	85° 26' 12.987"	21° 5' 10.120"
13	PO.13	85° 26' 3.672"	21° 5' 17.429"	30	PO.30	85° 26' 16.401"	21° 5' 8.281"
14	PO.14	85° 26' 0.345"	21° 5' 19.592"	31	PO.31	85° 26' 13.839"	21° 5' 4.989"
15	PO.15	85° 26' 0.085"	21° 5' 22.536"	32	PO.32	85° 26' 13.806"	21° 5' 2.004"
16	PO.16	85° 25' 59.046"	21° 5' 23.258"	33	PO.33	85° 26' 17.271"	21° 4' 59.950"
17	PO.17	85° 25' 57.745"	21° 5' 22.687"				

The Corresponding DGPS Map on Topo sheet and KML file are enclosed (In hard & Soft Copy)

## 21. Present Vegetation & Significance of the Site:

The area identified is near to Hanumantia Nalla. It is also adjacent to PWD Road leading to Dolia Village junction with MDR. The nalla is flowing just at Survey Point No 1. The area is partly eroded land and mostly degraded. At present Sal and its dry deciduous forest associates are observed. Species are Sal, Arjuna, Asan, Kendu, Verru, Bahada, Mahula, Dam Kurudu. Phoenix is also seen here and there to indicate a dry tract. Arjuna trees are noticed near to Hanumantia Nala. The site is prone to encroachment by inhabitants of nearby habitation.

The Dolia RF is close to Anantapur Reserved Forest which is habitat of Elephant. Anantapur RF is part of two important elephant corridors in the Division. The corridors are

- a) Kahneijena-Anantapur INTER-DISTRICT corridor and
- b) Maulabhanja Jiridamali- Anantapur INTER-DISTRICT corridor.

S/no	Name of the Corridor	Extends over Districts	Name of the Divisions	Length of corridor(km)	Width of corridor(km)	Total area(Sq.km)
7	Maulabhanja Jiridamali-Anantapur INTER-DISTRICT	Dhenkanal	Dhenkanal	6.5	0.25 - 0.28	1.55
8	Kahneijena-Anantapur INTER-DISTRICT	Angul-Dhenkanal	Angul	6.6	0.4 - 1.1	5.22

Frequent movement of Elephant from Anantapur RF to Dolia RF has been reported / observed. Hence development / increase of tree cover on identified site are desirable. The selected site is mostly barren and crop density is about 15% only.

## **22. Planting Model Suggested:**

- a) Block Planting @1600 plants per ha with 10 year maintenance over 7 ha ( 11200 plants )
- b) ANR @500 plants / ha over 17 ha ( 8500 plants)
- c) Total seedlings proposed for Planting 19700 no ( 11200+8500)

## **23. Block Plantation:**

### ***a) Survey, Demarcation and Pillar Posting:***

The identified area has been surveyed & pillars posted. It is to be resurveyed and missing pillars if any to be reposted as per Latitude / Longitude provided in the DGPS Map.

### ***b) Preparation of Treatment map (Digital map):***

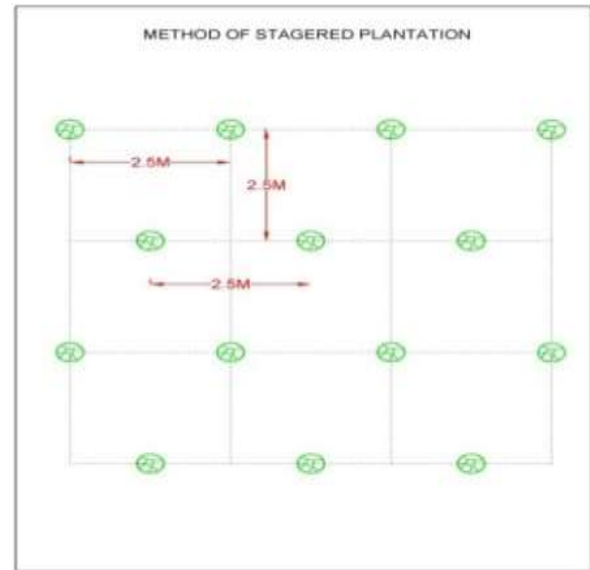
The Kml file of the area has been provided by the user agency after DGPS survey. The same will be updated with treatment design basing on physical position at the time of implementing the Plantation Scheme. The Range Officer will update the position with help of GIS cell of the Division / PCCF Office or through outsourcing.

**c) Site Preparation:**

After demarcation of the area, site preparation mostly clearing of invasive weeds / debris will be taken up as and where required.

**d) Alignment & Stacking:**

The plantation Model is Block Plantation @1600 Plants per ha. The area assigned for Block Plantation has been indicated in the Treatment map ( 1: 10000 Scale) & stacking will be taken up at a spacing of 2.5mx2.5m. The alignment will be of staggered manner to check runoff in sloppy terrain. The desired model is depicted in the right margin.



**e) Digging of Pits (45cmx45cmx45cm):**

It is proposed to dugout pits of size 45 cm x 45 cm x 45 cm preferably in month of February / March. The dugout earth will be kept at pit head on both sides separately. The top soil will be kept on one side and bottom soil on another side. Soil within 30cm from ground level will be considered as top soil and rest as bottom soil. The pits will be left for weathering due to Sun & Rain.

**f) Refilling of Pits & application of organic Compounds / CDM/ FYM:**

The pits will be refilled by altering the dugout soil of the pits i.e. top soil on bottom of the pit and bottom soil on top. Application of organic Compounds / CDM/ FYM & mixing the same properly before refilling is suggested. This will provide necessary nutrients to the plant as well as help in retaining soil moisture for a longer period.

**g) Transportation of Seedlings including short carriage & watering at Pit site.**

In the approved cost norm, provisions have been made to plant 18month old. As seedlings will be above 1m height invariable, careful transportation of seedlings will be of paramount importance. In case of top breaking of seedlings, the benefit of 18month old seedlings will be reduced substantially. Transportation of seedlings from Nursery site to Planting site and then short carriage has to be taken up carefully. Wherever water is available, the plants are

to be watered before short carriage to minimize the shock to plants during long carriage by tractors / vans etc.

#### ***h) Planting of Seedlings:***

After application of FYM/ CDM/ Organic manure, seedling will be planted carefully. The standard planting procedure is to be followed. As the pit size is of 45cm x 45cm x 45cm the following care will be taken during planting.

- Chemical fertilizer / insecticides applied as basal doze to be thoroughly mixed with soil.
- Seedlings collar zone will be at Ground Level or at best 2.5cm below the ground level. In no case it will not be more than 3cm below Ground Level.
- The Poly bags containing the seedlings are to be carefully removed. It is better to use a blade to cut open the bag so as to cause least disturbance to the ball of earth containing the seedlings.
- After planting the soil is to be compacted leaving 3" around the plant and the compact soil may be at Ground Level or 1" above the Ground level – allowance for soil settlement.
- In no case it should be a sunken around the plant.
- The planted plant should stand erect, if it is tilted due to speedy growth, a support with a stick collected locally to be provided.

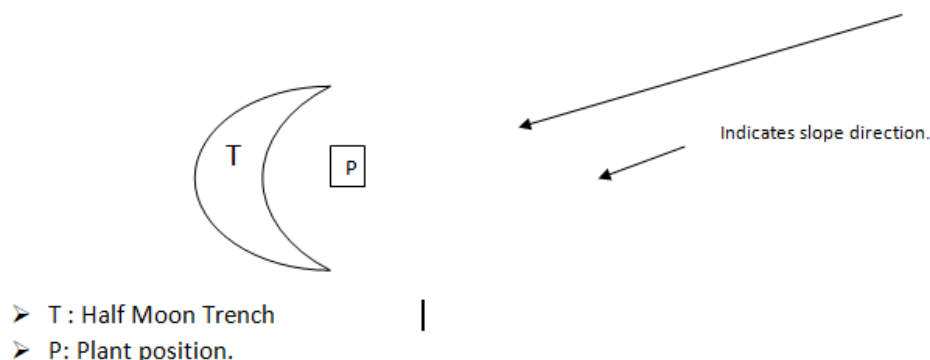
#### ***i) Casualty Replacement:***

Casualty replacement is an important operation to achieve a 100% survival in a plantation. After planting there is possibility of casualty in planted seedlings. There is a provision to replace casualty up to 10% in 1<sup>st</sup> year and 10% in 2<sup>nd</sup> year operation in the approved cost norm. The same is to be carried out with good promising seedlings those can come up to a height of previous planted seedlings. During replacement in 2<sup>nd</sup> year application of fertilizers etc as in 1<sup>st</sup> year is to be followed.

#### ***j) Weeding & application of Fertilizer:***

Two Weeding around the planted seedlings at a diameter of 1.00m has been prescribed in the approved cost norm. During 2<sup>nd</sup> weeding deep soil working around the plants at 1.00m diameter has also been prescribed. 1<sup>st</sup> weeding will be taken up just after one month of planting and 2<sup>nd</sup> weeding and soil working in month of September / October. As there is

occasional rainfall in October providing half moon trench in sloppy terrain around each plant is suggested. A half moon trench model is given below.



During weeding (1<sup>st</sup>& 2<sup>nd</sup>) there is a provision of application of fertilizer to plants. Application of NPK @30gms per plant x 2 times is suggested. In no case 2<sup>nd</sup> weeding can be delayed beyond 15<sup>th</sup> of October.

There is a provision of one weeding in the 2<sup>nd</sup> year (complete weeding), Soil working and manuring at a 1m diameter around the plant, the same is to be implemented as described for 1<sup>st</sup> Year.

#### ***k) Fire line Tracing & Inspection Path:***

Due to intensive protection grasses grow up within plantation. It is better to allow local people / VSS to cut the grasses take for stall feeding. Due to fallen dry leaves (Due to leaf shedding), there is possibility of fire hazards in February / March. It is suggested to have fire line at a width of minimum 3m all around the planting area, maintain inter partitioned line / both sides of foot path as a Fire line ( minimum 3m wide in 1<sup>st</sup> year and 2m in subsequent year). These lines will be maintained as inspection path also. It will be maintained till completion of 10<sup>th</sup> year.

#### ***l) Watch & Ward***

Watch and ward is essentially required against grazing in first two years and illicit felling in subsequent years. Adequate provisions have been made in the approved cost norm. Watch & ward provisions will be implemented as per provide norm. Besides watch & ward provided it is proposed to provide Bamboo Twig & Thorns fence around the Selected / identified area.

