

Proposal No. FP/PB/ROAD/37611/2018

Full Title of the Project:- Diversion of 0.704 hec of Forest area in favour of Executive Engineer Construction Division, PWD B & R, Sangrur for construction of Toll Plaza on Bhawanigarh-Sunam-Bhikhi-Kotshamir Road from RD 79.030 to 79.610 B/S Village Ghuman Kalan, under District Mansa & Forest Division Mansa. (Punjab)

File No. :

Date of Proposal:- 12-12-2018

CHECK LIST SERIAL NUMBER:- 6 (i)

"SCHEME FOR COMPENSATORY AFFORESTATION"

Detail scheme for Compensatory Afforestation to be carried out in lieu of Diversion of 0.704 hec of Forest area in favour of Executive Engineer Construction Division, PWD B & R, Sangrur for construction of Toll Plaza on Village Ghuman Kalan, Bhawanigarh-Sunam-Bhikhi-Kotshamir Road from RD 79.030 to 79.610 under District Mansa & Forest Division Mansa. (Punjab).

Details of degraded forest land:- Bhaini Disty RD Tamkot Pull to Thuthian Wali Pull B/s

District: Mansa

Beat: Bhaini **Block:** Mansa

Tehsil: Mansa

Name of Forest Division: Mansa

Forest Range: Mansa

Area to be afforested: 1.760 ha.

2. **Description of Area:-**

i. Whether the site selected for Compensatory Afforestation is a land bank or not:-
Yes

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

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

iv. adjoining forest boundary: - N.A.

v. Soil type:- Sandy Loam

vi. Topography:- a. Plain

b. Slope:- Gentle

Whether the area is bearing any root stock of vegetation: Scattered.

3. **Plantation Model:-**

Copy of the approved Compensatory A forestation Scheme/Model showing component wise physical and financial break up to be enclosed.

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4. Schedule of Plantation Programme:-

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

Year	Area (ha.)	Rate/ha.	Total Amount
0th Year	1.76	186465.05	328178.49
1th Year	1.76	73045.06	128559.31
2th Year	1.76	45880.96	80750.49
3th Year	1.76	42683.63	75123.19
4th Year	1.76	39565.60	69635.46
5th Year	1.76	5969.60	10506.50
6th Year	1.76	5969.60	10506.50
7th Year	1.76	5969.60	10506.50
8th Year	1.76	5969.60	10506.50
9th Year	1.76	5969.60	10506.50
10th Year	1.76	5969.60	10506.50
Total		423457.90	745285.90
Over Head expenses 5%		21172.90	
Wage Enhancement @ 10%		42345.79	
Total		63518.69	111792.89
		G.Total	857078.79
		Or Say	857080.00

5. Technical Details:-

Technical details of Compensatory Afforestation Scheme are as follows:-

- General Details :-
- Spacement :- 3 x 3 mtr.
- Species :- Euc. Kikar, Shisham Muscat, Arjun, Neem, Jamun, Euc., Mulb. etc.
- plantation Method :- Pit & Trenches
- Soil and Moisture Conservation Works :-
- Protection (Fencing, Watch man, People's Participation etc.): Fencing, Watch Man
- Proposed Monitoring Mechanism :- Internal
- Any other information :-

Place: Mansa

Date: 26-08-2019

Divisional Forest Officer
Mansa Forest Division
Mansa

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Plantation Model for Standard Plantation under Compensatory Afforestation Plants Per Hectare: 1000 Nos.

