सत्यमेव जयते

भारतीय राष्ट्रीय राजमार्ग प्राधिकरण
(सड़क पारिबहन और राजमार्ग मंत्रालय, भारत सरकार)
National Highways Authority of India
(Ministry of Road Transport and Highways, Government of India)
परियोजना कार्यान्वयन इकाई / Project Implementation Unit
प्लाट सं - १०८६, चांदमारीपड़ीआ रोड़, सहदेबखुण्टा, बालेश्वर - ७५६००१ (ओड़िशा)
Plot No. 1086, Chandmaripadia Road, Sahadevkhunta, Balasore - 756001 (Odisha)
दूरभाष / Tel : 06782-263366
ई-मेल /e-mail : nhaibalasore@gmail.com, piubalasore@nhai.org

NHAI/11011/5/FOREST/2022/PIU/BLS/916 22 July 2022

TO WHOMSOEVER IT MAY CONCERN

Sub.: Rehabilitation and Upgradation to Four laning of 7.6 km stretch (km 229.00 to km 236.600) inside buffer zone of Similipal Tiger Reserve of Baharagora to Singhara Section (km 199.200 to km 310.806) of NH-6 in the State of Odisha

The following undertakings are hereby given on the issue of allotment of CA land for the subject project:

1. The original proposal for diversion of 85.104 ha of forest land for the entire Baharagora to Singhara Section of NH-6 was applied in January 2016 with Proposal No. FP/OR/Road/17550/2016 to MoEFCC for forest clearance

2. 178.328 ha of Compensatory Afforestation (CA) land was allotted in lieu of 85.104 ha forest land in Karada DPF & Dalimbadihi Revenue Forest of Lahunipara Tehsil of Banki Range and Barpani RF &Jatia RF of Biramitrapur Range under Rourkela Forest Division, District Sundargarh, Odisha.

3. Out of 85.104 ha only 67.309 ha of forest land were approved by Regional Office -MoEF&CC, Bhubaneswar in December 2020. However, the CA land was not reduced and was allotted in totality.

4. The present diversion proposal involves diversion of balance forest land. i.e., 85.104-67.309 = 17.795 ha for which CA land has already been allotted. Therefore, allotment of fresh CA land is not required for the project.

(J.P. Verma)
Project Director

CA LAND DOCUMENTS

(178.328 Ha CA land as Approved in Dec 2020 in FP/OR/Road/17550/2016)

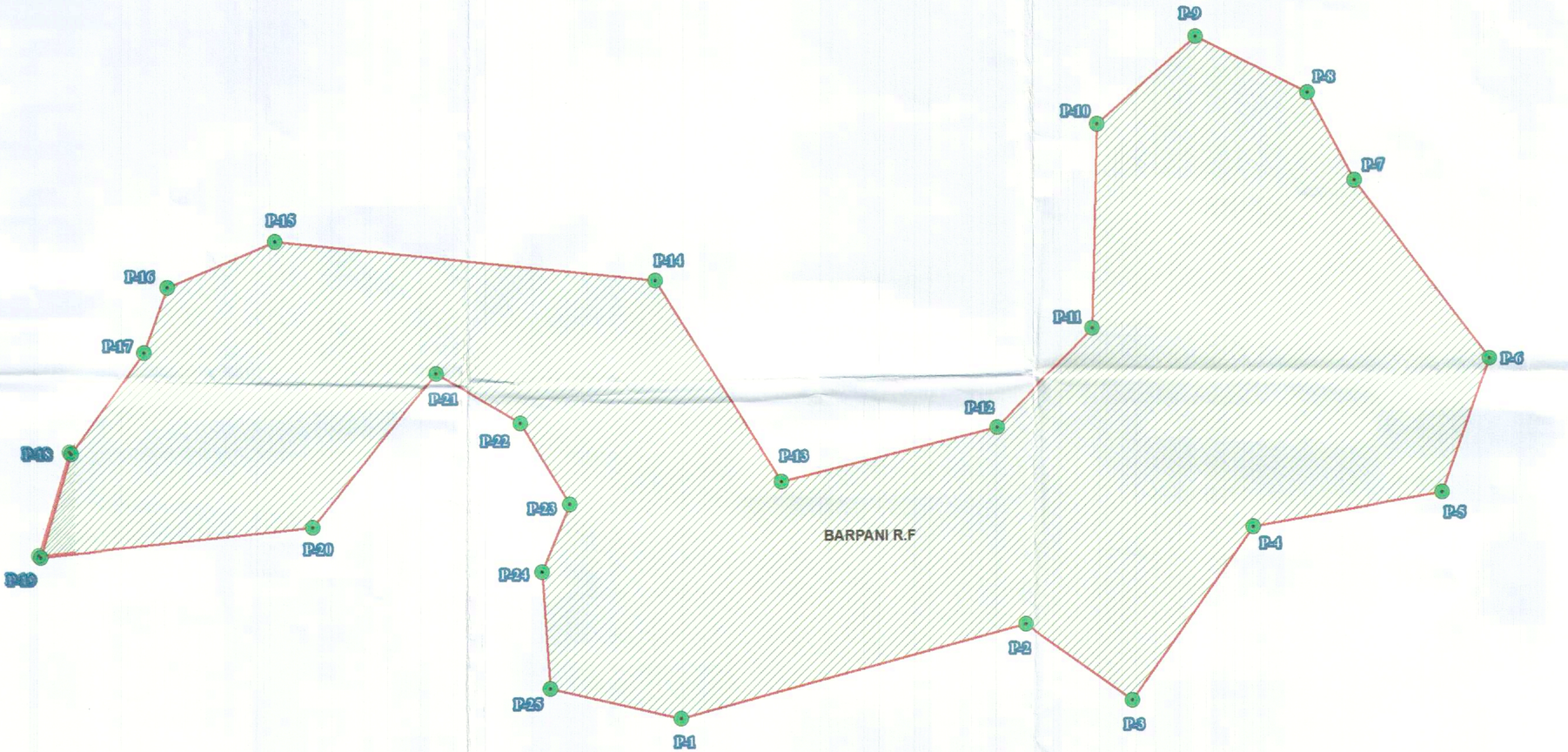
DGPS MAP SHOWING AN AREA OF 55.126 Ha. IN BARPANI R.F FOR COMPENSATORY AFFORESTATION AGAINST 4-LANING OF EXISTING ROAD FROM BAHARAGORA TO SINGHARA SECTION OF NH-6.