## **24. ANR @500 seedling over 17 ha:**

The silvicultural tending, planting of seedlings has been already described under Para 11. The same is to be followed.

## **25. Nursery & Choice of Species:**

### **a) Seedlings required:**

For required seedlings i.e. 19700 +10% casualty replacement in 1<sup>st</sup> year + 10% casualty replacement in 2<sup>nd</sup> year = 23640 seedlings will be raised at nearby departmental Nursery. 18 month old seedlings will be planted as per guidelines and provisions in the cost norm

### **b) Choice of Species:**

Considering the nature of soil and plant succession stage the following species are suggested for planting. As it is an elephant movement zone species liked by elephants will be given an edge over other species.

- i) *Acacia Catechew (Khair)*
  - ii) *Aegle marmelos*
  - iii) *Bombax Ceiba ( Simili)*
  - iv) *Cassia fistula (Sunari)*
  - v) *Dillenia indica ( Ou)*
  - vi) *Embllica officinalish ( Anla)*
  - vii) *Limonia acidissima (Kaintha)*
  - viii) *Mangifera indica ( Aamba)*
  - ix) *Pterocarpus marsupium ( Bija)*
  - x) *Terminalia belerica (Bahada)*
  - xi) *Terminalia tomentosa ( Asana)*
  - xii) *Syzygium cumini (Jamu)*
- ( NB: The area is not a bamboo Zone)

### **c) Nursery Cost :**

The approved cost norm for raising 1000 seedling is Rs 58025 projected for the year 2023-24. For 23640 seedlings the cost comes to Rs 13,71,711/-

d) The year wise cost break up is as follows

Year	1 <sup>st</sup> FY	2 <sup>nd</sup> FY	3 <sup>rd</sup> FY	Total
For 1000 seedling	11160	39673	7192	58025
<b>For 23640 seedlings</b>	<b>263822</b>	<b>937870</b>	<b>170019</b>	<b>1371711</b>

## 26. Bamboo Twig & Thorn Fencing:

### Justification for Providing Bamboo Twig Fencing:

The selected area is in forest block. Elephant and other wildlife movement are observed. Animals like Elephant, Bear, Python, Jungal Cat, Hyena, Fox, Barking Deer, Mongoose, Snakes, Lizards, Rabbits, fowl etc are residing in and the nearby forests. As this is considered as forests all around and movement of wild animals are seen, it is proposed to provide Bamboo Twigs Fencing.

#### i) Periphery of the identified Land:

The periphery of the identified land is 3.60 km (3600 meter). For fencing of 3600 meter, the required cost is calculated to be Rs 15,87,082/- as given below.

#### ii) Financial Projection for Fencing:

The cost norm matrix approved for bamboo twig fencing is as follows.

Cost Norm Matrix approved for bamboo twig fencing (for 1 ha / 250m)									
	(21-22)	(22-23)	0 <sup>th</sup> (23-24)	1 <sup>st</sup> (24-25)	2 <sup>nd</sup> (25-26)	3 <sup>rd</sup> (26-27)	4 <sup>th</sup> (27-28)	5 <sup>th</sup> (28-29)	Total
Base norm	0	45759	7720	11895	11895	11895			89164
2023-24			0	52971	9384	15182	15940	16737	110214
<b>For 3600 m</b>				<b>762782</b>	<b>135130</b>	<b>218621</b>	<b>229536</b>	<b>241013</b>	<b>1587082</b>

The cost norm for 2023-24 is Rs 110214/- per 1ha / 250 Rmt. The proposed cost for 3600m for bamboo twig & thorn fencing comes to **Rs 15,87,082/-**

The approved base cost norm and matrix is at annexure-VI.

## 27. Soil & Moisture Conservation:

The area taken for planting balance seedlings is of plain and slightly sloppy area. For better development of both natural and planted seedlings the Soil & Conservation of Moisture measures as prescribed under Model C is suggested. Under this model Soil Conservation measure structures like Staggered Trench, Percolation Pit, Contour Trench, Graded Earthen Bond, LBCD, Wire mesh LBCD, Sub Surface Dyke, & WHS as per Slope will be Provided. For the selected site LBCD and contour bonding will be intensively implemented under SMC. As per the approved matrix the cost projected for the Year 2022-23 is as furnished below.

Matrix for SMC per Ha									
	(21-22)	(22-23)	0 <sup>th</sup> (23-24)	1 <sup>st</sup> (24-25)	2 <sup>nd</sup> (25-26)	3 <sup>rd</sup> (26-27)	4 <sup>th</sup> (27-28)	5 <sup>th</sup> (28-29)	Total
Base norm	0	20215	3032	3032	3032	3032			32343
<b>2023-24</b>			<b>0</b>	<b>23401</b>	<b>3684</b>	<b>3870</b>	<b>4062</b>	<b>4267</b>	<b>39284</b>
<b>For 24 ha</b>				<b>561624</b>	<b>88416</b>	<b>92880</b>	<b>97488</b>	<b>102408</b>	<b>942816</b>

For 24 ha the cost required is  $24 \times 39284 = \text{Rs } 9,42,816/-$

## 28. Provision for watering:

The site selected is of plain and eroded land. It is proposed to provide watering by Bore well with Diesel Generator Set over area of 7 hectares covered under AR plantation @1600 plants per ha. The cost norm for 5 ha or part thereof has been provided in approve cost norm. (Watering model-W-II)

Sl No	Commencement Year	0 <sup>th</sup> Yr	1 <sup>st</sup> Yr	2 <sup>nd</sup> Yr	3 <sup>rd</sup> Yr	4 <sup>th</sup> Yr	5 <sup>th</sup> Yr	Total
1	Base Norm / ha	5100	52100	78410	78410	78410	78410	370840
2	2023-24/ ha	56228	60312	95299	100076	105076	110330	527321
	<b>For 7 ha</b>	<b>393596</b>	<b>422184</b>	<b>667093</b>	<b>700532</b>	<b>735532</b>	<b>772310</b>	<b>3691247</b>

## 29. Planting Cost projection:

### a) For Block Plantation @ 1600 plants per Ha

The approved cost norm and Matrix for 1600 plant planting in Block Plantation mode has been provided at Annexure VIII. The cost for 2023-24 year is as follows.



Cost Norm Matrix For Block plantation (@1600 Plants per Hectare)															
Sl no	Commencement of year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	Total cost
Base norm		30500	147361	29639	19148	6857	8490	6857	6857	6857	6857	6857			276280
1	2023-24			33626	170588	36023	24438	9190	9648	12543	10637	11170	11727	<b>12313</b>	<b>341903</b>
	<b>For 7 ha</b>			<b>235382</b>	<b>1194116</b>	<b>252161</b>	<b>171066</b>	<b>64330</b>	<b>67536</b>	<b>87801</b>	<b>74459</b>	<b>78190</b>	<b>82089</b>	<b>86191</b>	<b>2393321</b>

The cost for Block Plantation over 7 ha @ 1600 plants per ha comes to **Rs 23,93,321/-**

**b) For ANR @500 Plants per Ha.**

The approved cost norm and Matrix for ANR @500 Plants per Ha in ANR mode has been provided at Annexure - IX. The cost for 2023-24 year is as follows.

Cost Norm Matrix For ANR plantation (@500 Seedlings per hectare )															
Sl no	Commencement of year	I	II	III (0 <sup>th</sup> Yr)	IV (1 <sup>st</sup> Yr)	V (2 <sup>nd</sup> yr)	VI (3 <sup>rd</sup> Yr)	VII (4 <sup>th</sup> Yr)	VIII (5 <sup>th</sup> Yr)	IX (6 <sup>th</sup> Yr)	X (7 <sup>th</sup> Yr)	XI (8 <sup>th</sup> Yr)	XII (9 <sup>th</sup> Yr)	XIII (10 <sup>th</sup> Yr)	Total cost
Base norm		13400	48871	12316	8900	4800	4800	4800	4800	4800	4800	4800			117087
	2023-24			14774	56575	14969	11359	6432	6754	7092	7447	7819	8209	8621	150051
	<b>For 17 ha</b>			<b>251158</b>	<b>961775</b>	<b>254473</b>	<b>193103</b>	<b>109344</b>	<b>114818</b>	<b>120564</b>	<b>126599</b>	<b>132923</b>	<b>139553</b>	<b>146557</b>	<b>2550867</b>

The cost for ANR with planting @500 plants per ha comes to **Rs 25,50,867/-**

**30. Total Plantation Cost for Additional CA Land over 24 ha:**

Sl no	Item	Base Cost per Ha	Total projected cost per ha ( 2023-24)	Total cost for 7ha AR+ 17 ha ANR@500/-
1	Seedling Cost / 1000 no	50310	58025	1371711
2	AR 7 ha @1600 plants / ha	276280	341903	2393321
3	ANR @500 Plants	117087	1500	2550867
4#	Bamboo Twig Fencing /250 rmt over 3600 Rmt	89164	110214	1587082
5	SMC (Model-C)	32343	39284	942816
6	Watering by Bore well with Diesel Generator Set over AR Plantation -7 ha	370840	527321	3691247
	<b>Total</b>			<b>12537044</b>

**(One Crore Twenty Five Lakh Thirty Seven Thousand & Forty Four Only)**

**31. Total Financial Out lay for Compensatory Afforestation & for planting of balance seedlings:**

Sl No	Description	Amount	Remark
1	Compensatory afforestation cost over 24 ha of NFL at village Kerajodi	5092783/-	Para 17 of the Scheme
2	Planting of balance Seedlings in Dolia RF over 24 ha DFL	12537044/-	Para 30 of the Scheme
	<b>G. Total</b>	<b>1,76,29, 827/-</b>	

**(Rupees One Crore Seventy Six Lakh Twenty Nine Thousand Eight Hundred & Twenty Seven Only)**

NB: No cost escalation has been provided as the cost norm includes annual enhancement of 5% both labour & material component annually.

