

कार्यालय प्रधान मुख्य वन संरक्षक, (हॉफ), राजस्थान, जयपुर

क्रमांक एफ 3(13)प्रमुखसं/ट्री/तक0/17-18/ 803-817

दिनांक:- 28/02/2023

निमित्त,

- 1-परियोजना निदेशक, आर.एफ.बी.पी.-2 जयपुर।
- 2- समस्त सम्भागीय मुख्य वन संरक्षक जयपुर/अजमेर/भरतपुर/कोटा/
उदयपुर/बीकानेर/जोधपुर/(वन्यजीव) जयपुर/कोटा/उदयपुर/
सवाईमाधोपुर/सरिस्का/जोधपुर/विभागीय कार्य भरतपुर

विषय:-नवीन मॉडल कॉस्ट नोर्म्स न्यूनतम श्रमिक दर रु. 259/एवं सामग्री दर
2021

महोदय,

उपरोक्त विषयान्तर्गत निवेदन है कि श्रमिक दर 259/रूपये प्रति दिन के आधार पर प्राप्त हुए वृक्षारोपण मॉडल राज्य स्तरीय मॉडल कमेटी की अनुशंसा पर प्रधान मुख्य वन संरक्षक, (हॉफ) राजस्थान, जयपुर के अनुमोदन उपरान्त संलग्न कर आवश्यक कार्यवाही हेतु प्रेषित किये जा रहे हैं।

- 1-NHAI MODEL (TREE GUARD MODEL)
- 2-NHAI MODEL(BARBED WIRE FENCING MODEL)
- 3-Boundary Pillars

उक्त सभी मॉडल विभागीय वेबसाइट के निम्न लिंक पर उपलब्ध है:-

<http://www.forest.rajasthan.gov.in/content/raj/forest/en/forest,-department/departamental-wings/forest-development/model-for-developmental-activities.htm>
संलग्न-मॉडल की प्रति।

भवदीय

मुख्य वन संरक्षक(आयोजना)
राजस्थान, जयपुर

Signature valid

Digitally signed by Amar Singh Gothwal
Designation : Chief Conservator Of
Forest
Date: 2023.02.28 15:22:45 IST
Reason: Approved

RajKaj Ref No. : 3269545

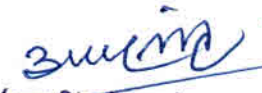
Model Cost Norms for Boundary Pillar						
Cost Estimate-Rs. 11000.00						
S.N.	BSR Item	Particulars	Qty.	Unit	Rate	Amount Rs
1	1/B-1	Earth work in surface excavation not exceeding 30cm. in depth but exceeding 1.5 meter in width as well as 10 Sqm on plan including disposal of excavated earth up to 50 Mtr. and lift up to 1.5 Mtr. disposed soil to be levelled and neatly dressed : All kinds of soil $2 \times 2 = 4 \text{sqm}$.	4	sqm.	35	140
2	1.8/B-1	Earth work in excavation by mechanical means (Hydraulic Excavator)/ manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including taking out the excavated soil and depositing and refilling of jhiri with watering & ramming and disposal of surplus excavated soil as directed with in a lead of 50 meter. All kinds of soils $1.2 \times 1.2 \times 0.3 = 0.43 \text{ 2CUM}$	0.432	cum.	178	76.896
3	4.10.3/B-10	Centering & shuttering with plywood or steel sheets including strutting, propping bracing both ways with steel props and removal of formwork for upto floor five level for : Columns, pillars, posts and struts etc. ground $4 \times 1.2 \times 0.3 = 1.44$, $4 \times (1.20 + 0.45/2) \times 1.26 = 3.30$, total = 4.74 sqm.	4.74	sqm.	375	1777.5
4	3.1.3/B-3	Providing and laying in position cement concrete including curing, compaction etc. complete in specified grade excluding the cost of centering and shuttering - All work up to plinth level. M15 grade Nominal Mix 1: 2: 4 (1 cement : 2 coarse sand : 4 graded stone aggregate 40mm nominal size). $1.2 \times 1.2 \times 0.3 = 0.432 \text{ cum}$.	0.432	cum.	4544	1963.008
5	3.2.3/B-3	Providing and laying cement concrete including curing, compaction etc. complete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window sills, fillets, levelling course etc up to floor five level excluding the cost of centering and shuttering. M15 grade Nominal Mix 1: 2: 4 (1 cement : 2 coarse sand : 4 graded stone aggregate 40mm nominal size). $A = 1.2 \times 1.2 = 1.44$, $B = 0.45 \times 0.45 = 0.2025$, $H = 1.20$ volume = $(H/3) \times (A + B + \sqrt{A \times B})$, volume = $(1/3) \times (1.44 + 0.2025 + \sqrt{1.44 \times 0.2025}) = 0.73 \text{ cum}$.	0.73	cum.	5018	3663.14

रामावतार दुदवाल

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6	12.2.3/B-12	Plaster on new surface on walls in cement sand mortar 1:4 including racking of joints etc. complete fine finish :Plaster on new surface on walls in cement sand mortar 1:4 including racking of joints etc. complete fine finish :12mm thick. $1 \times 4 \times (1.20 + 0.45) \times 1.26 / 2 = 4.16$, top $1.0 \times 0.45 \times 0.45 = 0.2025$, total plaster = 4.82 sqm.	4.36	sqm.	163	710.68
7	12.41.1	Finishing wall with water proofing cement paint of approved brand and manufacture and or required shade to give an even shade including all scaffolding: 12.41.1 New work (Two or more coats applied @ 3.84 kg/10 sqm). As per plaster	4.36	sqm.	53	231.08
		Add extra for local transportation of water and material				629.47
8		Carving & misscellaneous				809
						10000.77
					SAY	10000
Note: 1. Rates are based on PUBLIC WORKS DEPARTMENT INTEGRATED BASIC SCHEDULE OF RATES 2022						
2. due to scattered nature of work extra lead for Material and water taken from departmental F.P.R PROJECT BSR						