84°50'0"E

84°50'30"E

22°26'0"N

22°25'30"N



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SCALE :- 1:3,960

Meters

0 50 100 200 300 400 500

LEGEND

- C.A.LAND PILLARS
- C.A.LAND BOUNDARY

AREA STATISTICS OF C.A.LAND

SL.NO	FOREST NAME	AREA IN Ha	AREA IN Ac
1	BARPANI R.F	55.126	136.219
	TOTAL AREA	**55.126**	**136.219**

DGPS CO-ORDINATES OF C.A.LAND PILLARS

PILLAR ID	EASTING	NORTHING	LONGITUDE	LATITUDE
P-1	277415.944	2481762.167	84°50'14.76744"	22°25'39.40968"
P-2	277815.837	2481868.872	84°50'28.69332"	22°25'43.06476"
P-3	277940.642	2481781.090	84°50'33.10008"	22°25'40.27008"
P-4	278080.675	2481979.783	84°50'37.89564"	22°25'46.79292"
P-5	278299.545	2482017.955	84°50'45.52764"	22°25'48.13572"
P-6	278354.764	2482172.944	84°50'47.38056"	22°25'53.19840"
p-7	278198.727	2482378.949	84°50'41.82216"	22°25'59.82096"
P-8	278144.585	2482478.119	84°50'39.87960"	22°26'03.01848"
p-9	278015.512	2482542.673	84°50'35.33496"	22°26'05.05608"
P-10	277901.285	2482442.382	84°50'31.39188"	22°26'01.74336"
P-11	277894.990	2482210.067	84°50'31.28856"	22°25'54.19020"
P-12	277783.141	2482093.793	84°50'27.43692"	22°25'50.35908"
P-13	277532.604	2482032.428	84°50'18.70980"	22°25'48.24768"
P-14	277387.205	2482266.747	84°50'13.50888"	22°25'55.79472"
p-15	276945.339	2482312.984	84°49'58.03824"	22°25'57.09036"
P-16	276820.461	2482261.205	84°49'53.69880"	22°25'55.34904"
P-17	276792.937	2482186.723	84°49'52.77432"	22°25'52.91544"
P-18	276708.226	2482069.366	84°49'49.87236"	22°25'49.06164"
P-19	276672.793	2481951.387	84°49'48.69336"	22°25'45.21072"
P-20	276987.911	2481983.210	84°49'59.69316"	22°25'46.39296"
P-21	277131.363	2482160.543	84°50'04.61832"	22°25'52.22352"
P-22	277230.102	2482101.210	84°50'08.10024"	22°25'50.34144"
P-23	277287.201	2482007.917	84°50'10.14324"	22°25'47.33616"
P-24	277255.166	2481930.793	84°50'09.06216"	22°25'44.81472"
P-25	277264.502	2481797.201	84°50'09.45600"	22°25'40.47744"

Counter Signed

Divisional Forest Officer
Rourkela Division

CRISSA SPACE APPLICATION CENTRE
Map No.FDC-3
Date.16/01/2016
Auth. Signatory
BHUBANESWAR

DGPS SURVEY CONDUCTED BY

DIGITAL CARTOGRAPHY & SERVICES PVT. LTD. BHUBANESWAR

DIGITAL CARTOGRAPHY AND SERVICES (DCS) PVT.LTD
1015, Bhagabat Sandhan,
GGP Canal Road, Rasulgarh, Bhubaneswar-25

DGPS MAP SHOWING AN AREA OF 53.637 Ha. IN VILLAGE -DALIMBADIHI FOR COMPENSATORY AFFORESTATION AGAINST 4-LANING OF EXISTING ROAD FROM BAHARGORA TO SINGHARA SECTION OF NH-6.