**Encl:**

**A- Documents:**

- 1) Letter No153 dated 05.02.2016 of Collector, Dhenkanal allocation of CA land. (Annexure-I)
- 2) Letter No5-ORC 288/2016-BHU dated 18.11.2016 of MoEF &CC, IRO, Bhubaneswar (**Annexure-II**)
- 3) Authenticating of DGPS Map of CA Land identified at village Kerajodi by ORSAC vide his letter no ORSAC /DGPS-FD/1064/2022/2204(2) Dated 23.06.2022 (Annexure-III)
- 4) Notification of Kerajodi A Protected Forests Letter No 10F(Cons)77/2020/ 19366/F&E dated 01.12.2020 (Annexure-IVA)
- 5) Notification of Kerajodi B Protected Forests Letter 10F(Cons)77/2020/ 19373/F&E dated 01.12.2020(Annexure-IVB)
- 6) Notification of Kerajodi C Protected Forests Letter10F(Cons)77/2020/ 19380/F&E dated 01.12.2020 (Annexure-IVC)
- 7) Approved cost norm for one ha ANR With gap planting @200 Plants per ha (Annexure V).
- 8) Approved Cost norm & matrix for Bamboo Twig Fencing: (Annexure-VI)
- 9) Approved Cost norm Matrix for SMC ( Model-C): (**Annexure VII**)
- 10)Approved Cost Norm Block Plantation @1600 plants per ha model (Annexure VIII).
- 11)Approved Cost Norm for ANR @500 Plants per Ha in ANR mode(Annexure IX).

**B- Maps & Plates:**

- I. Cadastral Map of CA land identified at Village Kerajodi, (Plate-I)
- II. DGPS map of the CA land at Kerajodi (Authenticated by ORSAC) (Plate-II)
- III. Corresponding Topo map (1:50000 Scale) (Plate-III)
- IV. KML File in CD
- V. Add. CA land identified at Dolia RF ( DGPS Map) (Plate-IV)
- VI. Treatment Map of Add. CA land Dolia RF (1:1000 Scale) (Plate-V)
- VII. KML File in CD

  
Divisional Forest Officer,  
Dhenkanal Division,  
Dhenkanal Division



DISTRICT OFFICE, DHENKANAL,

No. 153 / Dt. 05/02/2016

To

Divisional Forest Officer,  
Dhenkanal Division.

Sub:

Identification of suitable non-forest Govt. land for compensatory afforestation purpose for Kalarangiatta Chromite Mines of M/s. FACOR Ltd. In Jajpur District.

Ref:

Memo No.904/Dt.29.01.2016 of DFO, Cuttack Forest Division.

Sir,


With reference to the letter on the subject cited above, I am to say that the Tahasildar, Kankadahad has jointly identified an area of Ac.59.50 of Non-Forest Govt. land with the Forest Range Officer, Kamakhyanagar, East Range, for the purpose of compensatory afforestation for Forest Diversion proposal for Kalarangiatta Chromite Mines of M/s. FACOR Ltd. In Jajpur District. The Details of land schedule and land plan attached herewith for kind reference.

You are, therefore, requested to file necessary requisition in Form No.1A along with other documents required as per OGLS Act/Rules before the Tahasildar, Kankadahad, for allotment of the identified non-forest Govt. land as per the requirement of M/s. FACOR Ltd for compensatory afforestation purpose.

Yours faithfully,

  
Addl. District Magistrate,  
Dhenkanal.
Memo No. 154 / Rev, Dt. 05/02/2016

Copy forwarded to the General Manager, Kalarangiatta Chromite Mines of M/s. FACOR Ltd., Jajpur, for information and necessary action.

  
Addl. District Magistrate,  
Dhenkanal.
Memo No. 155 / Rev, Dt. 05/02/2016

Copy forwarded to the Divisional Forest Officer, Cuttack Forest Division, for information with reference to his letter No.903/Dt.29.01.2016.

  
Addl. District Magistrate,  
Dhenkanal.



# OFFICE OF THE TAHASILDAR, KANKADAHAD

No. \_\_\_\_\_/dt. \_\_\_\_\_

To,

The Deputy Collector Revenue,  
Collectorate, Dhenkanal.

Sub.: Identification of suitable non-forest Govt. land to the extent of 23.80 Hectares (Ac. 59.50) for compensatory afforestation purpose by kalarangiatta Chromite Mines of M/s. FACOR Ltd. in Jajpur Distrist.

Ref.: Letter No. 13/ Rev, Dt. 06.01.2016 of District office Dhenkanal.

Madam,

With reference to the letter on the subject cited above, I am to submit herewith the land schedule along with land plan of Ac. 59.50 of non forest Govt. land for the purpose of compensatory afforestation for M/s. FACOR Ltd. After duly identified at this level at the village- Kerajodi under this Tahasil area. The said schedule of non-forest land is free from encroachment and all encumbrances as per the report of RI, Kanakdahad.

## LAND SCHEDULE

Village	Khata No.	Plot No.	Area in acre	Kisam	Remarks
Kerajodi	155(AAA)	315	Ac.27.25 out of Ac. 62.00	Parbat-I	Part
		318	Ac.32.25 out of Ac. 56.25	Parbat-I	Part
Total area in acre			Ac. 59.50		

Enclousers:- As above


Yours faithfully,

Sd/-

Tahasildar,  
Kankadahad

Memo No. 210 /Date. 30.01.16

Copy forwarded to the General Manager, Kalarangiatta Chorimite Mines of M/s. FACOR Ltd. For information with reference to Memo No. 14 /dt. 06.01.2016 of District Office, Dhenkanal for information and necessary action.

  
Tahasildar,  
Kankadahad



Government of India/ भारत सरकार  
Ministry of Environment, Forest & Climate Change/ पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय  
Eastern Regional Office/ पूर्वी क्षेत्रीय कार्यालय  
A/3, Chandrasekharpur/ ए/३, चन्द्रसेखरपुर  
Bhubaneswar - 751 023/ भुवनेश्वर - ७५१ ०२३



Telephone: 0674-2301213, 2301248, 2302452, 2302453. Fax: 0674-2302432. E-mail: roez.bsr-mef@nic.in

No.5-ORC288/2016-BHU

18<sup>th</sup> November, 2016

To

The Principal Secretary,  
Forest & Environment Deptt.,  
Government of Odisha  
Sachivalaya,  
Bhubaneswar - 751 001.

Sub: Diversion of 23.80 ha of forest land (as per Sabik records as on 25.10.1980) including 2.240 ha of forest land in safety zone area for Chromite ore mining from their Kalarangiatta Chromite Mines by M/s Ferro Alloys Corporation Ltd. (FACOR Ltd.) in Cuttack Forest Division coming under jurisdiction of Sukinda Tehsil of Jajpur district, Odisha.

Ref: 1) This office letter of even number dated 12.08.2016.  
2) State Govt. letter No.10F(Cons)228/2016-17975/F&E dated 28.09.2016.

Sir,

With subject and reference cited above, I am directed to inform that the shape files of proposed C.A. area submitted by State Govt. vide letter under reference-2 has been examined in the Decision Support System (DSS) of Forest Survey of India and it is observed that out of 24 ha C.A. area, 10 ha area contains MDF and balance 14 ha is open forest.

It is therefore requested to kindly identify alternate patch of non-forest land for compensatory afforestation and submit the same along with shape file to this office for further necessary action.

Yours faithfully,

(R.K. Samal)  
Conservator of Forests (Central)

Copy to:

1. The Addl. PCCF (Nodal), O/o the PCCF, Forest Department, Govt. of Odisha, Aranya Bhawan, Chandrasekharpur, Bhubaneswar-751 023 for kind information and necessary action.
2. The Director (Mines), M/s FACOR Limited, Laxmi Bhawan, Bhadrak - 756 100, Odisha for information and necessary action.

  
Conservator of Forests (Central)





**ODISHA SPACE APPLICATIONS CENTRE (ORSAC)**  
Department of Science & Technology, Government of Odisha

**Annexure-III**

ORSAC/DGPS-FD/1064/2022/ 2204/2 dt. 23.6.22

To

**The D.F.O.,**  
**Dhenkanal Forest Division,**  
**Dhenkanal, Email: dfo.dhenkanal@gmail.com**

Sub: Verification of DGPS Survey of Compensatory Afforestation land in Kerajodi village, Kankadahad Tahsil, Dhenkanal district in lieu of forest areas proposed for diversion for Kalarangiatta Chromite Mines at Kalarangiatta in Sukinda, Jajpur District of M/s FACOR.

Ref: i) Your letter no. 3945 3F/ (Misc.)/152/2022 dated 04.06.2022.  
ii) M/s FACOR letter no. FACCOR/bhadrak/Legal/121/2022 Dt.11.05.2022.

Sir,

With reference to the above it is to inform you that, the DGPS surveyed maps showing Compensatory Afforestation land in Kerajodi village, Kankadahad Tahsil, Dhenkanal district in lieu of forest areas proposed for diversion for Kalarangiatta Chromite Mines at Kalarangiatta in Sukinda, Jajpur District of M/s FACOR has been verified by ORSAC and is certified that the map is correct at a confidence level of 95%. Total Compensatory Afforestation land comes in 2 part plots in one cadastral sheet of Kerajodi Revenue villages under Kankadahad Tahsil, Dhenkanal district and works out to 24.261Ha. from the submitted .shp files against the allotted area of 24.079Ha/59.5Ac. from the submitted record. Detail plot wise comparative statistics of forest areas proposed for diversion is attached.

Thanking You.

Yours faithfully

Encl: One hard copy map

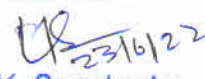
**(M. K. Sanabada)**

**Scientist 'D'**

Copy to: M/s Ferro Alloys Corporation Ltd. (Vedanta), D.P. Nagar, Randia, Bhadrak-756135, Odisha for information.