Land Bank: KBC RD 295 to 303 L/s & Joga Disty Buttery RD Mandir Pull to Tail B/s

Sr. No.	Name of Work	Unit	Qty	Unit Cost (In Rs.)	Amount
	Nursery				
	Nursery cost of raising plants	1100	1100	20.00	22000.00
A	Soil Work				
1	Site / Jungle Clearance (25%)	Ha.	0.5	5367.22	2683.61
2	Alignment & Dagbailing	Ha.	1	984.00	984.00
3	Earth Work- (a) Digging of Pits 1000x0.5m x0.5m x0.4m	1M ³	100	101.38	10138.00
4	Kana Stubbing 25%	Ha.	0.25	26836.00	6709.00
B	Plantation Work				
1	Refilling of Pits 1000x0.5mx0.5mx0.3	100 cum	75	2747	2060.25
2	Loading & Unloading of Plants (1000+10% Wastage=1100)	100 No.	1100	550	6050.00
3	Carriage of Plants (1000+10% Wastage= 1100 avg. distance upto 10 km.)	100 No.	1100	196.80	2164.80
4	i) Carriage from site to site	100 No.	1000	131.2	1312.00
	ii) Planting of Plants (1000 No. including 10% replacement)	100 No.	1000	984	9840.00
5	Spot Irrigation (1000 Plants)	100 No.	1000	205	2050.00
6	Application of Insecticide (2 times)	100 No.	1000	41	410.00
7	Application of Fertilizers (2 times)	100 No.	1000	41	410.00
8	Weeding & Hoeing 3 times	100 No.	3000	357.52	10725.60
9	Hand Watering (12 Times)	100 No.	12000	205	24600.00
10	Replanting of Plants 10%	100 No.	100	579.11	579.11
11	Rejungle Clearance (2 times)	Per Ha.	1	2378	2378.00
12	Covering (25% plants) of plants	100 No.	250	295.2	738.00
13	Uncovering of plants	100 No.	250	32.8	82.00
14	Restubbing of Kana (1 time)	Ha.	0.25	26836.3	6709.08
15	Laying out & fixing of Barbed Wire	L/s			7872.00
16	Watch & Ward for every 10 Ha. (7 months)	Man year	1 Man 7 Month	8528	5969.60
17	Material				
	i) Insecticides/Fertilizers	L/s			5000.00
	ii) POL	L/s			5000.00
	iii) Barbed Wire	L/s			50000.00
	Sub Total				186465.05

Mansa Forest Division

Maintenance I Year				
Cost of raising plants for 30%	1 No.	300	20	6000.00
Reopening of Pits 300 x 0.50 x 0.30	1 m3	22.5	59.63	1341.68
Refilling of pits with earth in other soils 300 x 0.50 x 0.30	1 m3	22.5	27.47	618.08
0.50 x 0.30	1 No.	300	2.46	738.00
Loading & Unloading of Plants	100 No.	165	131.2	216.48
Carriage of Plants (300+10% Wastage=330 avg. distance upto 10 km.)	100 No.	165	196.2	196.20
Hand watering (6 Times)	100 No.	6000	357.52	21451.20
Rejungle Clearance (2 times)	Ha.	1	2378	2378.00
Restubbing of Kana	Ha.	0.25	26836	6709.00
Watch & Ward for every 10 Ha. (10 months)	Man year	1/10 Man yr.	8528	5969.60
Repair of Barbed Wire	L/s			5000.00
POL & Machinery	L/s			5000.00
Material and supply	L/s			5000.00
Sub Total				
73045.06				
Maintenance II Year				
Cost of raising plants for 15% replacement	1 No.	150	20	3000.00
Reopening of Pits 75 x 0.60 x 0.40	1 m3	10.8	59.63	644.00
Refilling of pits with earth in other soils 75 x 0.60	1 m3	10.8	27.47	296.68
0.60 x 0.40	1 No.	75	2.46	184.50
Loading & Unloading of Plants	500 No.	1	196.2	196.20
Carriage of Plants Wastage = 75 avg. distance upto 10 km.)	100 No.	75	131.2	98.40
Spreading of plants pit to pit	100 No.	75	229.09	171.82
Re-planting to plants	100 No.	75	205	153.75
Spot Irrigation	100 No.	2000	357.52	7150.40
Weeding & Hoeing (twice)	100 No.	5000	205	10250.00
Hand Watering 5 Times	Ha.	1	2378	2378.00
Rejungle Clearance (2 times)	100 No.	100	387.61	387.61
Pruning to plants	Man year	1/10 Man yr.	8528	5969.60
Watch & Ward for every 10 Ha.	L/s			5000.00
Repair of Barbed Wire	L/s			5000.00
POL & Machinery	L/s			5000.00
Material and supply	L/s			5000.00
Sub Total				
45880.96				