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 टी.आर.ई.ई., राज., जयपुर

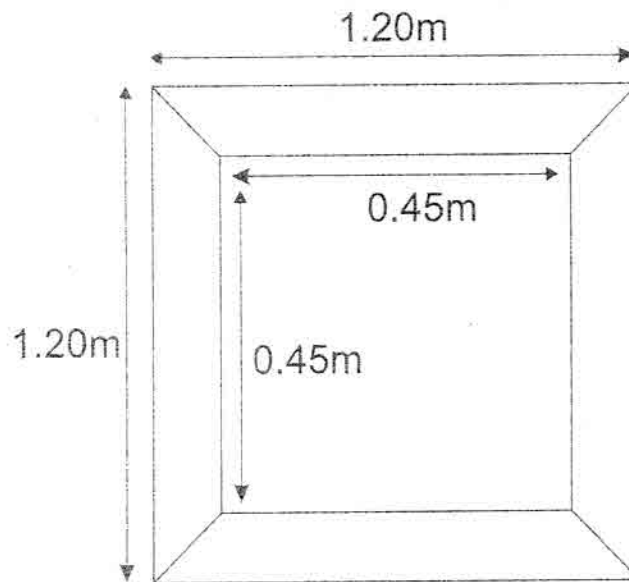

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Material Consumption Statement							
S.N.	Perticulars	Quantity	40mm grit cum.	Sand cum.	Cement bags no.	Water amt. Rs	
1	1:2:4 cement concrete(cum)	1.16	1.05	0.52	7.48	210.79	
2	12mm 1:4 cement sand plaster(sqm)	4.36	0.00	0.07	0.48	94.61	
	Total	5.52	1.05	0.59	7.96	305.40	
	Rate Local Transportation for 2km		141.90	141.90	11.50		
	Total Amount for transportation and water		148.40	84.10	91.57	305.40	629.47


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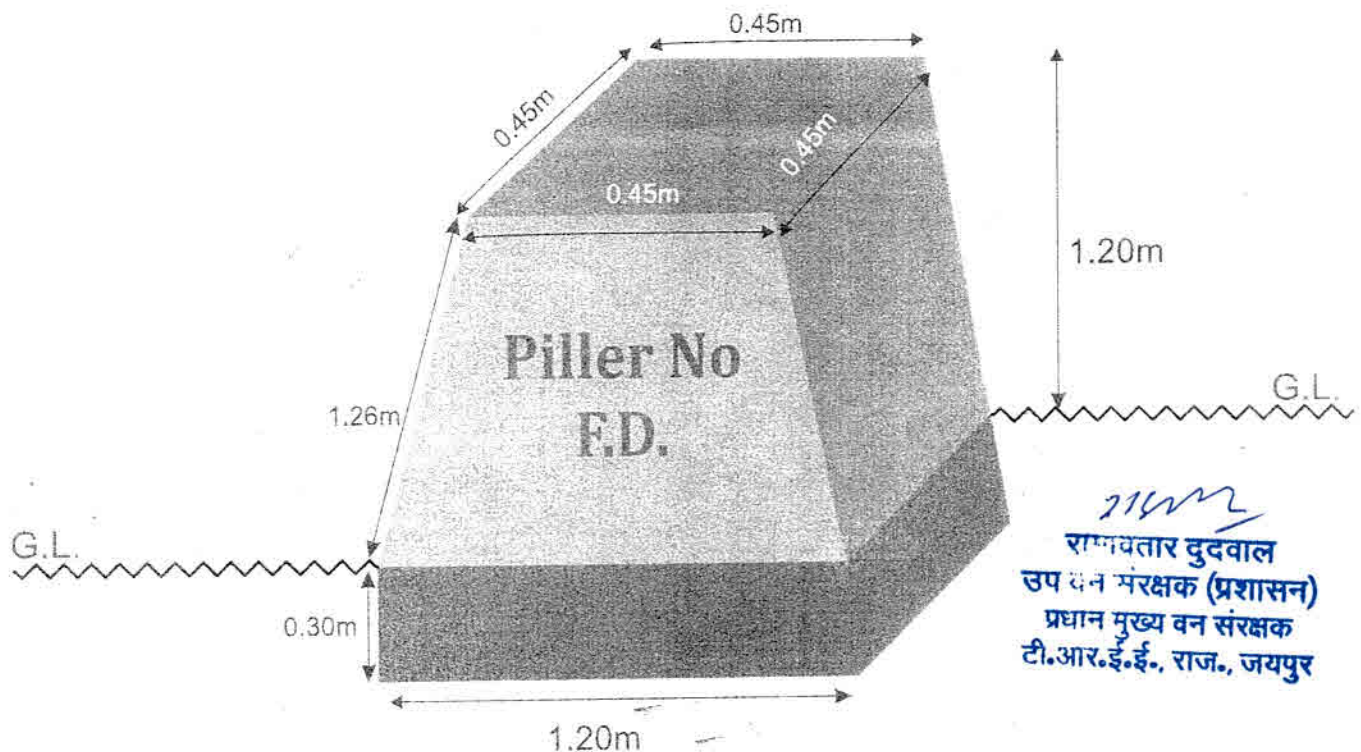
RAJASTHAN FOREST BOUNDARY PILLER



Scale: NTS.