**STATISTICS OF COMPENSATORY AFFORESTATION LAND(NFL) IDENTIFIED AT VILLAGE KERAJODI  
IN KANKADAHAD TAHASIL, DHENKANAL DISTRICT IN LIEU OF FOREST AREA PROPOSED FOR  
DIVERSION IN RESPECT TO KALARANGIATTA CHROMITE MINES OF M/S FERRO ALLOYS  
CORPORATION LTD.**

SL. NO.	VILLAGE NAME	PLOT NO.	KISSAM	ALLOTED AREA AC.	ALLOTED AREA HA.	MAP AREA HA.
1	KERAJODI	318 PART	PARBAT-I	32.25	13.051	12.778
2	KERAJODI	315 PART	PARBAT-I	27.25	11.028	11.483
<b>TOTAL CA LAND AREA</b>				<b>59.5</b>	<b>24.079</b>	<b>24.261</b>

  
**Shri M. K. Sanabada**  
**Scientist, ORSAC**  
**Bhubaneswar**



GOVERNMENT OF ODISHA  
FOREST & ENVIRONMENT DEPARTMENT

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## NOTIFICATION

No.FE-DIV-FLD-0051-2020- 19366 / F&E, Date 01-12-2020  
10F (Cons) 77/2020

In exercise of the powers conferred under Section 33 of the Odisha Forest Act 1972 (Odisha Act 14 of 1972), the State Government do hereby declare that the following land situated in Village- **Kerajodi** under Kankadahad Tahasil in the District of Dhenkanal mutated and transferred in favour of Forest & Environment Department for the purpose of raising compensatory afforestation thereon against the proposed diversion of 360.01ha. of forest land [160.838ha Sabik Kisam forest land + 199.172ha forest land (RF&KF)] within total mining lease area of 403.3238ha for Katamati Iron Ore Mines of M/s Tata Steel Ltd. vide in-principle approval order No.8-01/2018-FC dtd.13.03.2019 of Government of India, Ministry of Environment, Forests & Climate Change (FC Division), New Delhi under Section 2 of the Forest (Conservation) Act, 1980, the limits of which are specified below and the area of which is 11.5381ha (28.511 acres), shall be Protected Forests with effect from the date of issue of the Notification and shall be known as "Kerajodi-A Protected Forest".

**Forest Block:**

Name of the Protected Forest : Kerajodi-A Protected Forest  
Area in Ha : 11.5381ha  
Area in acres : 28.511Ac.  
Name of the Village : Kerajodi  
Name of the Police Station : Kamakhyanagar No.04  
Name of the Tahasil : Kankadahad  
Name of the Sub-Division : Kamakhyanagar  
Name of the District : Dhenkanal

**Land Schedule:**

Village	Khata No.	Plot No.	Kisam	Total area in Ha.	Boundary description			
					North	South	East	West
Kerajodi	145/216	01/3347	Parbat- 1	6.2771	Madhabmunda Village	Plot No. 38/3348	Plot No. 1(Pt), 2	Jhanjiriberna Village
		38/3348		5.2609	Plot No. 01/3347 & 1(Pt)	Plot No. 39	Plot No. 38(Pt)	Jhanjiriberna Village
Total				28.511Ac (11.5381)ha				

By Order of the Governor



(DR. MONA SHARMA)

Additional Chief Secretary to Government

By e-mail: [deputydirectorpp@rediffmail.com](mailto:deputydirectorpp@rediffmail.com)

Memo No. 19367 /F&E Date 01-12-2020

Copy with soft copy (in CD form) forwarded to the Director of Printing, Stationery and Publication, Odisha Cuttack for publication in an extra-ordinary issue of the Odisha Gazette and supply 10 copies of printed notification each to F&E Deptt./Director of Land Records and Surveys, Odisha, Cuttack/ Collector, Dhenkanal / D.F.O., Dhenkanal Forest Division/Tahasildar-Kankadahad, Dist- Dhenkanal.

2. The Notification is statutory and may be assigned SRO number.

Memo No. 19368 /F&E Date 01-12-2020 *dy.intro*  
Special Secretary to Government

Copy forwarded to the Assistant Inspector General of Forests, Govt. of India, Ministry of Environment & Forest and Climate Change, (F.C. Division), Indira Paryavaran Bhawan, Jor Bagh, Aliganj Road, New Delhi-110003/ Deputy Director General of Forests (Central), Govt. of India, MoEF&CC, Eastern Regional Office, A/3, Chandrasekharpur, Bhubaneswar-23 for information and necessary action.

Memo No. 19369 /F&E Date 01-12-2020 *dy.intro*  
Special Secretary to Government

Copy forwarded to the Revenue & Disaster Management Deptt./ Director of Land Records and Survey, Odisha, Cuttack/ R.D.C.(Northern Division) Sambalpur, Dist-Sambalpur/ Collector & District Magistrate, Dhenkanal/Tahasildar-Kankadahad, Dist-Dhenkanal for information and necessary action.

Memo No. 19370 /F&E Date 01-12-2020 *dy.intro*  
Special Secretary to Government

Copy forwarded to the Principal Chief Conservator of Forests, Odisha Bhubaneswar/ Principal Chief Conservator of Forests (Forest Diversion) & Nodal Officer, FC Act O/o the PCCF, Odisha/ Regional Chief Conservator of Forests, Angul Circle/ Regional Chief Conservator of Forests, Rourkela Circle/ D.F.O., Dhenkanal Forest Division/ D.F.O., Keonjhar Forest Division for information and necessary action.

Memo No. 19371 /F&E Date 01-12-2020 *dy.intro*  
Special Secretary to Government

Copy forwarded to the Head, State Portal, I.T. Centre, Odisha Secretariat, Bhubaneswar for information and necessary action/ (5 spare copies for G.F).

Memo No. 19372 /F&E Date 01-12-2020 *dy.intro*  
Special Secretary to Government

Copy forwarded to the Under Secretary to Government, Office Establishment Section, Forest & Environment Department for information and necessary action with reference to their letter No.21646/F&E dtd.22.11.2016.

*dy.intro*  
Special Secretary to Government

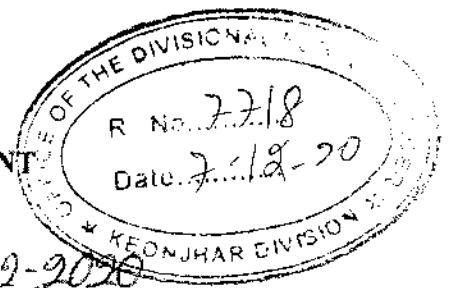
# Annexure-IVB

## GOVERNMENT OF ODISHA FOREST & ENVIRONMENT DEPARTMENT

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### NOTIFICATION

No.FE-DIV-FLD-0051-2020- 19373 / F&E, Date 01-12-2020  
10F (Cons) 77/2020



In exercise of the powers conferred under Section 33 of the Odisha Forest Act 1972 (Odisha Act 14 of 1972), the State Government do hereby declare that the following land situated in Village-Kerajodi under Kankadahad Tahasil in the District of Dhenkanal mutated and transferred in favour of Forest & Environment Department for the purpose of raising compensatory afforestation thereon against the proposed diversion of 360.01ha. of forest land [160.838ha Sabik Kisam forest land + 199.172ha forest land (RF&KF)] within total mining lease area of 403.3238ha for Katanati Iron Ore Mines of M/s Tata Steel Ltd. vide in-principle approval order No.8-01/2018-FC dtd.13.03.2019 of Government of India, Ministry of Environment, Forests & Climate Change (FC Division), New Delhi under Section 2 of the Forest (Conservation) Act, 1980, the limits of which are specified below and the area of which is 51.5724ha (127.438 acres), shall be Protected Forests with effect from the date of issue of the Notification and shall be known as "Kerajodi-B Protected Forest".

#### Forest Block:

Name of the Protected Forest : Kerajodi-B Protected Forest  
Area in Ha : 51.5724ha  
Area in acres : 127.438Ac.  
Name of the Village : Kerajodi  
Name of the Police Station : Kamakhyanagar No.04  
Name of the Tahasil : Kankadahad  
Name of the Sub-Division : Kamakhyanagar  
Name of the District : Dhenkanal

#### Land Schedule:

Village	Khata No.	Plot No.	Kisam	Total area in Ha.	Boundary description			
					North	South	East	West
Kerajodi	145/216	310/3349	Parbat-I	6.4750	Plot No.84	Plot No. 311/3350, 311(Pt)	Plot No. 294	Plot No. 310(Pt)
		311/3350		9.7125	Plot No.310/3349	Plot No. 312/3351	Plot No.294, 326, 327, 328	Plot No. 311(Pt)
		312/3351		13.7593	Plot No.326, 327, 329, 330, 337, 311/3350, 335	Plot No. 325, 314(Pt)	Plot No.341, 342, 343, 344, 371,395	Plot No. 312(Pt)
		395		13.0511	Plot No.371	Plot No. 396, 397	Plot No.389, 391, 392, 393, 394, 398/3358, 399	Plot No. 312/3351, 325
		398/3358		8.5745	Plot No.399,401	Plot No. 398(Pt)	Kerajodi Sheet No. 5	Plot No. 395, 397
Total				127.438Ac (51.5724)ha				

By Order of the Governor

*(Signature)*

(DR. MONA SHARMA)

Additional Chief Secretary to Government

By e-mail: [deputydirectorpp@rediffmail.com](mailto:deputydirectorpp@rediffmail.com)

Memo No. 19374 /F&E Date 01-12-2020

Copy with soft copy (in CD form) forwarded to the Director of Printing, Stationery and Publication, Odisha Cuttack for publication in an extra-ordinary issue of the Odisha Gazette and supply 10 copies of printed notification each to F&E Deptt./Director of Land Records and Surveys, Odisha, Cuttack/ Collector, Dhenkanal / D.F.O., Dhenkanal Forest Division/Tahasildar-Kankadahad, Dist- Dhenkanal.

2. The Notification is statutory and may be assigned SRO number.

Memo No. 19375 /F&E Date 01-12-2020

Copy forwarded to the Assistant Inspector General of Forests, Govt. of India, Ministry of Environment & Forest and Climate Change, (F.C. Division), Indira Paryavaran Bhawan, Jor Bagh, Aliganj Road, New Delhi-110003/ Deputy Director General of Forests (Central), Govt. of India, MoEF&CC, Eastern Regional Office, A/3, Chandrasekharapur, Bhubaneswar-23 for information and necessary action.

Memo No. 19376 /F&E Date 01-12-2020

Copy forwarded to the Revenue & Disaster Management Deptt./ Director of Land Records and Survey, Odisha, Cuttack/ R.D.C.(Northern Division) Sambalpur, Dist-Sambalpur/ Collector & District Magistrate, Dhenkanal/Tahasildar-Kankadahad, Dist-Dhenkanal for information and necessary action.

Memo No. 19377 /F&E Date 01-12-2020

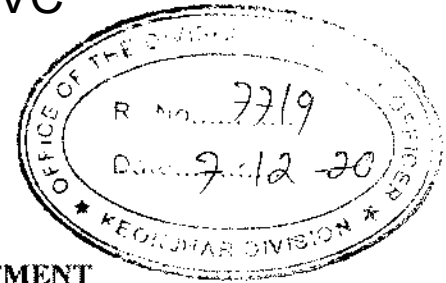
Copy forwarded to the Principal Chief Conservator of Forests, Odisha Bhubaneswar/ Principal Chief Conservator of Forests (Forest Diversion) & Nodal Officer, FC Act O/o the PCCF, Odisha/ Regional Chief Conservator of Forests, Angul Circle/ Regional Chief Conservator of Forests, Rourkela Circle/ D.F.O., Dhenkanal Forest Division/ D.F.O., Keonjhar Forest Division for information and necessary action.

Memo No. 19378 /F&E Date 01-12-2020

Copy forwarded to the Head, State Portal, I.T. Centre, Odisha Secretariat, Bhubaneswar for information and necessary action/ (5 spare copies for G.F).

Memo No. 19379 /F&E Date 01-12-2020

Copy forwarded to the Under Secretary to Government, Office Establishment Section, Forest & Environment Department for information and necessary action with reference to their letter No.21646/F&E dtd.22.11.2016.



GOVERNMENT OF ODISHA  
FOREST & ENVIRONMENT DEPARTMENT

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**NOTIFICATION**

No.FE-DIV-FLD-0051-2020-19380 / F&E, Date 01-12-2020

10F (Cons) 77/2020

In exercise of the powers conferred under Section 33 of the Odisha Forest Act 1972 (Odisha Act 14 of 1972), the State Government do hereby declare that the following land situated in Village-Kerajodi under Kankadahad Tahasil in the District of Dhenkanal mutated and transferred in favour of Forest & Environment Department for the purpose of raising compensatory afforestation thereon against the proposed diversion of 360.01ha. of forest land [160.838ha Sabik Kisam forest land + 199.172ha forest land (RF&KF)] within total mining lease area of 403.3238ha for Katamati Iron Ore Mines of M/s Tata Steel Ltd. vide in-principle approval order No.8-01/2018-FC dtd.13.03.2019 of Government of India, Ministry of Environment, Forests & Climate Change (FC Division), New Delhi under Section 2 of the Forest (Conservation) Act, 1980, the limits of which are specified below and the area of which is 97.7277ha (241.490acres), shall be Protected Forests with effect from the date of issue of the Notification and shall be known as "Kerajodi-C Protected Forest".

**Forest Block:**

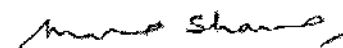
Name of the Protected Forest : Kerajodi-C Protected Forest  
Area in Ha : 97.7277ha  
Area in acres : 241.490Ac.  
Name of the Village : Kerajodi  
Name of the Police Station : Kamakhyanagar No.04  
Name of the Tahasil : Kankadahad  
Name of the Sub-Division : Kamakhyanagar  
Name of the District : Dhenkanal

**Land Schedule:**

Village	Khata No.	Plot No.	Kisam	Total area in Ha.	Boundary description			
					North	South	East	West
Kerajodi	145/216	313/3352	Parbat-I	6.8797	Kirtanpur Village	Plot No. 314/3353	Plot No. 313(Pt)	Kirtanpur Village
		314/3353		7.6890	Plot No. 313/3352, 313(Pt)	Plot No. 315/3354, 315(Pt)	Plot No. 314(Pt)	Kirtanpur Village
		315/3354		12.1406	Plot No. 314/3353	Plot No. 316/3355	Plot No. 315(Pt)	Kantapal Village & Kirtanpur Village
		316/3355		6.9201	Plot No. 315/3354	Plot No. 317 & 316(Pt)	Plot No. 316(Pt)	Kantapal Village

				Kantapal Village	318/3356	
317		0.2388	Plot No. 316/3355, 318/3356	Kantapal Village	Kantapal Village	Kantapal Village
318/3356		9.7125	Plot No. 318(Pt)	Plot No. 317, 320, Kantapal Village	Plot No. 319/3357	Plot No. 316/3355, 316 (Pt)
319/3357		10.9468	Plot No. 319(Pt)	Plot No. 320	Plot No. 321, 323	Plot No. 318/3356
320		29.2386	Plot No. 318/3356, 319/3357, 321, 322	Kantapal Village	Kantapal Village	Kantapal Village
321		8.0937	Plot No. 323	Plot No. 320	Plot No. 322	Plot No. 319/3357
322		5.8679	Plot No. 323	Plot No. 320, Kantapal Village	Plot No. 323	Plot No. 321
<b>Total</b>		<b>241.490Ac</b>	<b>(97.7277)ha</b>			

By Order of the Governor



(DR. MONA SHARMA)

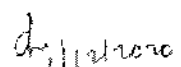
Additional Chief Secretary to Government

By e-mail: [deputydirectorpp@rediffmail.com](mailto:deputydirectorpp@rediffmail.com)

Memo No. 19281 /F&E Date 01.12.2020

Copy with soft copy (in CD form) forwarded to the Director of Printing, Stationery and Publication, Odisha Cuttack for publication in an extra-ordinary issue of the Odisha Gazette and supply 10 copies of printed notification each to F&E Deptt./Director of Land Records and Surveys, Odisha, Cuttack/ Collector, Dhenkanal / D.F.O., Dhenkanal Forest Division/Tahasildar-Kankadahad, Dist- Dhenkanal.

2. The Notification is statutory and may be assigned SRO number.

  
Special Secretary to Government

Memo No. 19382 /F&E Date 01-12-2020

Copy forwarded to the Assistant Inspector General of Forests, Govt. of India, Ministry of Environment & Forest and Climate Change, (F.C. Division), Indira Paryavaran Bhawan, Jor Bagh, Aliganj Road, New Delhi-110003/ Deputy Director General of Forests (Central), Govt. of India, MoEF&CC, Eastern Regional Office, A/3, Chandrasekharpur, Bhubaneswar-23 for information and necessary action.

*dj 11/12/2020*

Memo No. 19383 /F&E Date 01-12-2020 Special Secretary to Government

Copy forwarded to the Revenue & Disaster Management Deptt./ Director of Land Records and Survey, Odisha, Cuttack/ R.D.C.(Northern Division) Sambalpur, Dist-Sambalpur/ Collector & District Magistrate, Dhenkanal/Tahasildar-Kankadahad, Dist-Dhenkanal for information and necessary action.

*dj 11/12/2020*

Memo No. 19384 /F&E Date 01-12-2020 Special Secretary to Government

Copy forwarded to the Principal Chief Conservator of Forests, Odisha Bhubaneswar/ Principal Chief Conservator of Forests (Forest Diversion) & Nodal Officer, FC Act O/o the PCCF, Odisha/ Regional Chief Conservator of Forests, Angul Circle/ Regional Chief Conservator of Forests, Rourkela Circle/ D.F.O., Dhenkanal Forest Division/ D.F.O., Keonjhar Forest Division for information and necessary action.

*dj 11/12/2020*

Memo No. 19385 /F&E Date 01-12-2020 Special Secretary to Government

Copy forwarded to the Head, State Portal, I.T. Centre, Odisha Secretariat, Bhubaneswar for information and necessary action/ (5 spare copies for G.F).

*dj 11/12/2020*

Memo No. 19386 /F&E Date 01-12-2020 Special Secretary to Government

Copy forwarded to the Under Secretary to Government, Office Establishment Section, Forest & Environment Department for information and necessary action with reference to their letter No.21646/F&E dtd.22.11.2016.

*dj 11/12/2020*

Special Secretary to Government

**Annexure-V****Cost Norm For ANR plantation (@200 Seedlings per hectare )****For ten year maintenance.**

Wage rate- @Rs311

Sl. No	Item of Work	Preferable Period of Execution	Person days	Labour cost @Rs 311/- per day	Material (Rs)	Total (Rs)
<b>0<sup>th</sup> Year (Advance Work)</b>						
1	Survey, Demarcation and Pillar Posting,	Nov / Dec	2	622	0	622
2	Preparation of Treatment Map(Digital Map)	Nov / Dec	1	311	100	411
3	Site Preparation	Nov / Dec	2	622	0	622
4	Silvicultural operation including clearance of weed, cutting of climber , high stump cutting , singling o shoots and removal of cut out after drying from the field to the black space.	Jan/Feb	15	4665	0	4665
5	Alignment & Stacking of pits.	Feb/Mar	0.5	155.5	0	155.5
6	Digging of pits (45cm cube)in hard and gravity soil	Feb / March	8	2488	0	2488
	<b>G.Total</b>		<b>28.5</b>	<b>8863.5</b>	<b>100</b>	<b>8963.5</b>
<b>1<sup>st</sup> Year / Planting Year</b>						
7	Refilling of pits by altering the dugout soil o the pits. Application of organic compounds /CDM/FYM & Mixing the same properly	Jun/July	1.5	466.5	1000	1466.5
8	Transportation of 18 months ol polythenes бага seedlings in hired truck/tractor from the permanent/Mega nursery to planting site including loading and unloading (Average lead of 10RKM) and stacking the seedlings @Rs 6/- per seedling (220 no)	July / Aug	0	0	1320	1320
9	Watering polyspot seedlings at planting site	July / Aug	0.5	155.5	0	155.5
10	Conveyance of polyspot seedlings on head load from the stacking site to individual dugout pits within the planting site, applying insecticide, fertilizer , and painting after scooping soil with other applied material and pressing the soil perfectly around the planting seedlings	July / Aug	4.5	1399.5	0	1399.5



10	Cost of Insecticide & Fertilizer. (a) NPK/Bio fertilizer @50gm/ plant as basal dose=10kg @Rs30/- per Kg : Rs300/- (b) Urea/Vermicompost /mo khata/any other fertilizer @Rs 150/- (c ) Insecticide /Bio-pesticide @5gms/plant =1kg @Rs 150/- per kg =Rs 150/-	July / Aug	0	0	600	600
	Casualty plantation @10%(20nos)	July / Aug	0.5	155.5	0	155.5
11	1 <sup>st</sup> Weeding & Manuring	Aug / Sept	2	622	0	622
13	2 <sup>nd</sup> Weeding , soil working (1m diameter around the plants) & Manuring	Oct / Nov	3	933	0	933
16	Fire line tracing(2mt wide fire line over 400m long) including maintenance of inspection path	Feb/ March	3	933	0	933
17	Watch & Ward including water as per requirement	Aug-Mar	8	2488	0	2488
	<b>G.Total</b>		<b>23</b>	<b>7153.0</b>	<b>2920.0</b>	<b>10073</b>
<b>2<sup>nd</sup> Year Maintenance</b>						
18	Transportation of 20 seedlings from Nursery to plantation site including loading and conveyance by Tractor @6/- per seedlings	Jul	0.0	0.0	120.0	120.0
19	Casualty Replacement (10%)	Jul	0.5	155.5	0.0	155.5
21	Cost of Insecticide & Fertilizer. (a) Cost of Insecticide /Bio-pesticide(Themet/forate) @5gms/plant =0.1kg @Rs 150/- per kg =Rs 15/- (b) Urea/NPK/Vermicompost /mo khata/any other fertilizer @Rs 560/-	Aug-Sep	0.0	0.0	575.0	575.0
20	weeding ( Complete weeding), Manuring and soil working (1mt diameter around the plants)	Sep/Oct	4.0	1244.0	0.0	1244.0
25	Fire line tracing(2mt wide fire line over 400m long) including maintenance of inspection path	Feb/ March	3.0	933.0	0.0	933.0
26	Watch & Ward including water as per requirement	April / March	12.0	3732.0	0.0	3732.0
	<b>G.Total</b>		<b>19.5</b>	<b>6064.5</b>	<b>695.0</b>	<b>6759.5</b>
<b>3<sup>rd</sup> Year maintenance</b>						
28	Cost of fertilizer(Urea/NPK /Bio-Fertilizer/Vermicompost/Mo khata/any other fertilizer =Rs560/-	Sep/Oct	0	0	560	560

29	weeding ( Complete weeding), Manuring and soil working (1mt diameter around the plants)	Aug-Sep	4	1244	0	1244
30	Fire line tracing(2mt wide fire line over 400m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
31	Watch & Ward including water as per requirement	Apr/Mar	12	3732	0	3732
	<b>G.Total</b>		<b>19</b>	<b>5909</b>	<b>560</b>	6469
<b>4<sup>th</sup> Year maintenance</b>						
32	Fire line tracing(2mt wide fire line over 400m long) including maintenance of inspection path	Feb /March	3	933	0	933
33	Watch & Ward including maintenance of vegetative fencing	April / March	12	3732	0	3732
	<b>Sub Total</b>		<b>15</b>	4665	<b>0</b>	4665
<b>5<sup>th</sup> Year maintenance</b>						
34	Fire line tracing (2m Wide fire line over 400m long)	Feb / March	3	933	0	933
35	Watch & Ward including water as per requirement	Apr/Mar	12	3732	0	3732
	<b>Sub Total</b>		<b>15</b>	4665	<b>0</b>	4665
<b>6th Year maintenance</b>						
36	Fire line tracing (2m Wide fire line over 400m long)	Feb / March	3	933	0	933
37	Watch & Ward including water as per requirement	April / March	12	3732	0	3732
	<b>Sub Total</b>		<b>15</b>	4665	<b>0</b>	4665
<b>7th Year maintenance</b>						
38	Fire line tracing (2m Wide fire line over 400m long)	Feb / March	3	933	0	933
39	Watch & Ward including water as per requirement	April / March	12	3732	0	3732
	<b>Sub Total</b>		<b>15</b>	4665	<b>0</b>	4665
<b>8th Year maintenance</b>						
40	Fire line tracing (2m Wide fire line over 400m long)	Feb / March	3	933	0	933
41	Watch & Ward including water as per requirement	April / March	12	3732	0	3732
	<b>Sub Total</b>		<b>15</b>	4665	<b>0</b>	4665
<b>9th Year maintenance</b>						

42	Fire line tracing (2m Wide fire line over 400m long) & cultural operation	Feb / March	3	933	0	933
43	Watch & Ward including water as per requirement	April / March	12	3732	0	3732
	<b>Sub Total</b>		<b>15</b>	<b>4665</b>	<b>0</b>	<b>4665</b>
<b>10th Year maintenance</b>						
44	Fire line tracing (2m Wide fire line over 400m long) & cultural operation	Feb / March	3	933	0	933
45	Watch & Ward including water as per requirement	April / March	12	3732	0	3732
	<b>Sub Total</b>		<b>15</b>	<b>4665</b>	<b>0</b>	<b>4665</b>

<b>ABSTRACT.</b>						
Year	Person days	Labour Component	Material Component	Monitoring & Supervision charge 5% of total cost	Cost of seedlings @Rs 50.31 per seedlings	Total
0th Yr	28.5	8864	100	436.50	0	9400.00
1st yr	23	7153	2920.0	427.00	11068	21568.00
2nd Yr	19.5	6065	695.0	240.50	1006	8006.00
3rd Yr	19	5909	560	231.00	0	6700.00
4th Yr	15	4665	0	135.00	0	4800.00
5th Yr	15	4665	0	135.00	0	4800.00
6th Yr	15	4665	0	135.00	0	4800.00
7th Yr	15	4665	0	135.00	0	4800.00
8th Yr	15	4665	0	135.00	0	4800.00
9th Yr	15	4665	0	135.00	0	4800.00
10th Yr	15	4665	0	135.00	0	4800.00
<b>Total</b>	<b>195</b>	<b>60645.0</b>	<b>4275</b>	<b>2280.00</b>	<b>12074</b>	<b>79274.00</b>

Sl no	Commencement of year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	Total cost
	<b>Base norm</b>	9400	21568	8006	6700	4800	4800	4800	4800	4800	4800	4800										
1	2021-22	9400	22646	8826	7756	5834	6126	6432	6754	7092	7446	7819										<b>96131</b>
2	2022-23		9870	23778	9267	8144	6126	6432	6754	7092	7447	7818	8210									<b>100938</b>
3	2023-24			10364	24967	9730	8551	6432	6754	7091	7447	7819	8210	8621								<b>105986</b>
4	2024-25				10882	26215	10217	8979	6754	7092	7447	7819	8210	8619	9052							<b>111286</b>
5	2025-26					11426	27526	10728	9428	7092	7447	7819	8210	8621	9050	9505						<b>116852</b>
6	2026-27						11997	28902	11264	9899	7447	7819	8210	8621	9052	9503	9980					<b>122694</b>
7	2027-28							12597	30347	11827	10394	7819	8210	8621	9052	9505	9978	10479				<b>128829</b>
8	2028-29								13227	31864	12418	10914	8210	8621	9052	9505	9980	10477	11003			<b>135271</b>
9	2029-30									13888	33457	13039	11460	8621	9052	9505	9980	10479	11001	11553		<b>142035</b>
10	2030-31										14582	35130	13691	12033	9052	9505	9980	10479	11003	11551	12131	<b>149137</b>

## Annexure-VI

Fencing For Compensatory Plantation raised inside the Forest Areas using Bamboo Twigs & Thorns						
Wage Rate Rs 311/- per day						
Sl no	Items of work	Preferable period of Execution	Mandays	Wages	Material cost (Rs)	Total Cost (Rs per ha)
0th year Maintenance						
	Nil					
1st year Maintenance						
1	Taking an average perimeter of 250Rmt/ha @ 93.85/mt (Half bundle Bamboo Twigs /mt @ 120/Bundle) Labour ,Material = 40.60(approx)	Sep/oct	30	9330	14133	23463
2	Bamboo poles of 8 height at a distance of 2mt spacing to be fixed (2" under soil & 2" above soil) 250/2=125+1=126Nos of Bamboo poles 1 bamboo (Aprox) 24" height =3poles 126/3=42 Bamboos @ 200/Bamboo	Sep/oct		0	8400	8400
3	Preparation of Bamboo poles, Digging of holes of 2ft. Depth and fixing Bamboo poles @ 20 poles/MD	Sep/oct	6.5	2021.5	0	2021.5
4	Cost of Bamboo for tying the Bamboo twigs row fence with double side two Strand Bamboo batten (one 6" above ground and other one 4ft" above ground) (250*2)/24= 21 bamboo @ 200/Bamboo	Sep/oct		0	4200	4200
5	Making Bamboo batten, finishing the Batten and Tying the same on double strand on Coir rope etc @ Rs 11/Rmt.	Sep/oct	9	2799		2799
6	Cost of coir rope @ Rs 0.125kg /Rmt 500*0.125kg=62.5kg@ Rs 70/kg	Sep/oct		0	4375	4375
7	Making one Bamboo twigs gate with Bamboo frame				500.5	500.5
	Total		45.5	14150.5	31608.5	45759
2nd year Maintenance						
1	Repair and Maintenance of Bamboo Twigs fence including Material cost	Feb/Mar	20	6220	1500	7720
Rate per running mt. 7720/250= 30.88 or say 31Rmt						
3rd year Maintenance						
1	Repair and Maintenance of Bamboo Twigs fence including Material cost	Feb/Mar	20	6220	5675	11895
Rate per running mt. 11895/250= 47.58or say 48Rmt						
4th year Maintenance						
1	Repair and Maintenance of Bamboo Twigs fence including Material cost	Feb/Mar	20	6220	5675	11895

<b>Rate per running mt. <math>11895/250 = 47.58</math> or say 48Rmt</b>						
<b>5th year Maintenance</b>						
1	Repair and Maintenance of Bamboo Twigs fence including Material cost	Feb/Mar	20	6220	5675	11895
<b>Rate per running mt. <math>11895/250 = 47.58</math> or say 48Rmt</b>						

<b>Abstract</b>					
Sl no	year	No of Person days	Labour Cost @ Rs 311/- per day	Material cost	Total Cost (Rs)
1	0th year	0	0	0	0.00
2	1st year	45.5	14150.5	31608.5	45759.00
3	2nd year	20	6220	1500	7720.00
4	3rd year	20	6220	5675	11895.00
5	4th year	20	6220	5675	11895.00
6	5th year	20	6220	5675	11895.00
Total		<b>125.5</b>	<b>39030.5</b>	<b>50133.5</b>	<b>89164.00</b>

Sl no	Commencement of year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	Total cost
	<b>Base norm</b>	<b>0</b>	<b>45759</b>	<b>7720</b>	<b>11895</b>	<b>11895</b>	<b>11895</b>										
1	2021-22		48047	8511	13770	14458	15181										<b>99967</b>
2	2022-23			50449	8937	14459	15181	15940									<b>104966</b>
3	2023-24				52971	9384	15182	15940	16737								<b>110214</b>
4	2024-25					55620	9853	15941	16737	17574							<b>115725</b>
5	2025-26						58401	10346	16738	17574	18453						<b>121512</b>
6	2026-27							61321	10863	17575	18453	19376					<b>127588</b>
7	2027-28								64387	11406	18454	19376	20345				<b>133968</b>
8	2028-29									67606	11976	19377	20345	21362			<b>140666</b>
9	2029-30										70986	12575	20346	21362	22430		<b>147699</b>
10	2030-31											74535	13204	21363	22430	23552	<b>155084</b>

**Annexure-VII**

Matrix for (SMC)																	
Sl No	Commencement Year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	Total Cost
	Base Norm	0	20215	3032	3032	3032	3032										
1	2021-22	0	21226	3342	3510	3685	3870										35633
2	2022-23			22287	3509	3686	3869	4064									37415
3	2023-24				23401	3684	3870	4062	4267								39284
4	2024-25					24571	3868	4064	4265	4480							41248
5	2025-26						25800	4061	4267	4478	4704						43310
6	2026-27							27090	4264	4480	4702	4939					45475
7	2027-28								28445	4477	4704	4937	5186				47749
8	2028-29									29867	4701	4939	5184	5445			50136
9	2029-30										31360	4936	5186	5443	5717		52642
10	2030-31											32928	5183	5445	5715	6003	55274



**Annexure-VIII**

<b>Cost Norm For Block plantation (@1600 Plants per Hectare)</b>						
<b>For ten year maintenance.</b>						
<b>Wage rate- @Rs311</b>						
<b>Sl. No</b>	<b>Item of Work</b>	<b>Preferable Period of Execution</b>	<b>Person days</b>	<b>Labour cost @Rs 311/- per day</b>	<b>Material (Rs)</b>	<b>Total (Rs)</b>
<b>0<sup>th</sup> Year (Advance Work)</b>						
1	Survey, Demarcation and Pillar Posting,	Nov / Dec	2	622	0	622
2	Preparation of Treatment Map(Digital Map)	Nov / Dec	1	311	100	411
3	Site Preparation(Cleaning and removal of debris)	Nov / Dec	12	3732	0	3732
4	Creation of 4.00mt wide inspection path	Feb/ March	1	311	0	311
5	Alignment & Stacking of pits.	Jan / Feb	2	622	0	622
6	Digging of pits (45cm cube)in hard and gravity soil	Feb / March	64	19904	0	19904
7	Construction of Temporary Labor stand , Drinking water facility and First-Aid etc	Jan / March	0	0	3500	3500
	<b>G.Total</b>		<b>82</b>	<b>25502</b>	<b>3600</b>	<b>29102</b>
<b>1<sup>st</sup> Year / Planting Year</b>						
8	Refilling of pits by altering the dugout soil o the pits. Application of organic compounds /CDM/FYM & Mixing the same properly	Jun/July	12	3732	8000	11732
9	Transportation of 18 months old polythenes seedlings in hired truck/tractor from the permanent/Mega nursery to planting site including loading and unloading (Average lead of 10RKM) and stacking the seedlings @Rs 6/- per seedling (1760 no)	July / Aug	0	0	10560	10560
10	Watering polypot seedlings at planting site	July / Aug	3	933	0	933
11	Conveyance of polypot seedlings on head load from the stacking site to individual dugout pits within the planting site, applying insecticide, fertilizer , and painting after scooping soil with other applied material and pressing the soil perfectly around the planting seedlings	July / Aug	36	11196	0	11196

12	<b>Cost of Insecticide &amp; Fertilizer.</b> (a) NPK/Bio fertilizer @50gm/ plant as basal dose=80kg @Rs30/- per Kg : Rs2400/- (b) Urea/Vermicompost /mo khata/any other fertilizer in two subsequent dose @Rs 1200/- (c ) Insecticide /Bio-pesticide @5gms/plant =8kg @Rs 150/- per kg =Rs 1200/-	July / Aug	0	0	4800	4800
13	Casualty plantation @10%(160nos)	July / Aug	4	1244	0	1244
14	1 <sup>st</sup> Weeding & Manuring	Aug / Sept	15	4665	0	4665
15	2 <sup>nd</sup> Weeding , soil working (1m diameter around the plants) & Manuring	Oct / Nov	20	6220	0	6220
16	Fire line tracing(2mt wide fire line over 400m long) including maintenance of inspection path	Feb/ March	3	933	0	933
17	Watch & Ward including water as per requirement	Aug-Mar	12	3732	0	3732
	<b>G.Total</b>		<b>105</b>	<b>32655</b>	<b>23360</b>	<b>56015</b>
<b>2<sup>nd</sup> Year Maintenance</b>						
19	Transportation of 160 seedlings from Nursery to plantation site including loading and conveyance by Tractor @6/- per seedlings	Jul	0.0	0.0	960.0	960.0
20	Casualty Replacement (10%)	Jul	4.0	1244.0	0.0	1244.0
21	Cost of Insecticide & Fertilizer. (a) Insecticide /Bio-pesticide @5gms/plant =0.8kg @Rs 150/- per kg =Rs 120/- (b) Urea/NPK/Vermicompost /mo khata/any other fertilizer @Rs 4486/-	Aug-Sep	0.0	0.0	4606.0	4606.0
22	weeding ( Complete weeding), Manuring and soil working (1mt diameter around the plants)	Sep/Oct	20.0	6220.0	0.0	6220.0
23	Fire line tracing(2mt wide fire line over 400m long) including maintenance of inspection path	Feb/ March	3.0	933.0	0.0	933.0
24	Watch & Ward including water as per requirement	April / March	18.0	5598.0	0.0	5598.0
25	Maintenance of Temporary Labour stand , Drinking water facility and First-Aid etc	Apr-Mar		0.0	1000.0	1000.0
	<b>G.Total</b>		<b>45.0</b>	<b>13995.0</b>	<b>6566.00</b>	<b>20561.00</b>
<b>3<sup>rd</sup> Year maintenance</b>						
28	Cost of fertilizer(Urea/NPK /Bio-Fertilizer/Vermicompost/Mo khata/any other fertilizer	Sep/Oct	0	0	4486	4486
29	weeding ( Complete weeding), Manuring and soil working (1mt diameter around the plants)	Sep/Oct	20	6220	0	6220

30	Fire line tracing(2mt wide fire line over 400m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
31	Watch & Ward including water as per requirement	Apr/Mar	18	5598	0	5598
32	Maintenance of Temporary Labour stand , Drinking water facility and First-Aid etc	Apr/Mar	0	0	1000	1000
	<b>G.Total</b>		<b>41</b>	<b>12751</b>	<b>5486</b>	<b>18237</b>
<b>4<sup>th</sup> Year maintenance</b>						
33	Fire line tracing(2mt wide fire line over 400m long) including maintenance of inspection path	Feb / March	3	933	0	933
34	Watch & Ward including maintenance of vegetative fencing	April / March	18	5598	0	5598
	<b>Sub Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
<b>5<sup>th</sup> Year maintenance</b>						
35	Fire line tracing (2m Wide fire line over 400m long)	Feb / March	3	933	0	933
36	Watch & Ward	Apr/Mar	18	5598	0	5598
	<b>Sub Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
<b>6<sup>th</sup> Year maintenance</b>						
37	Fire line tracing (2m Wide fire line over 400m long)	Feb / March	3	933	0	933
38	Punching of branches , singling out of multiple shoots	Jan/Marc	5	1555	0	1555
39	Watch & Ward	April / March	18	5598	0	5598
	<b>Sub Total</b>		<b>26</b>	<b>8086</b>	<b>0</b>	<b>8086</b>
<b>7<sup>th</sup> Year maintenance</b>						
40	Fire line tracing (2m Wide fire line over 400m long)	Feb / March	3	933	0	933
41	Watch & Ward	April / March	18	5598	0	5598
	<b>Sub Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
<b>8<sup>th</sup> Year maintenance</b>						
42	Fire line tracing (2m Wide fire line over 400m long)	Feb / March	3	933	0	933
43	Watch & Ward	April / March	18	5598	0	5598
	<b>Sub Total</b>		<b>21</b>	<b>6531</b>	<b>0</b>	<b>6531</b>
<b>9<sup>th</sup> Year maintenance</b>						
44	Fire line tracing (2m Wide fire line over 400m long) & cultural operation	Feb / March	3	933	0	933

45	Watch & Ward	April / March	18	5598	0	5598
	<b>Sub Total</b>		<b>21</b>	6531	<b>0</b>	<b>6531</b>
<b>10th Year maintenance</b>						
46	Fire line tracing (2m Wide fire line over 400m long) & cultural operation	Feb / March	3	933	0	933
47	Watch & Ward	April / March	18	5598	0	5598
	<b>Sub Total</b>		<b>21</b>	6531	<b>0</b>	<b>6531</b>
	<b>Grand Total</b>		<b>425.0</b>	<b>132175.0</b>	<b>39012.0</b>	<b>171187.0</b>

ABSTRACT.						
Year	Person days	Labour Component	Material Component	Monitoring & Supervision charge 5% of total cost	Cost of seedlings @Rs 50.31 per seedlings	Total
0th Yr	82	25502	3600	1398.00	0	30500.00
1st yr	105	32655	23360	2800.00	88546	147361.00
2nd Yr	45.0	13995	6566.00	1028.00	8050	29639.00
3rd Yr	41	12751	5486	911.00	0	19148.00
4th Yr	21	6531	0	326.00	0	6857.00
5th Yr	26	8086	0	404.00	0	8490.00
6th Yr	21	6531	0	326.00	0	6857.00
7th Yr	21	6531	0	326.00	0	6857.00
8th Yr	21	6531	0	326.00	0	6857.00
9th Yr	21	6531	0	326.00	0	6857.00
10th Yr	21	6531	0	326.00	0	6857.00
<b>Total</b>	<b>425</b>	<b>132175.0</b>	<b>39012</b>	<b>8497.00</b>	<b>96596</b>	<b>276280.00</b>

**Matrix For Block plantation (@1600 Plants per Hectare)**

Sl no	Commencement of year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	Total cost
<b>Base norm</b>		<b>30500</b>	147361	29639	19148	6857	8490	6857	6857	6857	6857	6857										
1	2021-22	30500	154729	32674	22166	8335	8751	11377	9648	10131	10637	11169										<b>310117</b>
2	2022-23		32025	162465	34308	23274	8752	9189	11946	10130	10638	11169	11728									<b>325623</b>
3	2023-24			33626	170588	36023	24438	9190	9648	12543	10637	11170	11727	12312								<b>341903</b>
4	2024-25				35307	179117	37824	25660	9650	10130	13170	11169	11729	12313	12929							<b>358998</b>
5	2025-26					37072	188073	39715	26943	10133	10637	13829	11727	12315	12929	13575						<b>376948</b>
6	2026-27						38926	197477	41701	28290	10640	11169	14520	12313	12931	13575	14254					<b>395796</b>
7	2027-28							40871	207351	43786	29705	11172	11727	15246	12929	13578	14253	14969				<b>415587</b>
8	2028-29								42916	217719	45975	31190	11731	12313	16008	13575	14257	14967	15715			<b>436366</b>
9	2029-30									45062	228605	48274	32750	12318	12929	16808	14254	14970	15715	16501		<b>458186</b>
10	2030-31										47315	240035	50688	34388	12934	13575	17648	14967	15719	16501	17326	<b>481096</b>

**Annexure-IX**

<b>Cost Norm For ANR plantation (@500 Seedlings per hectare )</b>						
<b>For ten year maintenance.</b>						
Wage rate- @Rs311						
<b>Sl. No</b>	<b>Item of Work</b>	<b>Preferable Period of Execution</b>	<b>Person days</b>	<b>Labour cost @Rs 311/- per day</b>	<b>Material (Rs)</b>	<b>Total (Rs)</b>
<b>0<sup>th</sup> Year (Advance Work)</b>						
1	Survey, Demarcation and Pillar Posting,	Nov / Dec	2	622	0	622
2	Preparation of Treatment Map(Digital Map)	Nov / Dec	1	311	100	411
3	Site Preparation	Nov / Dec	2	622	0	622
4	Silvicultural operation including clearance of weed, cutting of climber , high stump cutting , singling o shoots and removal of cut out after drying from the field to the black space.	Jan/Feb	15	4665	0	4665
5	Alignment & Stacking of pits.	Feb/Mar	1	311	0	311
6	Digging of pits (45cm cube)in hard and gravity soil	Feb /March	20	6220	0	6220
	<b>G.Total</b>		<b>41</b>	<b>12751</b>	<b>100</b>	<b>12851</b>
<b>1<sup>st</sup> Year / Planting Year</b>						
7	Refilling of pits by altering the dugout soil o the pits. Application of organic compounds /CDM/FYM & Mixing the same properly	Jun/July	4	1244	2500	3744
8	Transportation of 18 months old polythenes bag seedlings in hired truck/tractor from the permanent/Mega nursery to planting site including loading and unloading (Average lead of 10RKM) and stacking the seedlings @Rs 6/- per seedling (550 no)	July / Aug	0	0	3300	3300
9	Watering polypot seedlings at planting site	July / Aug	1	311	0	311
10	Conveyance of polypot seedlings on head load from the stacking site to individual dugout pits within the planting site, applying insecticide, fertilizer , and painting after scooping soil with other applied material and pressing the soil perfectly around the planting seedlings	July / Aug	11	3421	0	3421
10	Cost of Insecticide & Fertilizer. (a) NPK/Bio fertilizer @50gm/ plant as basal dose=25kg @Rs30/- per Kg : Rs750/- (b) Urea/Vermicompost /mo khata/any other fertilizer @Rs 375/- (c)Insecticide /Bio-pesticide @5gms/plant =2.5kg @Rs 150/- per kg =Rs 375/-	July / Aug	0	0	1500	1500
11	Casualty plantation @10%(20nos)	July / Aug	1.5	466.5	0	466.5
12	1 <sup>st</sup> Weeding & Manuring	Aug / Sept	5	1555	0	1555

13	2 <sup>nd</sup> Weeding , soil working (1m diameter around the plants) & Manuring	Oct / Nov	8	2488	0	2488
14	Fire line tracing and inspection path	Feb/ March	3	933	0	933
15	Watch & Ward including water as per requirement	Aug-Mar	8	2488	0	2488
	<b>G.Total</b>		<b>41.5</b>	<b>12906.5</b>	<b>7300.0</b>	20206.5
<b>2<sup>nd</sup> Year Maintenance</b>						
16	Transportation of 50 seedlings from Nursery to plantation site including loading and conveyance by Tractor @6/- per seedlings	Jul	0.0	0.0	300.0	300.0
17	Casualty Replacement (10%)	Jul	1.5	466.5	0.0	466.5
18	Cost of Insecticide & Fertilizer. (a) Cost of Insecticide /Bio-pesticide(Themet/forate) @5gms/plant =0.25kg @Rs 150/- per kg =Rs37.50/- (b) Urea/NPK/Vermicompost /mo khata/any other fertilizer @Rs 1400/-	Aug-Sep	0.0	0.0	1437.5	1437.5
19	weeding ( Complete weeding), Manuring and soil working (1mt diameter around the plants)	Sep/Oct	8.0	2488.0	0.0	2488.0
20	Fire line tracing(2mt wide fire line over 400m long) including maintenance of inspection path	Feb/ March	3.0	933.0	0.0	933.0
21	Watch & Ward including water as per requirement	April / March	12.0	3732.0	0.0	3732.0
	<b>G.Total</b>		<b>24.5</b>	<b>7619.5</b>	<b>1737.5</b>	<b>9357.0</b>
<b>3<sup>rd</sup> Year maintenance</b>						
22	Cost of fertilizer(Urea/NPK /Bio-Fertilizer/Vermicompost/Mo khata/any other fertilizer =Rs1400/-	Jul/Aug		0	1400	1400
23	weeding ( Complete weeding), Manuring and soil working (1mt diameter around the plants)	Sep/Oct	8	2488	0	2488
24	Fire line tracing(2mt wide fire line over 400m long) including maintenance of inspection path	Feb/Mar	3	933	0	933
25	Watch & Ward including water as per requirement	Apr/Mar	12	3732	0	3732
	<b>G.Total</b>		<b>23</b>	<b>7153</b>	<b>1400</b>	8553
<b>4<sup>th</sup> Year maintenance</b>						
26	Fire line tracing(2mt wide fire line over 400m long) including maintenance of inspection path	Feb / March	3	933	0	933
27	Watch & Ward including maintenance of vegetative fencing	April / March	12	3732	0	3732
	<b>Sub Total</b>		<b>15</b>	4665	<b>0</b>	4665
<b>5<sup>th</sup> Year maintenance</b>						
28	Fire line tracing (2m Wide fire line over 400m long)	Feb / March	3	933	0	933

29	Watch & Ward including water as per requirement	Apr/Mar	12	3732	0	3732
	<b>Sub Total</b>		<b>15</b>	<b>4665</b>	<b>0</b>	<b>4665</b>
<b>6th Year maintenance</b>						
30	Fire line tracing (2m Wide fire line over 400m long)	Feb / March	3	933	0	933
31	Watch & Ward including water as per requirement	April / March	12	3732	0	3732
	<b>Sub Total</b>		<b>15</b>	<b>4665</b>	<b>0</b>	<b>4665</b>
<b>7th Year maintenance</b>						
32	Fire line tracing (2m Wide fire line over 400m long)	Feb / March	3	933	0	933
33	Watch & Ward including water as per requirement	April / March	12	3732	0	3732
	<b>Sub Total</b>		<b>15</b>	<b>4665</b>	<b>0</b>	<b>4665</b>
<b>8th Year maintenance</b>						
34	Fire line tracing (2m Wide fire line over 400m long)	Feb / March	3	933	0	933
35	Watch & Ward including water as per requirement	April / March	12	3732	0	3732
	<b>Sub Total</b>		<b>15</b>	<b>4665</b>	<b>0</b>	<b>4665</b>
<b>9th Year maintenance</b>						
36	Fire line tracing (2m Wide fire line over 400m long) & cultural operation	Feb / March	3	933	0	933
37	Watch & Ward including water as per requirement	April / March	12	3732	0	3732
	<b>Sub Total</b>		<b>15</b>	<b>4665</b>	<b>0</b>	<b>4665</b>
<b>10th Year maintenance</b>						
38	Fire line tracing (2m Wide fire line over 400m long) & cultural operation	Feb / March	3	933	0	933
39	Watch & Ward including water as per requirement	April / March	12	3732	0	3732
	<b>Sub Total</b>		<b>15</b>	<b>4665</b>	<b>0</b>	<b>4665</b>
	<b>Grand Total</b>		<b>235.0</b>	<b>73085.0</b>	<b>10537.5</b>	<b>83622.5</b>



ABSTRACT.						
Year	Person days	Labour Component	Material Component	Monitoring & Supervision charge 5% of total cost	Cost of seedlings @Rs 50.31 per seedlings	Total
0th Yr	41	12751	100	549.00	0	13400.00
1st yr	41.5	12907	7300.0	993.50	27671	48871.00
2nd Yr	24.5	7620	1737.5	443.00	2516	12316.00
3rd Yr	23	7153	1400	347.00	0	8900.00
4th Yr	15	4665	0	135.00	0	4800.00
5th Yr	15	4665	0	135.00	0	4800.00
6th Yr	15	4665	0	135.00	0	4800.00
7th Yr	15	4665	0	135.00	0	4800.00
8th Yr	15	4665	0	135.00	0	4800.00
9th Yr	15	4665	0	135.00	0	4800.00
10th Yr	15	4665	0	135.00	0	4800.00
<b>Total</b>	<b>235</b>	<b>73085.0</b>	<b>10537.5</b>	<b>3277.50</b>	<b>30187</b>	<b>117087.00</b>

**Matrix For ANR plantation (@500 Seedlings per hectare )**

Sl no	Commencement of year	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX	Total cost
	<b>Base norm</b>	13400	48871	12316	8900	4800	4800	4800	4800	4800	4800	4800										
1	2021-22	13400	51315	13577	10303	5834	6126	6432	6754	7092	7446	7819										<b>136098</b>
2	2022-23		14070	53881	14256	10818	6126	6432	6754	7092	7447	7818	8210									<b>142904</b>
3	2023-24			14774	56575	14969	11359	6432	6754	7092	7446	7819	8209	8622								<b>150051</b>
4	2024-25				15513	59404	15717	11927	6754	7092	7447	7819	8210	8620	9052							<b>157554</b>
5	2025-26					16289	62374	16503	12523	7092	7447	7819	8210	8621	9050	9505						<b>165433</b>
6	2026-27						17103	65493	17328	13149	7447	7819	8210	8621	9052	9503	9980					<b>173705</b>
7	2027-28							17958	68768	18194	13806	7819	8210	8621	9052	9504	9978	10479				<b>182390</b>
8	2028-29								18856	72206	19104	14496	8210	8621	9052	9505	9980	10477	11003			<b>191510</b>
9	2029-30									19799	75816	20059	15221	8621	9052	9505	9980	10479	11001	11553		<b>201086</b>
10	2030-31										20789	79607	21062	15982	9052	9505	9980	10479	11003	11551	12131	<b>211141</b>