ଜିଲ୍ଲା ସୁନ୍ଦରଗଡ଼

YEAR OF FINAL PUBLICATION 1975-76
ଫାଇନାଲ୍ ପବ୍ଲିକେସନ୍ ସାଲ ୧୯୭୫-୭୬
ଅସ୍ଲଲ ଇଞ୍ଚ ଥ୍ରି = ୧ ମାଇଲ୍
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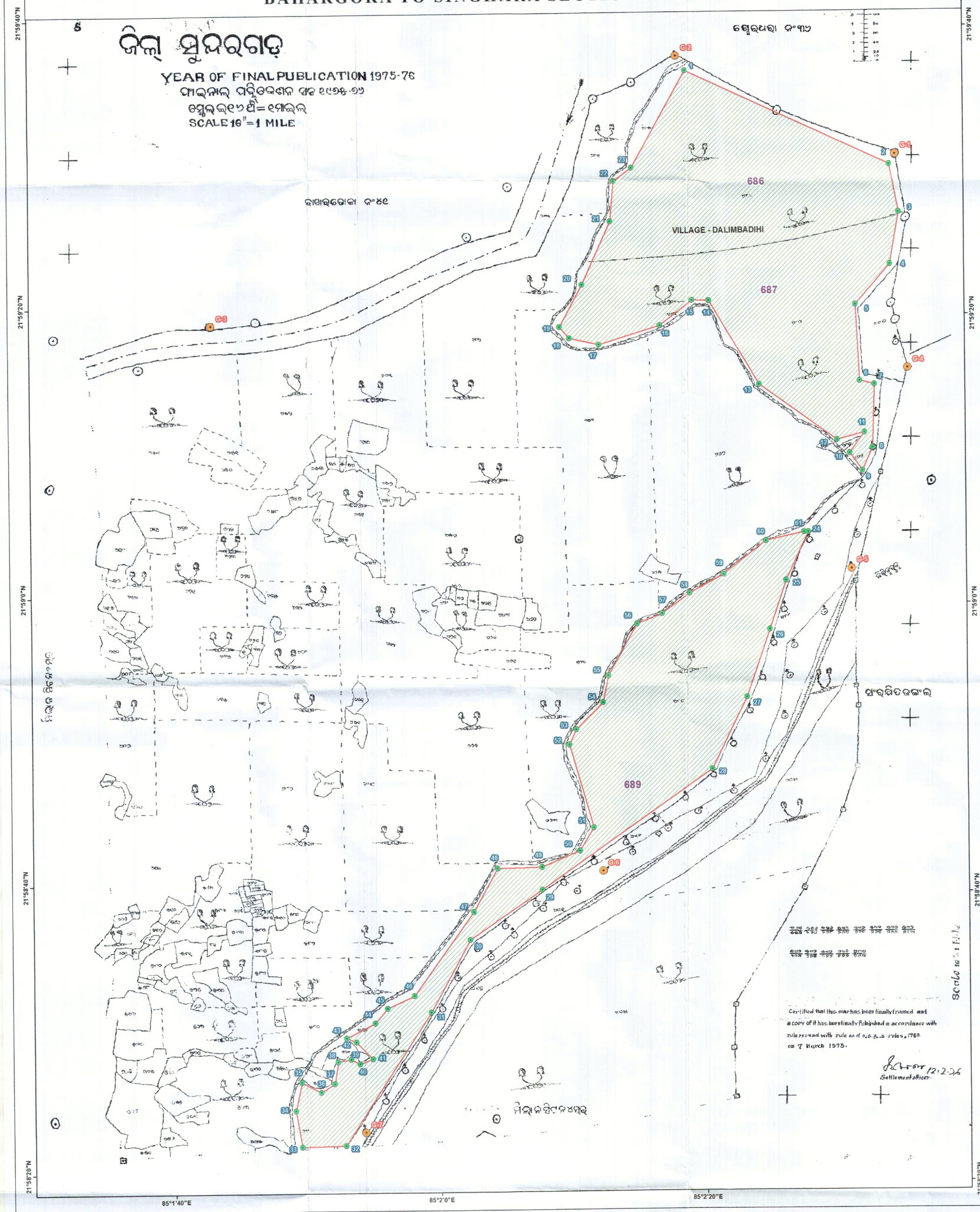


SCALE :- 3,960

Meters
0 50 100 200 300 400 500 600

LEGEND

- C.A.LAND PILLARS
- GEOREFERENCE POINT
- C.A.LAND BOUNDARY

AREA STATISTICS OF C.A.LAND

SL .NO	VILLAGE NAME	PLOT NO.	KISSAM	AREA IN Ac	AREA IN Ha
1	DALIMBADIHI	686	PATRA JUNGLE	39.47	15.974
2		687	PATRA JUNGLE	40.00	16.188
3		689	PATRA JUNGLE	53.07	21.475
TOTAL AREA				132.54	53.637

DGPS CO-ORDINATES OF C.A.LAND PILLARS

PILLAR ID	EASTING	NORTHING	LONGITUDE	LATITUDE
1	297480.886	2433411.940	85°02'18.12516"	21°59'36.78720"
2	297920.048	2433208.810	85°02'33.52272"	21°59'30.36732"
3	297939.850	2433105.361	85°02'34.25892"	21°59'27.01320"
4	297920.519	2432994.743	85°02'33.63468"	21°59'23.40924"
5	297845.650	2432909.984	85°02'31.06284"	21°59'20.62320"
6	297853.434	2432746.811	85°02'31.40700"	21°59'15.32220"
7	297885.072	2432738.482	85°02'32.51328"	21°59'15.06480"
8	297880.191	2432603.823	85°02'32.40348"	21°59'10.68540"
9	297858.090	2432555.554	85°02'31.65468"	21°59'09.10716"
10	297830.956	2432593.133	85°02'30.69204"	21°59'10.31748"
11	297862.911	2432636.667	85°02'31.78644"	21°59'11.74596"
12	297803.840	2432621.034	85°02'29.73480"	21°59'11.21316"
13	297637.061	2432740.358	85°02'23.86860"	21°59'15.02232"
14	297528.820	2432921.213	85°02'20.01516"	21°59'20.85612"
15	297492.449	2432922.527	85°02'18.74688"	21°59'20.88384"
16	297422.174	2432868.455	85°02'16.32192"	21°59'19.09680"
17	297290.962	2432828.143	85°02'11.76684"	21°59'17.73168"
18	297227.004	2432843.010	85°02'09.53088"	21°59'18.18816"
19	297206.037	2432867.171	85°02'08.78928"	21°59'18.96468"
20	297255.613	2432957.989	85°02'10.47660"	21°59'21.93756"
21	297316.671	2433090.645	85°02'12.54552"	21°59'26.27520"
22	297325.310	2433176.394	85°02'12.80796"	21°59'29.06592"
23	297363.726	2433205.448	85°02'14.13420"	21°59'30.02640"
24	297740.314	2432425.561	85°02'27.60792"	21°59'04.83288"
25	297691.217	2432323.146	85°02'25.94256"	21°59'01.48344"
26	297655.644	2432219.604	85°02'24.74880"	21°58'58.10304"
27	297605.468	2432074.652	85°02'23.06472"	21°58'53.37012"
28	297528.691	2431922.800	85°02'20.45688"	21°58'48.40212"
29	297159.422	2431667.975	85°02'07.70136"	21°58'39.96516"
30	297002.812	2431562.220	85°02'02.29056"	21°58'36.46200"
31	296917.889	2431407.900	85°01'59.40012"	21°58'31.41048"
32	296731.330	2431124.700	85°01'53.02560"	21°58'22.12716"
33	296636.088	2431122.708	85°01'49.70748"	21°58'22.02240"
34	296622.931	2431199.441	85°01'49.21464"	21°58'24.51108"
35	296636.320	2431259.874	85°01'49.65384"	21°58'26.48100"
36	296678.290	2431238.196	85°01'51.12624"	21°58'25.79412"
37	296707.797	2431256.249	85°01'52.14648"	21°58'26.39316"
38	296715.514	2431302.890	85°01'52.39452"	21°58'27.91236"
39	296743.657	2431307.762	85°01'53.37300"	21°58'28.08264"
40	296762.980	2431297.901	85°01'54.05088"	21°58'27.77016"
41	296791.085	2431309.022	85°01'55.02540"	21°58'28.14348"
42	296755.114	2431345.151	85°01'53.75568"	21°58'29.30268"
43	296734.013	2431353.782	85°01'53.01660"	21°58'29.57448"
44	296796.685	2431384.872	85°01'55.18668"	21°58'30.61128"
45	296823.517	2431416.997	85°01'56.10720"	21°58'31.66680"
46	296882.096	2431443.528	85°01'58.13688"	21°58'32.55348"
47	297011.032	2431622.021	85°02'02.55048"	21°58'38.40960"
48	297063.154	2431713.800	85°02'04.32600"	21°58'41.41452"
49	297159.410	2431716.213	85°02'07.67940"	21°58'41.53296"
50	297241.196	2431750.376	85°02'10.51440"	21°58'42.67776"
51	297271.447	2431799.902	85°02'11.54652"	21°58'44.30028"
52	297220.518	2431977.105	85°02'09.69216"	21°58'50.03904"
53	297235.040	2432008.666	85°02'10.18428"	21°58'51.07080"
54	297293.837	2432066.034	85°02'12.20784"	21°58'52.96008"
55	297305.575	2432123.548	85°02'12.59124"	21°58'54.83460"
56	297368.003	2432233.220	85°02'14.71776"	21°58'58.42560"
57	297422.587	2432254.855	85°02'16.61064"	21°58'59.15172"
58	297482.731	2432298.006	85°02'18.68748"	21°59'00.57948"
59	297556.806	2432337.649	85°02'21.25140"	21°59'01.89888"
60	297648.586	2432407.300	85°02'24.41904"	21°59'04.20108"
61	297730.687	2432425.253	85°02'27.27240"	21°59'04.81884"

CO-ORDINATES OF GEOREFERENCING POINTS

POINT ID	EASTING	NORTHING	LONGITUDE	LATITUDE
G-1	297932.859	2433230.209	85°02'33.95976"	21°59'31.06824"
G-2	297461.163	2433443.352	85°02'17.42388"	21°59'37.80024"
G-3	296453.518	2432876.674	85°01'42.55752"	21°59'18.95892"
G-4	297956.512	2432773.359	85°02'34.98792"	21°59'16.22796"
G-5	297832.936	2432347.236	85°02'30.87096"	21°59'02.32548"
G-6	297290.549	2431707.152	85°02'12.25356"	21°58'41.29320"
G-7	296774.778	2431152.324	85°01'54.52752"	21°58'23.04300"

- DGPS Survey of identified areas proposed for Compensatory afforestation in Rourkela Forest Division in lieu of forest areas proposed for diversion for rehabilitation and up-gradation of N.H-6 (Baharagoda - Singada Section) has been carried out by NHAI through M/s. DCS Pvt. Ltd., Bhubaneswar.
- DGPS Survey co-ordinates are verified by ORSAC. Also maps showing areas proposed for compensatory afforestation are verified with geo-referenced cadastral sheet/survey co-ordinates and compared with Ortho-rectified Cartosat Satellite image and found that maps are correct at a confidence level of 95%.
- All the areas proposed for compensatory afforestation comes in five patches of which two patches in R.Fs. (One patch each in Barpani R.F. and Jatia R.F. under Biramitrapur Range), One patch in Kerada D.P.F. and two patches in village Dalimbadihi under R. Balanga Range. Total area proposed for compensatory afforestation vide proposal vide to 177.558 Ha. includes 55.126 Ha. in Barpani R.F., 23.952 Ha. in Jatia R.F., 44.843 Ha. in Kerada D.P.F. and 53.637 Ha. in village Dalimbadihi from the submitted shp files against the allotted area of 178.328 Ha. (55.126 Ha. in Barpani R.F., 23.952 Ha. in Jatia R.F., 44.843 Ha. in Kerada D.P.F. and 54.407 Ha. in the village Dalimbadihi) as mentioned in forwarding letters.
- Additional 3 maps showing areas proposed for compensatory afforestation in Barpani R.F., Jatia R.F. and Kerada D.P.F. are attached herewith.

16/01/2014
(Ashok Prapatra)
Scientist 'SC'

DRISTI SPACE APPLICATIONS (P) LTD. BHUBANESWAR
Map No. EDC-3874
Date 16/01/2014
Auth. Signatory 16/01/2014

Counter Signed

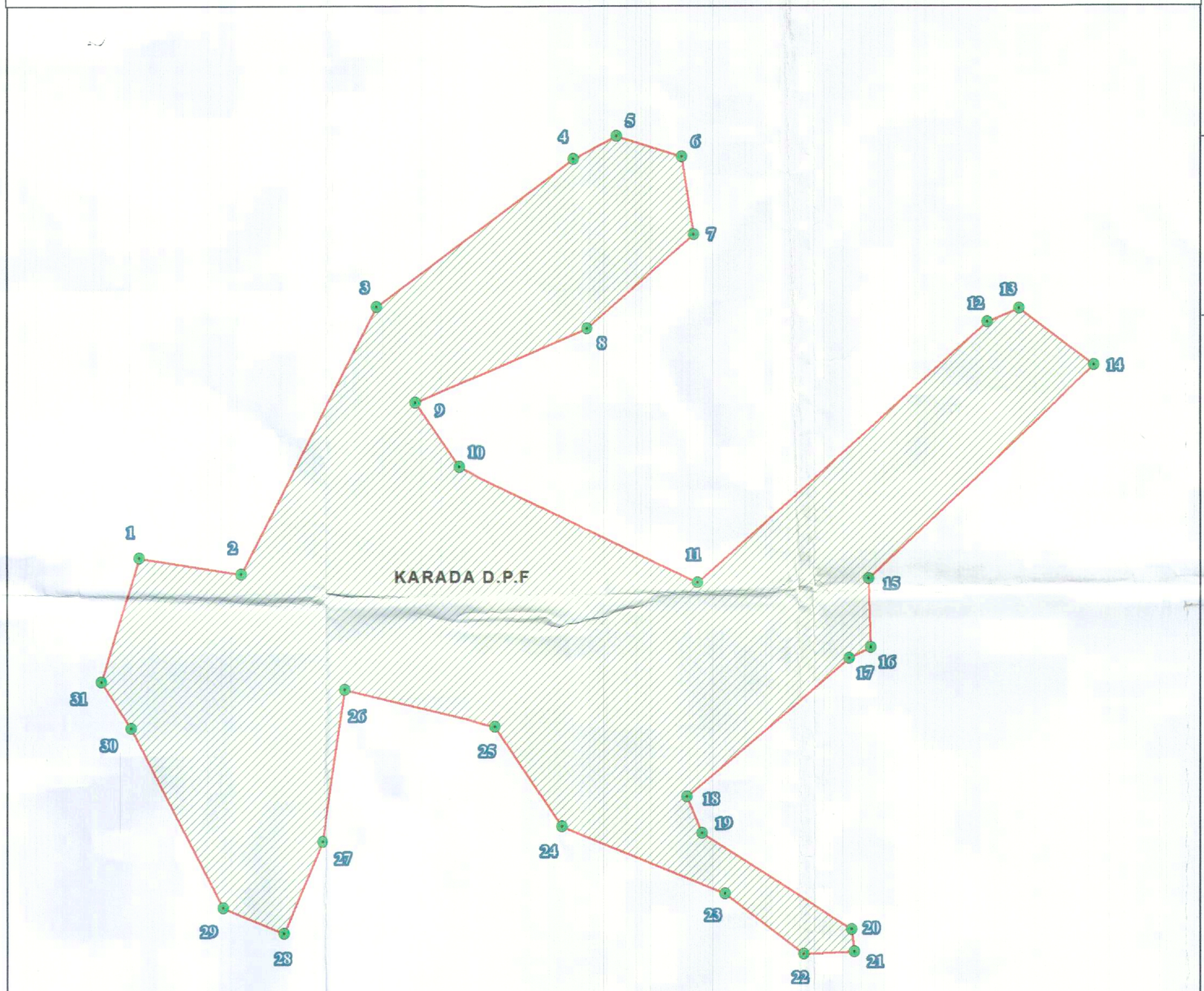
Divisional Forest Officer
Rourkela Division

DGPS SURVEY CONDUCTED BY

DIGITAL CARTOGRAPHY AND SERVICES (DCS) PVT.LTD

1015, Bhagabat Sandhan,
GGP Canal Road, Rasulgarh, Bhubaneswar-25

DGPS MAP SHOWING AN AREA OF 44.843 Ha. IN KARADA D.P.F FOR COMPENSATORY AFFORESTATION AGAINST 4-LANING OF EXISTING ROAD FROM BAHARGORA TO SINGHARA SECTION OF NH-6.



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SCALE :- 1:3,960

Meters

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LEGEND

- C.A LAND PILLARS
- CA LAND BOUNDARY

AREA STATISTICS OF C.A.LAND			
SL.NO	FOREST NAME	AREA IN Ac.	AREA IN Ha.
1	KARADA D.P.F	110.810	44.843
TOTAL AREA		110.810	44.843

DGPS CO-ORDINATES OF C.A.LAND PILLARS

PILLAR ID	EASTING	NORTHING	LONGITUDE	LATITUDE
1	289116.695	2441107.608	84°57'23.01372"	22°03'43.36452"
2	289243.795	2441087.692	84°57'27.45504"	22°03'42.77268"
3	289412.169	2441414.973	84°57'33.17328"	22°03'53.48376"
4	289657.076	2441596.480	84°57'41.62860"	22°03'59.49000"
5	289711.921	2441624.612	84°57'43.52796"	22°04'00.42816"
6	289793.014	2441599.237	84°57'46.36764"	22°03'59.63868"
7	289807.390	2441503.518	84°57'46.91376"	22°03'56.53368"
8	289674.865	2441387.892	84°57'42.34644"	22°03'52.71768"
9	289460.550	2441297.099	84°57'34.91532"	22°03'49.67352"
10	289515.842	2441219.164	84°57'36.87984"	22°03'47.16432"
11	289812.336	2441076.577	84°57'47.28492"	22°03'42.65856"
12	290173.377	2441395.178	84°57'59.72616"	22°03'53.17092"
13	290213.321	2441412.461	84°58'01.11108"	22°03'53.75016"
14	290306.626	2441342.714	84°58'04.39716"	22°03'51.52356"
15	290026.428	2441080.749	84°57'54.74844"	22°03'42.88716"
16	290028.987	2440993.485	84°57'54.87804"	22°03'40.05180"
17	290001.992	2440980.212	84°57'53.94312"	22°03'39.60864"
18	289799.245	2440810.995	84°57'46.95228"	22°03'34.02072"
19	289818.154	2440766.051	84°57'47.63232"	22°03'32.56812"
20	290005.404	2440646.759	84°57'54.21708"	22°03'28.77192"
21	290008.541	2440619.704	84°57'54.33912"	22°03'27.89388"
22	289945.227	2440617.144	84°57'52.13268"	22°03'27.78300"
23	289846.941	2440691.229	84°57'48.67128"	22°03'30.14856"
24	289642.946	2440774.751	84°57'41.51916"	22°03'32.77476"
25	289560.011	2440897.986	84°57'38.56968"	22°03'36.74412"
26	289372.965	2440943.015	84°57'32.02668"	22°03'38.12652"
27	289345.046	2440756.255	84°57'31.14036"	22°03'32.04396"
28	289296.437	2440644.022	84°57'29.49768"	22°03'28.37484"
29	289220.683	2440675.284	84°57'26.84160"	22°03'29.35800"
30	289105.682	2440895.798	84°57'22.72860"	22°03'36.47520"
31	289069.173	2440953.496	84°57'21.42864"	22°03'38.33496"

Coordinates Signed

Divisional Forest Officer
Rourkela Division

ORISSA SPACE APPLICATIONS CENTRE
Map No. DDC-2227
Date. 16/01/2017
Auth. Signatory
BHUBANESWAR

DGPS SURVEY CONDUCTED BY

DIGITAL CARTOGRAPHY & SERVICES PVT. LTD. BHUBANESWAR

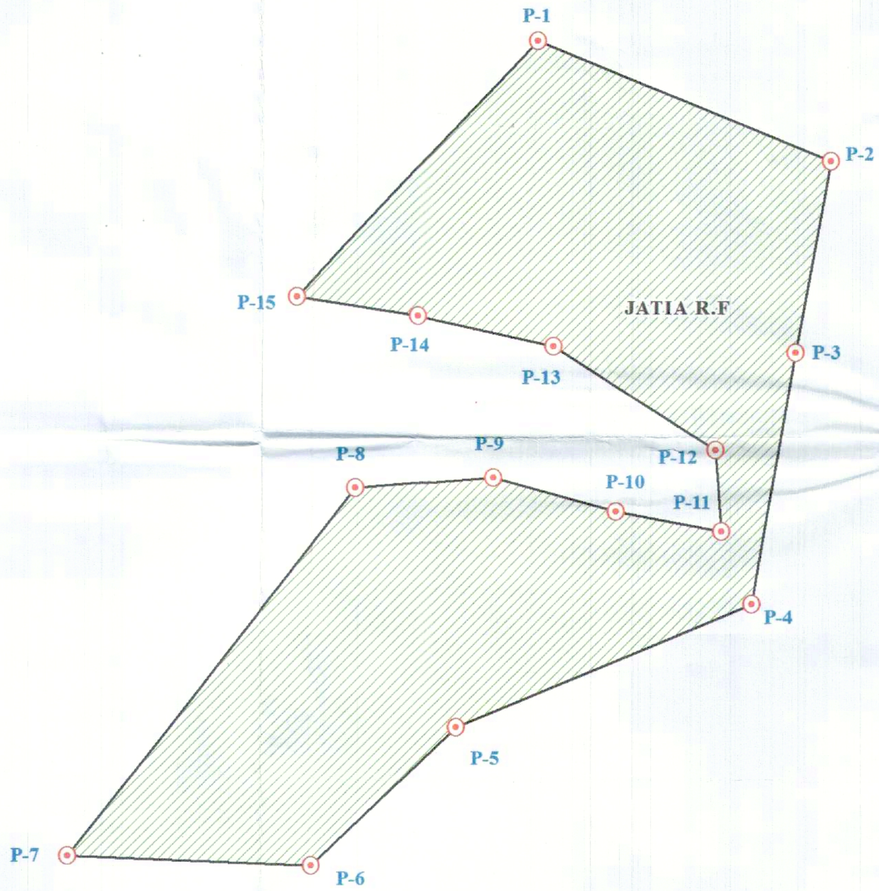
DIGITAL CARTOGRAPHY AND SERVICES (DCS) PVT.LTD

1015, Bhagabat Sandhan,
GGP Canal Road, Rasulgarh, Bhubaneswar-25

DGPS MAP SHOWING AN AREA OF 23.952 Ha. IN JATIA R.F. FOR COMPENSATORY AFFORESTATION AGAINST 4-LANING OF EXISTING ROAD FROM BAHARGORA TO SINGHARA SECTION OF NH-6.

84°53'0"E 84°53'20"E

22°21'40"N 22°21'20"N



Countersigned

Divisional Forest Officer
Rourkela Division

ORISSA SPACE APPLICATION CENTRE * BHUBANESWAR *
Map No. F.DC-33/12
Date 16.01.2017
Auth. Signatory

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SCALE:- 1:3,960

Meters
0 50 100 200 300 400

LEGEND

- C.A.LAND PILLARS
- C.A.LAND BOUNDARY

AREA STATISTICS OF C.A. LAND			
SL NO.	FOREST NAME	AREA IN Ac.	AREA IN Ha.
1	JATIA R.F.	59.186	23.952
TOTAL AREA		59.186	23.952

DGPS CO-ORDINATES OF C.A.LAND PILLARS				
PILLAR ID	EASTING	NORTHING	LONGITUDE	LATITUDE
P-1	282283.342	2474324.465	84°53'08.57976"	22°21'39.93408"
P-2	282568.892	2474208.590	84°53'18.61404"	22°21'36.29808"
P-3	282535.379	2474023.734	84°53'17.53368"	22°21'30.27492"
P-4	282493.523	2473780.299	84°53'16.19052"	22°21'22.34412"
P-5	282206.067	2473661.894	84°53'06.20484"	22°21'18.36468"
P-6	282065.236	2473527.630	84°53'01.34988"	22°21'13.93668"
P-7	281827.195	2473536.016	84°52'53.02884"	22°21'14.10048"
P-8	282107.499	2473890.867	84°53'02.64840"	22°21'25.76160"
P-9	282241.756	2473902.202	84°53'07.33380"	22°21'26.19108"
P-10	282361.034	2473869.295	84°53'11.51772"	22°21'25.17624"
P-11	282463.565	2473849.289	84°53'15.11016"	22°21'24.57252"
P-12	282457.814	2473929.176	84°53'14.87004"	22°21'27.16632"
P-13	282300.457	2474030.139	84°53'09.32208"	22°21'30.37608"
P-14	282167.863	2474058.745	84°53'04.67520"	22°21'31.24512"
P-15	282050.106	2474077.205	84°53'00.55140"	22°21'31.79124"

DGPS Survey Conducted by

DIGITAL CARTOGRAPHY & SERVICES (DCS) PVT. LTD. BHUBANESWAR

DIGITAL CARTOGRAPHY AND SERVICES (DCS) PVT.LTD.

1015,Bhagabat Sandhan,
GGP Canal Road, Rasulgarh,Bhubaneswar-25

GOVT. OF ODISHA
FOREST AND ENVIRONMENT DEPARTMENT

SCHEME FOR
COMPENSATORY AFFORESTATION OVER 178.328 HA.

OF
DEGRADED FOREST LAND IDENTIFIED IN
KARADA DPF, DALIMBADIHI RSV. F, BARPANI &
JATIA RF
UNDER BANKI & BIRAMITRAPUR RANGE
OF
ROURKELA FOREST DIVISION

AGAINST FOUR LANING OF EXISTING BAHARAGORA
TO SINGHARA SECTION OF NH- 6 (NE NH No.49/53)
OF
STATE OF ODISHA

CHAPTER- I

BRIEF NOTE ON THE PROPOSED FOREST DIVERSION PROPOSAL

Four Laning of existing Baharagora to Singhara Section of NH-6(Ne NH No.49/53) in the State of Odisha of Mayurbhanja District proposed to be done as per National Highway Authority of India. The proposal for raising of Compensatory afforestation against the diverted forest land for four laning of afforsaid has been identified in Banki and Biramitrapur Range of Rourkela Forest Division. The scheme has been so formulated as per the Guide lines of the Principal Chief Conservator of Forest , Odisha to execute Compensatory afforestation scheme over an area of 178.328 Ha. in ANR with gap mode in the following locations of Rourkela Forest Division.

Name of Range	Name of Site	Area in Ha.
Banki Range	Karada DPF	44.843 Ha.
	•Dalimbadihi Rev.F	54.407 Ha.
Biramitrapur Range	Barpani RF	55.126 Ha.
	Jatia RF	23.952 ha
	Grand Total:-	178.328 Ha.

CHAPTER- II

DETAILS OF LAND IDENTIFIED FOR COMPENSATORY AFFORESTATION

IDENTIFICATION OF DEGRADED FOREST LAND

II(1)- Details of identified Forest land-

The identified Forest land for Compensatory Afforestation is situated in Karada DPF, Dalimbadihi DPF, Barpani RF & Jatia RF of Banki & Biramitrapur Forest Range in Rourkela Forest Division over an area of 178.328 Ha.

II(2)- Character of existing vegetation of the identified site for Compensatory Afforestation-

The prevailing forest growth has been categorized under forest type- 3C/C2e Moist Peninsular Valley Sal and 5B/C2 Northern Dry Mixed Deciduous Forest. The vegetation consists of Sal and its associates like Jamu, Piasal, Asana, Arjun, Kuruma, Dhaura, , Sidha, Harida, Bahada,Piasal,Teak etc. with profuse regeneration of Sal and its associates.

II(3)- Identified site for Compensatory Afforestation-

The prescribed objectives of management for the identified forest block is depicted hereunder-

- ANR gap planting mode of regeneration of degraded forest block by providing silvicultural input.
- Ensuring intensive Soil & Moisture Conservation Measures to enrich the micro-edaphic conditions.
- Tending the existing crop for maximum growth and improving the density condition and composition of the crop.

II(4)- Suitability of the identified site for Compensatory Afforestation-

The identified site in Karda DPF, Dalimbadihi DPF, Barpani RF & Jatia RF in degraded patches with existing vegetation of Sal and Sal associates. Gaps are sporadically spread over the forest block. The topography of the area is mainly undulating plain having good depth of laterate vein qurtz mixed soil conducive for plantation under ANR with Gap model @200 seedling per ha. The average maximum temperature is 40^0 to 45^0C and minimum 5^0 to 10^0 C and annual rainfall varies from 1100 mm to 1800 mm. The maximum rainfall is received during the rainy season from July to September. The identified site is situated adjacent to village Karada, Dalimbadihi, Barpani, Jatia & Kokerema . The site has been demarcated with 4 feet RCC pillars with erection of durable signboard depicting Scheme, Year, User Agency, Area etc. on it. Therefore, the CA scheme is envisaged to be executed with involvement of Karada, Dalimbadihi, Barpani, Jatia & Kokerema VSS.

CHAPTER-III

DELINEATION OF PROPOSED AREA ON SUITABLE MAP

III(1)- GPS COORDINATES AND GPS MAP OF THE COMPENSATORY AFFORESTATION SITE

The area has been demarcated through DGPS survey and DGPS survey data showing DGPS Co-Ordinates of CA land boundary pillars are enclosed in the map prepared thereon (Maps enclosed).

CHAPTER- IV

AGENCY RESPONSIBLE FOR COMPENSATORY AFFORESTATION

IV(1)- AGENCY RESPONSIBLE FOR PLACEMENT OF FUNDS

The user agency shall provide funds for raising Compensatory Afforestation as per approved scheme.

IV(2)- AGENCY RESPONSIBLE FOR EXECUTION OF COMPENSATORY AFFORESTATION

The Territorial Wing of the Forest Department i.e. Divisional Forest Officer, Rourkela Division will be assigned with the task for execution of the Compensatory Afforestation.

CHAPTER- V

DETAILS OF WORK SCHEDULE PROPOSED FOR COMPENSATORY AFFORESTATION

A. PLANTING PLAN

Planting Plan reflects the species specific treatment of the identified site. Choice of species is based on the geo-morphology of the site, soil-texture, structure, fertility and depth, proneness of the site to water logging etc. Specific treatment of the site in terms of soil and moisture conservation intervention will be depicted in the treatment map. A treatment map will invariably be prepared for Species to be planted and treatments to be applied to the different patches shown in the treatment map and planting plan. This plan will be followed when actual planting is carried out.

Species to be planted:-

1. *Sizyziumcumini*(Jamu)
2. *Pterocarpus Marsupium* (Piasal)
3. *Anogeissuslatifolia*(Dhaura)
4. *Accacia catechu* (Khair)
5. *Dalbergia latifolia* (Pahadi Sissoo)
6. *Azadirrachta indica*(Neem)
7. *Gmelina arborea* (Gambar)
8. *Terminalia belerica*(Bahada)
9. *Terminalia chebula*(Harida)
10. *Pongamia pinnata* (Karanja)
11. *Emblicao fficinalis* (Ainla)
12. *Lannea coromandelica(Moi)*
13. *Tectona grandis(Teak)*
14. *Oroxylum indicun(Phanphena)*
15. *Bauhinia vahlii (Siali)*
16. *Mangifera Indica (Mango)*
17. *D. Strictus(Bamboo)*

B.PRE-PLANTING OPERATION

B(I)-RAISING OF PLANTATION STOCK- NURSERY-

Nursery has to be raised to get 6 months old seedlings for success of the Compensatory Afforestation @220 seedlings per ha. including seedlings for 10% causality replacement.

B(II)-SURVEY, DEMARCATION & PILLAR POSTING, GPS READING WITH MAPPING-

The planting area has been surveyed and demarcated with four feet height RCC pillars at inter visible distance with GPS coordinates, forward and backward bearing, pillar No. and distance between pillars inscribed in it. DGPS map in the scale of 1:4000 has been prepared along with GPS co-ordinates, forward & backward bearing, pillar to pillar distance and pillar numbers reflected in the map. A sign board has been erected at a conspicuous location with name of the site, scheme, area etc. depicted on it.

B(III)-SITE PREPARATION AND SILVICULTURAL OPERATION INCLUDING CLEARANCE OF WEED, CLIMBER CUTTING, HIGH STUMP CUTTING, SINGLING OF SHOOTS-

The clearing of the site involving removal of invasive weeds, bushes, climbers, high stumps and singling of shoots will be taken up preferably by the end of February and latest by the end of March. Pits of the dimension 45 x 45 x45 cm. will be dug @200 per ha. in the available gaps preferably 2 months before or at least a month before planting of seedlings.

C. PLANTING OPERATION

Planting of seedlings will be taken up in the month of July. The polythene covering of the balls of earth will be carefully removed before planting. Care will be taken to see that the ball of earth is not broken while doing so. The seedling with the ball of earth will then be placed firmly in the pit and buried at such a depth that the root collar is well below the surface of the soil. The soil around the plant will be well compacted with the heal as a final step so that there is a proper bond between the ball and the surrounding soil. The earth close to the collar will be slightly elevated so that rain water does not accumulate very close to the plant.

D. POST PLANTING OPERATION

D(1)-CASUALTY REPLACEMENT

The entire area will be gone over in the same order as plantation was carried out and casualties, if any, will be replaced as soon as the main plantation operation is over.

D(2)-WEEDING AND SOIL WORKING

Regular and efficient weeding will start immediately after sprouting of the stumps is complete or after the seedlings have started throwing up new buds.

D(3)-MANURING AND INSECTICIDE APPLICATION

On degraded sites urban compost or farmyard manure, wherever available, will be added to the soil while refilling the pits. As regards chemical fertilizers, the minerals required and dosage @ 50 grams of patent mixtures like 'Gromor' or N.P.K. (2:2:1) will be applied in two split doses one in August and the other in September.

D(4)-SOIL MOISTURE CONSERVATION MEASURES

Soil Moisture Conservation Measures will be taken up through construction of staggered trenches of dimension 2.5 x 0.5 x 0.5 mtr. to the tune of 60 Nos. per ha over 178.328 ha.

D(5)-PROTECTION AGAINST FIRE AND BIOTIC INTERFERENCE

Fire line tracing will be ensured to protect the plantation from fire hazard and watch & ward will be provided as per the approved norm for protecting the plantation from grazing since adjoining area is having high nos of tree. Infusion of cattle proof trench against biotic interference with involvement of Karada, Dalimbadihi, Barpani, jatia & Kokerema VSS has been provided in the scheme. Incentives to be VSS towards protection of forest from fire hazard has been included in the scheme.

D(6)-SPECIAL SOIL CONSERVATION MEASURES PROVIDED IN THE SCHEME

To enrich the micro-edaphic condition & ensure maximum conservation of soil & water through proper special soil conservation measures with the involvement of local people is proposed. The most conspicuous manner of logging precipitation is through run off rain water rainy season. The provision of intensive percolation pits, and staggered contour trencher has been provided in the scheme to arrest the runoff water and to conserve moisture of the locality. There is also a provision LBCD structure of 3mtr span to the tune of 30 Nos. and 2 mtr spans to the tune of 40 Nos over the entire area has been infused in the scheme to check the erosion of the soil of the locality.

D(7)-ENTRY POINT ACTIVITIES

To attend to the development activities of the VSS entry point activities provisions has been made in the scheme.

D(8) MONITORING & EVALUATION-

Compensatory Afforestation will be taken up in the identified site by the Range Officer, Banki & Biramitrapur Range of Rourkela Forest Division. The Range Officer, Banki & Biramitrapur Range will undertake field checks of the works undertaken at the identified site and will be cross checked by the Asst. Conservator of Forests, (Affn.) and Divisional Forest Officer, Rourkela Division. GPS co-ordinates along with other required informations of Compensatory Afforestation will be uploaded in the e-Greenwatch Portal of NIC, MoEF, Govt. of India for the purpose of online monitoring. Annual progress of plantation involving growth of planted seedlings, survival percentage etc. will be monitored and recorded in the plantation journal by the field staffs of Biramitrapur & Banki Range and reported to the Divisional Forest Officer for necessary action. The same thing will be reported to the Regional Chief Conservator of Forests, Rourkela Circle and Chief Conservator of Forests (PP&A), O/o the Pr. Chief Conservator of Forests, Odisha, Bhubaneswar and necessary corrective measures will be followed if required so. For regular monitoring by the Range officers and Divisional Forest Officers one Bolero Van is to be provided by the User Agency in the aforesaid scheme.

CHAPTER- VI

COST STRUCTURE OF PLANTATION, PROVISION OF FUNDS AND UTILIZATION

A. ESTIMATE OF COST FOR 1.00 HA. UNDER ANR PLANTATION MODEL

0th year (Advance work) Pre-planting operation.

Sl. No.	Item of work	Preferable period of execution	Person days	Labour (`)	Material (`)	Total
1	Survey, