Full title of the Project: Diversion of Forest Land for widening of existing Pashan to NDA DP Road at Bavdhan, Tehsil Mulshi, District Pune

File No.: FP/ MH/ROAD/152747/2022

Date of Proposal: 23/02/2022

SCHEME & MODEL RATE STRUCTURE FOR COMPENSATORY AFFORESTATION

Attached herewith a copy of Scheme & Model Rate Structure for proposed Compensatory Afforestation.

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Date: 26 / 06/2022

Place: PUNE

Office Seal:

Rahul Patil, IFS
Dy. Conservator of Forests
Pune Forest Division
Pune

Enclosure to Principal Chief Conservator of Forest (HoFF), M. S. Nagpur Letter No. Desk-17/CA/Nodal Cell/CR-40/1127/2019-20, Date 04/10/2019

Model Rate Structure for Compensatory Afforestation

Model No.5.

Fencing and Irrigated Plantations

Model rate structure for plantation of mixed tree species having rainfall less than 800 mm and medium quality, medium drained soil

Spacement - 3m x 3m
Size of Pits - 0 45 x 0 45 x 0 45m
No of Seedlings - 1111 per ha

wage rate — Wage Rate- Rs 404 50 per day

Gat no.406

Range-Paud
Round-Paud
Beat-Pirangut
Village-Bhare

(Amount in Rs)

Sr No	Particulars of works	Man days	Wages	Material supply	Total (Rs Per Ha)	Sanction Letter Dt / Model No / Item No	For 1.00 ha Man days	Wages	Material supply	Total (Rs Per Ha)
A. Pre Monsoon Works PPO/PYO										
1	(a) Survey and demarcation	1	404 5	91	495 5	Letter Dt 07/03/2018 Irrigated & fencing Plantation Model no 1 Item No 1a	0.5	202.25	45.5	247 75
	(b) Preparation of treatment map (100 m x 50 m grid)	1	404 5	91	495 5	Item No 1b	0.5	202.25	45 5	247 75
	(c) Digging trial pits of size 0 30x0 30x0 60 m corner of Grid	0 4	161 8	0	161 8	Item No 1c	0.2	80.9	0	80 9
	(d) Fixing 60cm x 0 05cm x12cm cement pillars upto 30cm deep in corner of Grid, painting with Grid No etc complete (3 pillars Rs 75/- for each pillrs)	0	0	225	225	Item No 1d	0	0	112.5	112 5
	(e) Clearing of bushes and preparation of site (As per requirement)	10	4045	91	4136	Item No 1e	5	2022.5	45.5	2068
2	Soil and moisture conservation works including collection of rubbles from areas upto 30 m etc	31	12539 5	0	12539 5	Item No. 2	15.5	6269.75	0	6269 75
3	Providing and fixing chain link fencing, 102 Rmt per ha (With one gate + two wickets gates for one site) (Rs 1494/- per Rmt of basic rate + 20% for transportation of ave leadplus 20% for tribal/remote area (by [illegible]r process) (Rs 1494+149+149=1792/- per Rmt (1 60 Rmt height with G I Chain link size 50mmx50m, 8 gauge thick and fixed 75mm above ground level complete as per SSR item No 1744 for 2017-18)	0	0	182865 6	182865 6	As per SSR rates 201718 Item No. 1744	0	0	91432.8	91432 8
4	Alignment of pits at 3m x 3m spacement 1111 pits per Ha (0 25 per 100 pits and M&S @ Rs	2 78	1124 51	49 77	1174 28	Item No 4	1.39	562.255	24.885	587.14
5	Digging of pits of size 0 45 x 0 45 x 0 45 m (1111 pits per ha) 6 60 M D per 100 pits Note :- As per local conditions provision for mechanized digging can be made	73 33	29661 99	0	29661.99	Item No 5	36 665	14830 995	0	14830.995
6	Construction of 5 00 Rmt wide Inspection Path 1M D per 100 Rmt	1	404.5	0	404 5	Item No. 6	0.5	202.25	0	202.25
7	Enumeration of all valuable plant species at plantation site and grid wise counting and providing color band and recording the same in Register (0 75 M D) per 100 plants	0.75	303 37	25	328.37	Item No. 7	0.375	151.685	12.5	164.185
8	Providing and fixing (4 feet x 3 feet) information board each per site	0	0	5000	5000	Item No. 8	0	0	2500	2500
9	Part Nursery cost of raising 1333 seedlings per ha (including 20% casualty replacement) in polygons of size 12.50 x 25 00 cm (Wages Rs 11 90 and M & S Rs 3 62 per plant)	46 71	18894.19	4825.46	23719.65	Item No. 9 20% Casualty replacement in place of 10%	23.355	9447.095	2412.73	11859.825
	Total	167.97	67943.86	193263.83	261207.69		83.985	33971.93	96631.915	130603.845
	Contingency 3%		0		7836.23		0	0		3918.11535
	Labour Welfare 4%		0		10448.3		0	0		5224.1538
	Grand Total	167.97	67943.86	193263.83	279492.22		83.985	33971.93	96631.915	139746.1142
B. Fi[illegible]r Operations										
1	Nursery cost for maintenance of 1333 seedling per ha Rs 3 77 per seedling (Wages Rs 2 69, M & S Rs 0 81)	14 8	5986 6	1079.73	7066.33	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no 1 Item No. 1 casuality replacement 20%	7.4	2993.3	539.865	3533.165
2	Refilling of pits by good quality soil including application of single super phosphate (1 66 MD per 100 pits)	18 44	7458.98	1944.25	9403.23	Item No. 2	9.22	3729.49	972.125	4701.615
3	Transportation of 1333 seedlings from Nursery to plantation site including loading & unloading (0.14 M D. per 100 seedlings & M.S. Rs 1 82 Per seedlings)	1.87	756.41	2426	3182 41	Item No. 3 10% Extra Plants to be transported	0.935	378.205	1213	1591.205
4	Planting of 1111 seedlings (1.0 M D per 100 seedlings)	11.11	4493.99	0	4493.99	Item No. 4	5.555	2246.995	0	2246.995
5	3 seedlings (1 Rmt circular) and 2 soil workings (4 00 M D per 100 seedlings) fertilizer application Rs 0 82 per seedling	44.44	17975.98	911.02	18887	Item No. 5	22.22	8987.99	455.51	9443.5
6	Watering 1111 seedlings November and December 1 time each, January to March 2 times each per seedlings 5 litre water, purchase of 1111 plastic can of 5 litre / matka @Rs 25/- each and 100 litre capacity 11 drums @Rs 400/ each for supplying water and water supply at @Rs 0 05 per litre and wages for watering 1 M D for 150 seedlings	59 25	23966.62	54395	78361.62	Item No. 7	29.625	11983.31	27197.5	39180.81
7	Casualty replacement (20% 222 Seedlings per ha) (2 M D per 100 seedlings)	4.44	1795.98	0	1795.98	Item No. 6 20% instead of 10%	2.22	897.99	0	897.99
8	Part Nursery cost for causality replacement in SYO (222 seedlings per ha) (wages Rs 11.90 and material supply Rs.3 62 total Rs.12.55 per seedling)	7.77	3142.96	803.64	3946.6	Item No. 8 20% instead of 10%	3.885	1571.48	401.82	1973.3
9	Watch and ward (10 months – 1 watcher per 10 ha)	27.38	11075.21	0	11075.21	Item No. 9	13.69	5537.605	0	5537.605
10	Soil working for naturally grower plants and singling (1 15 M D per 100 plants)	1.15	465.17	10	475.17	Item No 10	0.575	232.585	5	237.585
11	Fire tracing	2	809	0	809	Item No 12	1	404.5	0	404.5
	Total	192.65	77926.9	61569.64	139496.54		96.325	38963.45	30784.82	69748.27

	Contingency 3%		0		4184 9					2092 4481
	Labour Welfare 4%		0		5579 86					2789.9308
	Grand Total	192.65	77926.9	61569.64	149261.3		96.325	38963.45	30784.82	74630.6489
C. Second Year Operations										
1	Part nursery cost for seedlings for causality replacement (222 seedlings per ha) labour rate @ Rs 3 77 and M S Rs 1 82 per seedlings	2 46	995 07	404	1399 07	Letter Dt 07/03/2018 Irrigated & fencing Plantation Model no 1 Item No 1 casualty replacement 20%	1 23	497.535	202	699 535
2	Transportation of 222 seedlings for causality replacement from nursery to plantation site (including loading and unloading) wages 0 14 M D Per 100 Seedling & M S Rs 1 82 per seedlings	0 31	125 39	404 04	529 43	Item No 2 20% instead of 10%	0.155	62 695	202	264.695
3	Planting for casualty replacement 222 seedlings (2 00 M D per 100 seedlings)	4 44	1795 98	0	1795 98	Item No 3 20% instead of 10%	2 22	897.99	0	897 99
4	2 weedings and 1 soil working, with fertilizer application 2 5 M D per 100 seedlings at M S Rs 0 82 per seedling	27.77	11232.96	911 02	12143 98	Item No 4	13 885	5616.48	455.51	6071 99
5	Watering 1111 seedlings in November, December, January and June 1 time each and in February to May 2 times each total 12 times 5 litre per seedlings, replacing 10% plastic can / matka @Rs 25/- each replacing 111 cans / matka, supplying water @Rs 0 50/- per litre and watering 150 seedlings per M D	88 88	35951 96	36105	72056 96	Item No 5	44.44	17975.98	18052 5	36028.48
6	Watch and ward 12 months -1 watcher per 10 00 ha	36 5	14764 25	0	14764 25	Item No 6	18.25	7382.125	0	7382.125
7	Fire tracing	2	809	0	809	Item No 8	1	404.5	0	404 5
	Total	162.36	65674.61	37824.06	103498.67		81.18	32837.305	18912.01	51749.315
	Contingency 3%		0		3104 96					1552.47945
	Labour Welfare 4%		0		4139 94					2069 9726
	Grand Total	162.36	65674.61	37824.06	110743.57		81.18	32837.305	18912.01	55371.76705
D. Third Year Operations										
1	[illegible]eding and 1 soil working (1 50 M D per [illegible] seedlings) applying fertilizer @ Rs 0 82 per plant	16 67	6743 01	911 02	7654.03	Letter Dt 07/03/2018 Irrigated & fencing Plantation Model no 1 Item No. 1	8 335	3371.505	455 51	3827 015
2	Watering 556 seedlings in November, December, January and June 1 time each and February to May 2 times each total 12 times per seedlings 5 litre, water supply @Rs 0 50/- litre and watering 150 seedlings per M D	44 48	17992.16	16680	34672.16	Item No 2	22.24	8996.08	8340	17336 08
3	Watch and ward 12 months 1 watcher per 10 00 ha	36 5	14764.25	0	14764.25	Item No. 3	18.25	7382.125	0	7382.125
4	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	809	25	834	Item No. 5	1	404.5	12.5	417
5	Fire tracing	2	809	0	809	Item No 6	1	404.5	0	404 5
	Total	101.65	41117.42	17616.02	58733.44		50.825	20558.71	8808 01	29366 72
	Contingency 3%		0		1762					881.0016
	Labour Welfare 4%		0		2349 33					1174 6688
	Grand Total	101.65	41117.42	17616.02	62844.77		50.825	20558.71	8808.01	31422.3904
E. Fourth Year Operations										
1	Watch and ward 12 months 1 watcher per 10 00 ha	36 5	14764.25	0	14764 25	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no 1 Item No 1	18.25	7382.125	0	7382.125
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	809	25	834	Item No 2	1	404.5	12.5	417
3	Fire tracing	2	809	0	809	Item No 3	1	404.5	0	404 5
	Total	40.5	16382.25	25	16407.25		20.25	8191.125	12.5	8203 625
	Contingency 3%		0		492 21					246 10875
	Labour Welfare 4%		0		656 29					328 145
	Grand Total	40.5	16382.25	25	17555.75		20.25	8191.125	12.5	8777.87875
F. Fifth Year Operations										
1	Watch and ward 12 months 1 watcher per 10 00 ha	36 5	14764.25	0	14764 25	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1	18.25	7382.125	0	7382.125
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	809	25	834	Item No. 2	1	404.5	12.5	417
3	Fire tracing	2	809	0	809	Item No 3	1	404.5	0	404 5
	Total	40.5	16382.25	25	16407.25		20.25	8191.125	12.5	8203 625
	Contingency 3%		0		492 21					246 10875
	Labour Welfare 4%		0		656 29					328.145
	Grand Total	40.5	16382.25	25	17555.75		20.25	8191.125	12.5	8777.87875
G. Sixth Year Operations										
1	Watch and ward 12 months 1 watcher per 10 00 ha	36 5	14764 25	0	14764 25	Letter Dt. 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1	18.25	7382.125	0	7382.125
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	809	25	834	Item No. 2	1	404 5	12.5	417
3	Fire tracing	2	809	0	809	Item No 3	1	404.5	0	404 5
	Total	40.5	16382.25	25	16407.25		20.25	8191.125	12.5	8203 625
	Contingency 3%		0		492 21					246 10875
	Labour Welfare 4%		0		656 29					328 145
	Grand Total	40.5	16382.25	25	17555.75		20.25	8191.125	12.5	8777 87875
H. Seventh Year Operations										
1	Watch and ward 12 months 1 watcher per 10 00 ha	36 5	14764 25	0	14764 25	Letter Dt 07/03/2018 Irrigated & fencing Plantation Model no 1 Item No 1	18.25	7382.125	0	7382.125
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	809	25	834	Item No. 2	1	404.5	12.5	417
3	Fire tracing	2	809	0	809	Item No 3	1	404.5	0	404 5

S.N.	Item	Man days	Wages	Material supply	Total	Remarks	Man days	Wages	Material supply	Total
	Total	40.5	16382.25	25	16407.25		20.25	8191.125	12.5	8203.625
	Contingency 1%		0		492.21					246.10875
	Labour Welfare 4%		0		656.29					328.145
	Grand Total	40.5	16382.25	25	17555.75		20.25	8191.125	12.5	8777.87875
I. Eighth Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	14764.25	0	14764.25	Letter Dt 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1	18.25	7382.125	0	7382.125
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	809	25	834	Item No. 2	1	404.5	12.5	417
3	Fire tracing	2	809	0	809	Item No. 3	1	404.5	0	404.5
	Total	40.5	16382.25	25	16407.25		20.25	8191.125	12.5	8203.625
	Contingency 1%		0		492.21					246.10875
	Labour Welfare 4%		0		656.29					328.145
	Grand Total	40.5	16382.25	25	17555.75		20.25	8191.125	12.5	8777.87875
J. Ninth Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	14764.25	0	14764.25	Letter Dt 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1	18.25	7382.125	0	7382.125
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register in May and October	2	809	25	834	Item No. 2	1	404.5	12.5	417
3	Fire tracing	2	809	0	809	Item No. 3	1	404.5	0	404.5
	Total	40.5	16382.25	25	16407.25		20.25	8191.125	12.5	8203.625
	Contingency 1%		0		492.21					246.10875
	Labour Welfare 4%		0		656.29					328.145
	Grand Total	40.5	16382.25	25	17555.75		20.25	8191.125	12.5	8777.87875
K. Tenth Year Operations										
1	Watch and ward 12 months 1 watcher per 10.00 ha	36.5	14764.25	0	14764.25	Letter Dt 07/03/2018 Irrigated & fencing Plantation Model no. 1 Item No. 1	18.25	7382.125	0	7382.125
2	Counting of survival percentage Grid wise and Species wise and to Note the same on Register [illegible] ay and October	2	809	25	834	Item No. 2	1	404.5	12.5	417
3	[illegible] tracing	2	809	0	809	Item No. 3	1	404.5	0	404.5
	Total	40.5	16382.25	25	16407.25		20.25	8191.125	12.5	8203.625
	Contingency 3%		0		492.21					246.10875
	Labour Welfare 4%		0		656.29					328.145
	Grand Total	40.5	16382.25	25	17555.75		20.25	8191.125	12.5	8777.87875

Abstract for Model No.5

(Amount in Rupees)

S. N.	Year of operation	Man days	Wages	Material supply	Total	Other expenses	Total amount	Man days	Wages	Material supply	Total
								For 38.896 ha.			
1	Pre Monsoon works	167.97	67943.86	193263.83	261207.7	18284.53	279492.22	83.985	33971.93	96631.915	139746.1142
2	First Year Operations	192.65	77926.9	61569.64	139496.5	9764.76	149261.3	96.325	38963.45	30784.82	74630.6489
3	Second Year Operations	162.36	65674.61	37824.06	103498.7	7244.9	110743.57	81.18	32837.305	18912.01	55371.76705
4	Third Year Operations	101.65	41117.42	17616.02	58733.44	4111.33	62844.77	50.825	20558.71	8808.01	31422.3904
5	Fourth Year Operations	40.5	16382.25	25	16407.25	1148.5	17555.75	20.25	8191.125	12.5	8777.87875
6	Fifth Year Operations	40.5	16382.25	25	16407.25	1148.5	17555.75	20.25	8191.125	12.5	8777.87875
7	Sixth Year Operations	40.5	16382.25	25	16407.25	1148.5	17555.75	20.25	8191.125	12.5	8777.87875
8	Seventh Year Operations	40.5	16382.25	25	16407.25	1148.5	17555.75	20.25	8191.125	12.5	8777.87875
9	Eighth Year Operations	40.5	16382.25	25	16407.25	1148.5	17555.75	20.25	8191.125	12.5	8777.87875
10	Nineth Year Operations	40.5	16382.25	25	16407.25	1148.5	17555.75	20.25	8191.125	12.5	8777.87875
11	Tenth Year Operations	40.5	16382.25	25	16407.25	1148.5	17555.75	20.25	8191.125	12.5	8777.87875
	Total	908.13	367338.54	310448.55	677787.1	47445.02	725232.11	454.065	183669.27	155224.255	362616.0718

Cost per plant Rs 652.77

Note:-

1 Rates of chain linked fencing derived from SSR-2017-18 with addition for area difference and transportation lead.

2 Pla[illegible]n M D. and M S. component derived from rate structure as approved by PCCF (HoFF) M S. vide letter No.Desk-1/EGS/CR-10/2282/2017-18/Nagpur, Dated 07/03/2018.

(Rahul Patil, IFS)
Deputy Conservator of Forests,
Pune Forest Division, Pune