All dimensions in meter

PLAN



21/11/22
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Note:

1. Casting (M-15 cement concrete 1:2:4 cement sand grit)
2. 12 mm 1:4 cement sand plaster.

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MODEL COST NORMS FOR PLANTION ALONG NHAI ROADS (BARBED WIRE FENCING MOUDLE)
Labour Rate @259/- per day
For Sites having more than 50% length with Two or more Rows

Particular	Length in KM			No. of Plants in LHS				No. of Plants in RHS				Total Plants
	LHS	RHS	Total	1st Row	Inter- mediate Rows	Last Row	Total	1st Row	Inter- mediate Rows	Last Row	Total	
2 row planting with Barbed wire fencing	7	7	14	2333	1167	0	3500	2333	1167		3500	7000
3 or more row planting with Barbed wire fencing	2	2	4	667	333	167	1167	667	333	167	1167	2334
1 row planting with Tree Guard fencing	1	1	2	167	0	0	167	167	0	0	167	334
Total	10	10	20	3167	1500	167	4834	3167	1500	167	4834	9668
Existing Trees in Tree Guard Section							0				0	0
Existing Trees in Barbed Wire Section							50				50	100
Net Planting Target							4784				4784	9568
Length of Fencing in Mts	18500	18500	37000									
No. of Tree Guards	167	167	334									

1st Row	Plant to Plant distance 3 Mts	333 plants/KM	Small to Medium height ornamental Trees like Kachnar, Amaltas, Khirni Jakranda, Peltiform, Tabebuia, Kranj, Bottlebrush, Casiahyama spp, etc.
2nd & Intermediate Rows	Plant to Plant distance 6 Mts	167 plants/KM/Row	Shady & Fruit Bearing Trees like Neem, Shisham, Arjun, Siris, Jamun, Rohida, Khejari, Desi Babool, Bakain, Mango, Ber, Beelpatra, Paras Pipal etc.
3rd/Last Row	Plant to Plant distance 12 Mts	83 plants/KM	Large size Shady Trees like Baniyan, Pipal, Gular, Imali, Pilkhan etc.
Single Row with Tree Guards	Plant to Plant distance 6 Mts	167 plants/KM	Shady & Fruit Bearing Trees like Neem, Shisham, Arjun, Siris, Jamun, Rohida, Khejari, Desi Babool, Bakain, Mango, Ber, Beelpatra, Paras Pipal, Baniyan and Pipal etc.
Distance between 2 Rows	3 Mts		
Labour Rate	Rs. 259/day		

21/5/22
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YEAR 1 : ADVANCE ACTION & PLANTING								
S.N	ITEM OF WORK	Unit	Qty.	Rate		Amount		
				Labour	Material	Labour	Material	Total
1	2	3	4	5	6	7	8	9
1	Collection of data for preparation of DPR, micro planning and Management plan and Surveys of area etc.	KM	20	57.56	150	1151.2	3000	4151.2
2	Tree Guard Fencing with 4 RCC pannels of 21Inch width and 1.85 Mt height each, including cost of material, transportation, fixing etc. as per drawinf and design.	No.	334	330.22	1600	110293.48	534400	644693.48
3	Fencing with Prestressed Concrete Post of size 2.44 m x(0.10+0.15) x1/2 x 0.10 (5 m apart) with 4 strand barbed wire of 12 gauge supported with 6 feet high welded wire mess of 12 gauge(2.5mm) and mesh size 4" *4" including cost of material, fixing, etc.	RMT	37000	70	300	2590000	11100000	13690000
4	Purchase of tools & equipment.	KM	20	0	350	0	7000	7000
5	Sign board including painting and fixing.	KM	20	57.56	450	1151	9000	10151
6	Watch & Ward for 9 months: one watch man for every 10 km.each side	Months	18	6734	0	121212	0	121212
7	Labour Amenities.	KM	20	28.78	75	576	1500	2076
8	Site clearance including removal of unwanted bushes, leveling of the site wherever required.	KM	20	345.33	700	6907	14000	20907
9	Construction of temporary cattle guard hut for watch and Ward. One at 10 kilometers.	KM	20	287.78	500	5756	10000	15756
10	Digging of pits of Size 0.60 x 0.60 x 0.60 m including lay out, marking, dressing, etc.	No.	9568	45.3	0	433430	0	433430
11	Planting in pit size 0.60 x 0.60 x 0.60 m including local transportation of plants at site, submerging the polypots in insecticide treated water, cutting and removing the polythene bag, refilling the pit after removing stones and pressing the soil around plant including construction of thanwla and initial watering	No.	9568	0	0	0	0	0
12	(A) 20 x 40 cm bag	No.	7654	37.99	0	290775	0	290775
13	(B) 30 x 40 cm bag	No.	1914	48.37	0	92580	0	92580
14	Weeding and hoeing of plants after planting and in rains (2 times)	No.	19136	4.93	0	94340	0	94340
15	Procurement of Plants for 3rd/last row with 2 mts or more height with good health and growth with 20% Extra for plants required for casulty replacement including transportation.	No.	2297	12	138	27564	316986	344550
16	Procurement of Plants with 1.5 mts or more height with good health and growth with 20% Extra for plants required for casulty replacement including transportation.	No.	9185	12	88	110220	808280	918500
17	Adding the farm yard manure/vermi compost/DAP/insecticide etc to each pit including cost of material	No.	9568	2.3	8	22006	76544	98550
18	Irrigation (watering) of plants (watering will be as per the weather conditions) by tractor tanker, total 12 watering.	No.	114816	4.37	7.47	501746	857676	1359421
19	Hoeing of plants after each watering.	No.	114816	2.85	0	327226	0	327226
20	Singling, pruning and other silvicultural operatipons for the Natural plants that come after plantation.	No.	957	2.31	0	2210	0	2210
21	Consolidation of JFM and participatory programs.	KM	20	0	500	0	10000	10000
22	Miscellaneous and unforeseen works and Expenditures. (Including mainantainance of vehicles and vehicle on rent for inspection & monitoring)	KM	20	1453.33	7000	29067	140000	169067
TOTAL YEAR-1						4768211	13888386	18656596