Maintenance III Year			
1	Cost of raising plants for 10% replacement	1 No.	100
2	Reopening of Pits 50 x 0.60 x 0.40	1 m ³	7.2
3	Refilling of pits with earth in other soils 50 x 0.60	1 m ³	7.2
4	Loading & Unloading of Plants	1 No.	100
5	Carriage of Plants 50 avg. distance upto 10 km.)	100 No.	100
6	Spreading of plants pit to pit	100 No.	100
7	Re-planting to plants	100 No.	100
8	Spot Irrigation	100 No.	2000
9	Weeding & Hoeing (twice)	100 No.	357.52
10	Hand Watering (5 times)	100 No.	5000
11	Pruning to plants 20%	100 No.	200
12	Watch & Ward for every 10 Ha.	Man year	1/10 Man yr.
13	Repair of Barbed Wire	L/s	
14	POL & Machinery	L/s	
15	Material and supply	L/s	
			Sub Total
			42683.63
Maintenance IV Year			
1	Cost of raising plants for 5% replacement	1 No.	50
2	Reopening of Pits 50 x 0.60 x 0.40	1 m ³	7.2
3	Refilling of pits with earth in other soils 50 x 0.60	1 m ³	7.2
4	Loading & Unloading of Plants	1 No.	50
5	Carriage of Plants = 25 avg. distance upto 10 km.)	500 No.	50
6	Spreading of plants pit to pit	100 No.	50
7	Re-planting to plants	100 No.	50
8	Spot Irrigation	100 No.	2000
9	Weeding & Hoeing (twice)	100 No.	4000
10	Hand Watering (4 Times)	100 No.	387.61
11	Pruning to plants 30%	100 No.	300
12	Watch & Ward for every 10 Ha.	Man year	1/10 Man yr.
13	Repair of Barbed Wire	L/s	
14	POL & Machinery	L/s	
15	Material and supply	L/s	
			Sub Total
			39565.60
Maintenance V Year			
1	Watch & Ward for every 10 Ha. (10 Months)	Man year	1/10 Man yr.
			Sub Total
			5969.60
Maintenance VI Year			
1	Watch & Ward for every 10 Ha. (10 Months)	Man year	1/10 Man yr.
			Sub Total
			5969.60
Maintenance VII Year			
1	Watch & Ward for every 10 Ha. (10 Months)	Man year	1/10 Man yr.
			Sub Total
			5969.60
Maintenance VIII Year			
1	Watch & Ward for every 10 Ha. (10 Months)	Man year	1/10 Man yr.
			Sub Total
			5969.60
			Sub Total
			5969.60

Divisional Forest Officer
Mansa Forest Division
Mansa

Maintenance IX Year				
	Watch & Ward for every 10 Ha. (10 Months)	Man year	1/10 Man yr.	8528
5969.60			Sub Total	5969.60
Maintenance X Year				
1	Watch & Ward for every 10 Ha. (10 Months)	Man year	1/10 Man yr.	8528
5969.60			Sub Total	5969.60
			Total	423457.89
	Over Head expenses 5%			21172.89
	Wage Enhancement @ 10%			42345.79
			G.Total	486976.57
			Or Say	486977
	Cost of forest land (NPV)	0.704	887000	624448
	Cost of Compensatory Afforestation as per area	1.760	486977	857080
	Cost of Penal Compensatory Afforestation as per area	7.040	486977	3428318
	Cost of Penal (NPV) as per area $(0.704 \times 1) = 0.704$	0.704	887000	624448
	Cost of Penal (NPV) as per area @ 12%			74934
	Cost of Total Penal NPV			699382

Date of Proposal:- 12-12-2018

Estimate for planting of Tall Plants

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Maintenance I Year				
1	Cost of plants for 30% replacement	1 No.	60	9000.00
2	Reopening of Pits 150 x 0.60 x 0.40	1 m3	59.63	1288.01
3	Refilling of pits with earth in other soils 150 x 0.60 x 0.60	1 m3	27.47	593.35
4	Loading & Unloading of Plants upto 10 km.)	1 No.	2.46	369.00
5	Carriage of Plants (150+10% Wastage=330 avg. distance	500 No.	196.2	196.20
6	Spreading of plants pit to pit	100 No.	131.2	216.48
7	Re-planting Tall Plants	100 No.	329.08	542.98
8	Spot Irrigation	100 No.	205	338.25
9	Weeding & Hoeing (thrice)	100 No.	357.52	5362.80
10	App. of Fertilizer (two times)	100 No.	41	410.00
11	App. of Insecticide (two times)	100 No.	41	410.00
12	Hand watering 6 months x 2 times = 12 times	100 No.	357.52	21451.20
13	Rejungle Clearance (2 times)	Ha.	2378	2378.00
14	Restubbing of Kana	Ha.	26836	6709.00
15	Watch & Ward for every 10 Ha. (10 months)	Man year	8528	8528.00
16	POL	L/s		5000.00
17	Material and supply	L/s		5000.00
			Sub Total	67793.27
Maintenance II Year				
1	Cost of plants for 15% replacement	No.	60	4500.00
2	Reopening of Pits 75 x 0.60 x 0.60 x 0.40	1 m3	59.63	644.00
3	Refilling of pits with earth in other soils 75 x 0.60 x 0.60 x 0.40	1 m3	27.47	296.68
4	Loading & Unloading of Plants	1 No.	2.46	184.50
5	Carriage of Plants = 75 avg. distance upto 10 km.)	500 No.	196.2	196.20
6	Spreading of plants pit to pit	100 No.	131.2	98.40
7	Re-planting to tall plants	100 No.	229.08	171.81
8	Spot Irrigation	100 No.	205	153.75
9	Weeding & Hoeing (twice)	100 No.	357.52	5362.80
10	Hand Watering 10 Times	100 No.	205	10250.00
11	Rejungle Clearance (2 times)	Ha.	2378	2378.00
12	Stubbing of Kana	Ha.	26836	2683.60
13	Pruning to plants	100 No.	387.61	387.61
14	Watch & Ward for every 10 Ha.	Man year	8528	8528.00
15	POL	L/s		5000.00
16	Material and supply	L/s		5000.00
			Sub Total	45835.35

Manasa
Manasa Forest Division
Divisional Forest Officer
Sub Total

Maintenance III Year

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1	Cost of plants for 10% replacement	1 No.	60	50	3000.00
2	Reopenning of Pits 50 x 0.60 x 0.40	1 m3	59.63	7.2	429.34
3	Refilling of pits with earth in other soils 50 x 0.60 x 0.40	1 m3	27.47	7.2	197.78
4	Loading & Unloading of Plants	1 No.	2.46	50	123.00
5	Carriage of Plants 50 avg. distance upto 10 km.)	500 No.	196.2	1	196.20
6	Spreading of plants pit to pit	100 No.	131.2	50	65.60
7	Re-planting to plants	100 No.	229.08	50	114.54
8	Spot Irrigation	100 No.	205	50	102.50
9	Weeding & Hoeing (thrice)	100 No.	357.52	1500	5362.80
10	Hand Watering (8 times)	100 No.	205	4000	8200.00
11	Rejungle Clearance (2 times)	Ha.	2378	1	2378.00
12	Stubbing of Kana	Ha.	26836	0.1	2683.60
13	Pruning to plants 20%	100 No.	387.61	100	387.61
14	Watch & Ward for every 10 Ha.	Man year	8528	1/10 Man yr.	8528.00
15	POL	L/s			5000.00
16	Material and supply	L/s			5000.00
Maintenance IV Year					
				Sub Total	41768.97
1	Cost of raising plants for 5% replacement	1 No.	60	25	1500.00
2	Reopenning of Pits 25 x 0.60 x 0.40	1 m3	59.63	3.6	214.67
3	Refilling of pits with earth in other soils 25 x 0.60 x 0.40	1 m3	27.47	3.6	98.89
4	Loading & Unloading of Plants	1 No.	2.46	25	61.50
5	Carriage of Plants = 25 avg. distance upto 10 km.)	500 No.	196.2	1	196.20
6	Spreading of plants pit to pit	100 No.	131.2	25	32.80
7	Re-planting to plants	100 No.	229.08	25	57.27
8	Spot Irrigation	100 No.	205	25	51.25
9	Weeding & Hoeing (thrice)	100 No.	357.52	1500	5362.80
10	Rejungle Clearance (2 times)	Ha.	2378	1	2378.00
11	Pruning to plants 30%	100 No.	387.61	300	1162.83
12	Watch & Ward for every 10 Ha.	Man year	8528	1/10 Man yr.	8528.00
13	POL	L/s			5000.00
14	Material and supply	L/s			5000.00
				Sub Total	29644.21
				TOTAL	296667.96
	Over Head expenses 5%				14833.40
	Enhancement due to wage escalation @ 9%				26700.12
				G.Total	338201.47
				Or Say	338201
	Total Cost per plant (in Rs)	676		425*2 =	574600
	Cost of Tree Gurds as per site is extra (in Rs per Tree Guard)	1800		500	900000
					G.Total
					1474600