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YEAR-2 : MAINTENANCE-I								
S.N	ITEM OF WORK	Unit	Qty.	Rate		Amount		
				Labour	Material	Labour	Material	Total
1	2	3	4	5	6	7	8	9
1	Planting for casualty replacement including redigging and treatment of pit and plant with insecticides, local transport, making crescent shape Thanwla and watering with cost of water and transport	Nos.	957	60.99	0	58367	0	58367
2	Irrigation (watering) of plants from April. to March (watering will be as per the weather conditions) by tractor tanker, total 15 watering	No.	143520	4.37	7.47	627182	1072094	1699277
3	Weeding and hoeing of plants after planting and in rains 2 times	No.	19136	4.93	0	94340	0	94340
4	Hoeing of plants after each watering	No.	143520	2.85	0	409032	0	409032
5	Treatment with insecticide and fertilizer including cost of material	No.	9568	0.58	1.5	5549	14352	19901
6	Fencing repair as per requirement	KM	20	460.44	100	9209	2000	11209
7	Pruning of Plants -- 90% of survival plants	No.	8611	2.31	0	19891	0	19891
8	Pruning of Plants -- Natural plants after closing the area	No.	1000	2.31	0	2310	0	2310
9	Watch & Ward for 12 months: One watch man for every 10 km each side.	Months	24	6734	0	161616	0	161616
10	Labour amenities	KM	20	28.78	75	576	1500	2076
11	Consolidation of JFM and participatory programs.	KM	20	0	250	0	5000	5000
12	Miscellaneous and unforeseen works and Expenditures. (Including mainantainance of vehicles and vehicle on rent for inspection & monitoring)	KM	20	575.56	1500	11511	30000	41511
	TOTAL YEAR- 2					1399585	1124946	2524531

YEAR-3 : MAINTENANCE-II								
S.N	ITEM OF WORK	Unit	Qty.	Rate		Amount		
				Labour	Material	Labour	Material	Total
1	2	3	4	5	6	7	8	9
1	Irrigation (watering) of plants from April. to March (watering will be as per the weather conditions) by tractor tankar, total 12 watering	No.	114816	4.37	7.47	501746	857676	1359421
2	Weeding and hoeing of plants after rains	No.	9568	4.93	0	47170	0	47170
3	Hoeing of plants after each watering	No.	114816	2.85	0	327226	0	327226
4	Treatment with insecticide and fertilizer including cost of material	No.	9568	2.3	0	22006	0	22006
5	Fencing repair as per requirement	KM	20	1151.11	0	23022	0	23022
6	Pruning of Plants	No.	2870	2.31	0	6630	0	6630
7	Watch & Ward for 12 months: One watch man for every 10 km each side.	Months	24	6734	0	161616	0	161616
8	Labour amenities	KM	20.0	28.78	75	576	1500	2076
9	Consolidation of JFM and participatory programs.	KM	20	0	250	0	5000	5000
10	Miscellaneous and unforeseen works and Expenditures. (Including mainantainance of vehicles and vehicle on rent for inspection & monitoring)	KM	20	460.44	1200	9209	24000	33209
	TOTAL YEAR-3					1099200	888176	1987376


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YEAR-4 : MAINTENANCE-III								
S.N	ITEM OF WORK	Unit	Qty.	Rate		Amount		
				Labour	Material	Labour	Material	Total
1	2	3	4	5	6	7	8	9
1	Irrigation (watering) of plants from April. to March (watering will be as per the weather conditions) by tractor tankar, total 8 watering	No.	76544	4.37	7.47	334497	571784	906281
2	Weeding and hoeing of plants rains	No.	9568	4.93	0	47170	0	47170
3	Hoeing of plants after each watering	No.	76544	2.85	0	218150	0	218150
4	Fencing repair as per requirement	KM	20	863.33	0	17267	0	17267
5	Pruning of Plants	No.	3827	2.31	0	8840	0	8840
6	Watch & Ward for 12 months: One watch man for every 10 km each side.	Months	24	6734	0	161616	0	161616
7	Labour amenities	KM	20	28.78	75	576	1500	2076
8	Consolidation of JFM and participatory programs.	KM	20	0	250	0	5000	5000
9	Miscellaneous and unforeseen works and Expenditures. (Including mainantainance of vehicles and vehicle on rent for inspection & monitoring)	KM	20	345.33	900	6907	18000	24907
TOTAL YEAR-4						795023	596284	1391307

YEAR-5 : MAINTENANCE-IV								
S.N	ITEM OF WORK	Unit	Qty.	Rate		Amount		
				Labour	Material	Labour	Material	Total
1	2	3	4	5	6	7	8	9
1	Irrigation (watering) of plants from April. to March (watering will be as per the weather conditions) by tractor tankar, total 4 watering	No.	38272	4.37	7.47	167249	285892	453140
2	Weeding and hoeing of plants after rains	No.	9568	4.02	0	38463	0	38463
3	Hoeing of plants after each watering	No.	38272	2.85	0	109075	0	109075
5	Fencing repair as per requirement	KM	20	863.33	0	17267	0	17267
6	Pruning of Plants	No.	3827	2.31	0	8840	0	8840
7	Watch & Ward for 12 months: One watch man for every 10 km each side.	Man	24	6734	0	161616	0	161616
9	Labour amenities	KM	20.0	28.78	75	576	1500	2076
10	Consolidation of JFM and participatory programs.	KM	20.0	0	250	0	5000	5000
11	Miscellaneous and unforeseen works and Expenditures. (Including mainantainance of vehicles and vehicle on rent for inspection & monitoring)	KM	20.0	230.22	600	4604	12000	16604
TOTAL YEAR- 5						507690	304392	812082


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ABSTRACT OF TOTAL COST FOR 5 YEARS					
S.NO.	ITEM OF WORK	YEAR	AMOUNT		
			Labour	Material	Total
1	2	3	4	5	6
1	ADVANCE ACTION AND PLANTING	YEAR 1	47,68,211	1,38,88,386	1,86,56,596
2	MAINTENANCE-I	YEAR 2	13,99,585	11,24,946	25,24,531
3	MAINTENANCE-II	YEAR 3	10,99,200	8,88,176	19,87,376
4	MAINTENANCE-III	YEAR 4	7,95,023	5,96,284	13,91,307
5	MAINTENANCE-IV	YEAR 5	5,07,690	3,04,392	8,12,082
	Total cost of 5 years		85,69,709	1,68,02,183	2,53,71,892
	Cost per Plant				2,652
Note:					
1	Above is the model cost estimation prepared for 10 KM length and different widths taking as a sample only, actual cost estimation will be prepared as per the actual space available for plantation.				
2	NHAI will provide information of chainagewise available width for plantation, number of rows, number of existing trees, number of plants to be planted etc.. Based upon this information, the cost estimation will be prepared and the same will be submitted to NHAI.				
3	If any deviation is required in the proposal, the same will be approved by the concern CCF.				
4	Items and BSR rate are considered on average basis for the purpose of preparation of DPR. Actual estimate can be prepared as per required items and applicable BSR at the time of implementation.				


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 उप वन संरक्षक (प्रशासन)
 प्रधान मुख्य वन संरक्षक
 टी.आर.ई.ई., राज., जयपुर


 (अमर सिंह गौडवाल)
 मुख्य वन संरक्षक (आयोजना),
 राजस्थान, जयपुर

Labour Rate :-| 259.00

Spacing :- Post to Post- 5M

No.	Item of Works	Unit	Qty.	Rate (Rs.)	Total Cost
1	Procurement of prestressed concrete post of high tensioned (HT) wire as per drawing and specifications . Specifications of concrete post:- 1. Length of post:- 2.44m 2.Top dimension :- 100mm X 100mm 3.Bottom Dimension:-150mmX100mm 4.No. and Dia. of HT wire of desired tensile strenth :- 6 Nos of 4 mm Dia. 5.Size and Nos of HT/MS rings:- 6 Nos of 4mm Dia. 6. Dimension and position of hooks:- 4 Nos. of eye hooks of MS wire of 4 mm diameter, internal dia of hook is 20mm , positioned as per drawing. 7. Concrete Grade:- M-20 design Mix. 8. Concrete Quantity per post:- 0.0305 cum. 9.Concrete cover :- 20mm 10. Marking :- FD should be engraved on transverse face of post. 11.Red strip:- Strip of red colour painted on post at desired depth.		100	510.00	51000.00
		Total			51000
	Note:- F.D. Rajasthan to be engraved at fencing Posts		Per post cost		510.00

21/5/22
रामावतार दुदवाल
उप वन संरक्षक (प्रशासन)
प्रधान मुख्य वन संरक्षक
टी.आर.ई.ई., राज., जयपुर

(अमर सिंह गोविंदवाल)
मुख्य वन संरक्षक (आयोजना),
राजस्थान, जयपुर

Model Cost Norms - Road Side Plantation (National Green Highways)

Fencing Type :- Prestressed concrete
Post with welded wire mess and 4
strand barbed wire .

Labour Rate :-Rs. 259 per day

Unit :- 1000 RMT
Concrete Post Height :- 2.44 Mtr.

Spacing :- Post to Post- 5M

1000

No.	Item of Works	Unit	Qty.	Rate (Rs.)	Total Cost
1	Procurement of Barbed wire of 12 Gauge with barb(14Gauge) at spacing of 12.5to 15 cm for 4 strand fencing. 1000x4=4000 rmt or 0.444 MT	Kg	444	100.00	44400.00
2	Procurement of Prestressed concrete Post of Size 2.44m.x(0.10+0.15)x1/2x0.10	No's	240.00	510.00	122400.00
2	Stacking ,local tranportation along NH and any other misc. expenditure.	L.S.	240	25.00	6000.00
4	Digging of pit of size 30 cm x 30 cm x60 cm and fixing of Cement Post of size 2.44M x (0.10+0.15) x 1/2 x 0.10 cm in any type of soil.	No's	240.00	40.00	9600.00
5	Stretching of Barbed wire and fixing it with the angle iron post with GI Wire	Rmt	4000.00	2.50	10000.00
6	Procurement of welded wire mesh of thickness 12 Gauge(2.5mm) and Mesh size 4inch x 4 inch of height 2. mtr (a Roll of 30 Mtr of Welded wire mesh weigh 50 Kg.)	Kg	1665.00	95.00	158175.00
	Stretching of Welded wire mesh and fixing it to post and 4strands barbed wire with GI Wire	RMT	1000.00	10.85	10850.00
7	Misc. and unforeseen expenditure(Numbering of posts, purchase of GI wire etc)	Prorata	LS		8575.00
Total					370000.00
Per Running metre Cost					370.00

Note:- (1) Distance between Post to Post will be maintained 5 Mtr and 2 supports will be provided at each 11th Post in inclined manner .

(2) Four Hooks will be placed at equal distance from top to bottom of the post.

11/11/22
रामावतार दुदवाल
उप वन संरक्षक (प्रशासन)
प्रधान मुख्य वन संरक्षक
श्री गंगा नदी

21/11/22
(अमर-सिंह गौड़वाल)
मुख्य वन संरक्षक (आयोजन),
राजस्थान, जयपुर

MODEL COST ESTIMATE FOR PLANTION OF NHAI SITES (TREE GUARD MOUDLE)												
Labour Rate Rs. 259/- Per Day												
For Sites having more than 50% length with single Row												

Particular	Length in KM			No. of Plants in LHS				No. of Plants in RHS				Total Plants
	LHS	RHS	Total	1st Row	Intermediat e Rows	Last Row	Total	1st Row	Intermedi ate Rows	Last Row	Total	
2 row planting with Barbed wire fencing	2	2	4	667	333	0	1000	667	333		1000	2000
3 or more row planting with Barbed wire fencing	0	0	0	0	0	0	0	0	0	0	0	0
1 row planting with Tree Guard fencing	8	8	16	1333	0	0	1333	1333	0	0	1333	2666
Total	10	10	20	2000	333	0	2333	2000	333	0	2333	4666
Existing Trees in Tree Guard Section							50				50	100
Existing Trees in Barbed WireSection												
Net Planting Target							2283				2283	4566
Length of Fencing in Mts	4150	4150	8300									
No. of Tree Guards	1283	1283	2566									

1st Row	Plant to Plant distance 3 Mts	333 plants/KM	Small to Medium height ornamental Trees like Kachnar, Amaltas, Jakranda, Peltiform, Tabebuia spp, etc.
2nd & Intermediate Rows	Plant to Plant distance 6 Mts	167 plants/KM/Row	Shady & Fruit Bearing Trees like Neem, Shisham, Arjun, Siris, Jamun, Bakain, Mango, Paras Pipal etc.
3rd/Last Row	Plant to Plant distance 12 Mts	83 plants/KM	Large size Shady Trees like Baniyan, Pipal, Gular, Imali, Pilkhan etc.
Single Row with Tree Guards	Plant to Plant distance 6 Mts	167 plants/KM	Shady & Fruit Bearing Trees like Neem, Shisham, Arjun, Siris, Jamun, Bakain, Mango, Paras Pipal etc.
Distance between 2 Rows	3 Mts		
Labour Rate	Rs. 259/day		


 रामावतार दुदवाल
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 (अनन्द सिंह गौडवाल)
 मुख्य वन संरक्षक (आयोजना),
 राजस्थान, जयपुर

YEAR 1 : ADVANCE ACTION Cum PLANTING								
S.N	ITEM OF WORK	Unit	Qty.	Rate		Amount		
1	2	3	4	Labour	Material	Labour	Material	Total
				5	6	7	8	9
1	Collection of data for preparation of DPR, micro planning and Management plan and Surveys of area etc.	No.	4566	0.29	0.75	1324.14	3424.50	4749
2	Tree Guard Fencing with 4 RCC pannels of 21Inch width and 1.85 Mt height each, including cost of material, transportation, fixing etc. as per drawing and design.	No.	2566	330.22	1600	847344.52	4105600.00	4952945
3	Fencing with Prestressed Concrete Post of size 2.44 m x(0.10+0.15) x1/2 x 0.10 (5 m apart) with 4 strand barbed wire of 12 gauge supported with 6 feet high welded wire mess of 12 gauge(2.5mm) and mesh size 4" *4" including cost of material, fixing, etc.	RMT	8300	70	300	581000	2490000.00	3071000
4	Purchase of tools & equipment.	No.	4566	0	1.00	0	4566.00	4566
5	Sign board including painting and fixing.	No.	4566	0.23	1.80	1050.18	8218.80	9269
6	Watch & Ward for 9 months: one watch man for every 10 km. each side	Months	18	6734	0.00	121212	0.00	121212
7	Labour Amenities.	No.	4566	0.29	0.75	1324.14	3424.50	4749
8	Site clearance including removal of unwanted bushes, leveling of the site wherever required.	No.	4566	0.69	1.40	3150.54	6392.40	9543
9	Construction of temporary cattle guard hut for watch and Ward. One at 10 kilometers.	No.	4566	0.81	1.30	3698.46	5935.80	9634
10	Digging of pits of Size 0.60 x 0.60 x 0.60 m including lay out, marking, dressing, etc.	No.	4566	45.3	0.00	206839.8	0.00	206840
11	Planting in pit size 0.60 x 0.60 x 0.60 m including local transportation of plants at site, submerging the polypots in insecticide treated water, cutting and removing the polythene bag, refilling the pit after removing stones and pressing the soil around plant including construction of thanwla and initial watering	No.	4566	0	0.00	0	0.00	0
12	(A) 20 x 40 cm bag	No.	3653	37.99	0.00	138777.47	0.00	138777
13	(B) 30 x 40 cm bag	No.	913	48.37	0.00	44161.81	0.00	44162
14	Weeding and hoeing of plants after planting and in rains (2 times)	No.	9132	4.93	0.00	45020.76	0.00	45021
15	Procurement of Plants for 3rd/last row with 2 mts or more height with good health and growth in 30x40 cm Poly bags with 20% Extra for plants required for casulty replacement including transportation.	No.	1096	12	138	13152	151248.00	164400
16	Procurement of Plants with 1.5 mts or more height with good health and growth in 20x40 cm Poly bags, with 20% Extra for plants required for casulty replacement including transportation.	No.	4384	12	88	52603.2	385756.80	438360
17	Adding the farm yard manure/vermi compost/DAP/insecticide etc to each pit including cost of material	No.	4566	2.3	8.00	10501.8	36528.00	47030
18	Irrigation (watering) of plants (watering will be as per the weather conditions) by tractor tanker, total 12 watering.	No.	54792	4.37	7.47	239441.04	409296.24	648737
19	Hoeing of plants after each watering.	No.	54792	2.86	0	156705.12	0.00	156705
20	Singling, pruning and other silvicultural operatipons for the existing trees/plants	No.	100	2.31	0.00	231	0.00	231
21	Consolidation of JFM and participatory programs.	No.	4566	0	1.00	0	4566.00	4566
22	Miscellaneous and unforeseen works and Expenditures. (Including mainantainance of vehicles and vehicle on rent for inspection & monitoring)	No.	4566	9.78	25.50	44655.48	116433.00	161088
TOTAL YEAR-1						2512193	7731390	10243584

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टी.आर.ई.ई. राज., जयपुर

अमर सिंह ग्रेठवाल
(अमर सिंह ग्रेठवाल)
मुख्य वन संरक्षक (आयोजन),
राजस्थान, जयपुर

YEAR-2 : MAINTENANCE-I								
S.N	ITEM OF WORK	Unit	Qty.	Rate		Amount		
				Labour	Material	Labour	Material	Total
1	2	3	4	5	6	7	8	9
1	Planting for casualty replacement including redigging and treatment of pit and plant with insecticides, local transport, making crescent shape Thanwla and watering with cost of water and transport	Nos.	457	60.99	0	27872.43	0.00	27872
2	Irrigation (watering) of plants from April. to March 12 months (watering will be as per the weather conditions) by tractor tankar, total 15 watering	No.	68490	4.37	7.47	299301.3	511620.30	810922
3	Weeding and hoeing of plants after planting and in rains 2 times	No.	9132	4.93	0	45020.76	0.00	45021
4	Hoeing of plants after each watering	No.	68490	2.86	0	195881.4	0.00	195881
5	Treatment with insecticide and fertilizer including cost of material	No.	9132	0.58	1.50	5296.56	13698.00	18995
6	Fencing repair as per requirement	No.	9132	4.60	1.00	42007.2	9132.00	51139
7	Pruning of Plants	No.	457	2.31	0.00	1055.67	0.00	1056
8	Singling, pruning and other silvicultural operations for the existing trees/plants	No.	100	46.04	0.00	4604	0.00	4604
9	Watch & Ward for 12 months: One watch man for every 10 km, each side.	Months	24	6734.00	0.00	161616	0.00	161616
10	Labour amenities	No.	9132	0.14	0.38	1278.48	3470.16	4749
11	Consolidation of JFM and participatory programs.	No.	9132	0.00	0.50	0	4566.00	4566
12	Miscellaneous and unforeseen works and Expenditures. (Including mainantainance of vehicles and vehicle on rent for inspection & monitoring)	No.	9132	0.81	1.80	7396.92	16437.60	23835
TOTAL YEAR- 2						791331	558924	1350255

YEAR-3 : MAINTENANCE-II								
S.N	ITEM OF WORK	Unit	Qty.	Rate		Amount		
				Labour	Material	Labour	Material	Total
1	2	3	4	5	6	7	8	9
1	Irrigation (watering) of plants from April. to March 12 months (watering will be as per the weather conditions) by tractor tankar, total 12 watering	No.	54792	4.37	7.47	239441.04	409296.24	648737
2	Weeding and hoeing of plants after planting and in rains	No.	4566	4.02	0.00	18355.32	0.00	18355
3	Hoeing of plants after each watering	No.	54792	2.85	0.00	156157.2	0.00	156157
4	Treatment with insecticide and fertilizer including cost of material	No.	4566	2.30	0.00	10501.8	0.00	10502
5	Fencing repair as per requirement	No.	54792	2.30	0.00	126021.6	0.00	126022
6	Pruning of Plants	No.	457	2.31	0.00	1055.67	0.00	1056
7	Watch & Ward for 12 months: One watch man for every 10 km each side.	Months	24	6734	0.00	161616	0.00	161616
9	Labour amenities	No.	54792	0.07	0.19	3835.44	10410.48	14246
10	Consolidation of JFM and participatory programs.	No.	54792	0.00	0.50	0	27396.00	27396
11	Miscellaneous and unforeseen works and Expenditures. (Including mainantainance of vehicles and vehicle on rent for inspection & monitoring)	No.	54792	1.15	3.00	63010.8	164376.00	227387
TOTAL YEAR-3						779995	611479	1391474

21/12/22
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 टी.आर.ई.ई., राज., जयपुर

अमर सिंह गोठवाल
 (अमर सिंह गोठवाल)
 मुख्य वन संरक्षक (आयोजना),
 राजस्थान, जयपुर

YEAR-4 : MAINTENANCE-III								
S.N	ITEM OF WORK	Unit	Qty.	Rate		Amount		
1	2	3	4	Labour	Material	Labour	Material	Total
1	Irrigation (watering) of plants from April. to March 12 months (watering will be as per the weather conditions) by tractor tankar, total 8 watering	No.	36528	4.37	7.47	159627.36	272864.16	432492
2	Weeding and hoeing of plants after planting and in rains	No.	4566	4.02	0.00	18355.32	0.00	18355
3	Hoeing of plants after each watering	No.	36528	2.85	0.00	104104.8	0.00	104105
5	Fencing repair as per requirement	No.	4566	2.30	0.00	10501.8	0.00	10502
6	Pruning of Plants	No.	457	2.31	0.00	1055.67	0.00	1056
7	Watch & Ward for 12 months: One watch man for every 10 km each side.	Months	24	6734	0.00	161616	0.00	161616
9	Labour amenities	No.	4566	0.07	0.19	319.62	867.54	1187
10	Consolidation of JFM and participatory programs.	No.	4566	0	0.50	0	2283.00	2283
11	Miscellaneous and unforeseen works and Expenditures. (Including mainantainance of vehicles and vehicle on rent for inspection & monitoring)	No.	4566	0.69	1.90	3150.54	8675.40	11826
	TOTAL YEAR-4					458731	284690	743421
YEAR-5 : MAINTENANCE-IV								
S.N	ITEM OF WORK	Unit	Qty.	Rate		Amount		
1	2	3	4	Labour	Material	Labour	Material	Total
1	Irrigation (watering) of plants from April. to March 12 months (watering will be as per the weather conditions) by tractor tankar, total 4 watering	No.	18264	4.37	7.47	79813.68	136432.08	216246
2	Weeding and hoeing of plants after planting and in rains	No.	4566	4.02	0.00	18355.32	0.00	18355
3	Hoeing of plants after each watering	No.	18264	2.85	0.00	52052.4	0.00	52052
5	Fencing repair as per requirement	No.	4566	1.73	0.00	7899.18	0.00	7899
6	Pruning of Plants	No.	457	2.31	0.00	1055.67	0.00	1056
7	Watch & Ward for 12 months: One watch man for every 10 km each.	Months	24	6734	0.00	161616	0.00	161616
9	Labour amenities	No.	4566	0.07	0.19	319.62	867.54	1187
10	Consolidation of JFM and participatory programs.	No.	4566	0	0.50	0	2283.00	2283
11	Miscellaneous and unforeseen works and Expenditures. (Including mainantainance of vehicles and vehicle on rent for inspection & monitoring)	No.	4566	0.58	1.50	2648.28	6849.00	9497
	TOTAL YEAR- 5					323760	146432	470192


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ABSTRACT OF TOTAL COST FOR 5 YEARS					
S.NO.	ITEM OF WORK	YEAR	AMOUNT		
			LABOUR	MATERIAL	TOTAL
1	2	3		4	
1	ADVANCE ACTION AND PLANTING				
2	MAINTENANCE-I	YEAR 1	2,512,193	7,731,390	10,243,584
3	MAINTENANCE-II	YEAR 2	791,331	558,924	1,350,255
4	MAINTENANCE-III	YEAR 3	779,995	611,479	1,391,474
5	MAINTENANCE-IV	YEAR 4	458,731	284,690	743,421
		YEAR 5	323,760	146,432	470,192
	Total cost of 5 years		4,866,010	9,332,915	14,198,925
	Cost per Plant				3,110
Note:					
1	Above is the model cost estimation prepared for 10 KM length and different widths taking as a sample only, actual cost estimation will be prepared as per the actual space available for plantation.				
2	NHAI will provide information of chainagewise available width for plantation, number of rows, number of existing trees, number of plants to be planted etc.. Based upon this information, the cost estimation will be prepared and the same will be submitted to NHAI.				
3	If any deviation is required in the proposal, the same will be approved by the concern CCF.				
4	Items and BSR rate are considered on average basis for the purpose of preparation of DPR. Actual estimate can be prepared as per required items and applicable BSR at the time of implementation.				


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 राजस्थान, जयपुर

Model Cost Norms - Road Side Plantation (National Highways)

Post Type :- RCC HT Post

Labour Rate :- 259.00

Unit :- 100 Posts

Spacing :- Post to Post- 5M

Post Height :- 2.44 Mtr.

No.	Item of Works	Unit	Qty.	Rate (Rs.)	Total Cost
1	Procurement of prestressed concrete post of high tensioned (HT) wire as per drawing and specifications . Specifications of concrete post:- 1. Length of post:- 2.44m 2. Top dimension :- 100mm X 100mm 3. Bottom Dimension:-150mmX100mm 4. No. and Dia. of HT wire of desired tensile strength :- 6 Nos of 4 mm Dia. 5. Size and Nos of HT/MS rings:- 6 Nos of 4mm Dia. 6. Dimension and position of hooks:- 4 Nos. of eye hooks of MS wire of 4 mm diameter, internal dia of hook is 20mm , positioned as per drawing. 7. Concrete Grade:- M-20 design Mix. 8. Concrete Quantity per post:- 0.0305 cum. 9. Concrete cover :- 20mm 10. Marking :- FD should be engraved on transverse face of post. 11. Red strip:- Strip of red colour painted on post at desired depth.		100	510.00	51000.00
		Total			51000
	Note:- F.D. Rajasthan to be engraved at fencing Posts		Per post cost		510.00


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 मुख्य वन संरक्षक (आयोजन),
 राजस्थान, जयपुर

Model Cost Norms - Road Side Plantation (National Green Highways)

Fencing Type :- Prestressed concrete
Post with welded wire mess and 4
strand barbed wire .

Labour Rate :-Rs. 259 per day

Unit :- 1000 RMT
Concrete Post Height :- 2.44 Mtr.

Spacing :- Post to Post- 5M

1000

No.	Item of Works	Unit	Qty.	Rate (Rs.)	Total Cost
1	Procurement of Barbed wire of 12 Gauge with barb(14Gauge) at spacing of 12.5to 15 cm for 4 strand fencing. 1000x4=4000 rmt or 0.444 MT	Kg	444	100.00	44400.00
2	Procurement of Prestressed concrete Post of Size 2.44m.x(0.10+0.15)x1/2x0.10	No's	240.00	510.00	122400.00
2	Stacking ,local tranportation along NH and any other misc. expenditure.	L.S.	240	25.00	6000.00
4	Digging of pit of size 30 cm x 30 cm x60 cm and fixing of Cement Post of size 2.44M x (0.10+0.15) x 1/2 x 0.10 cm in any type of soil.	No's	240.00	40.00	9600.00
5	Stretching of Barbed wire and fixing it with the angle iron post with GI Wire	Rmt	4000.00	2.50	10000.00
6	Procurement of welded wire mesh of thickness 12 Gauge(2.5mm) and Mesh size 4inch x 4 inch of height 2. mtr (a Roll of 30 Mtr of Welded wire mesh weigh 50 Kg.)	Kg	1665.00	95.00	158175.00
	Stretching of Welded wire mesh and fixing it to post and 4strands barbed wire with GI Wire	RMT	1000.00	10.85	10850.00
7	Misc. and unforeseen expenditure(Numbering of posts, purchase of GI wire etc)	Prorata	LS		8575.00
Total					370000.00
Per Running metre Cost					370.00

Note:- (1) Distance between Post to Post will be maintained 5 Mtr and 2 supports will be provided at each 11th Post in inclined manner .

(2) Four Hooks will be placed at equal distance from top to bottom of the post.

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(अमर सिंह मोहवाल)
मुख्य वन संरक्षक (आयोजन),
राजस्थान, जयपुर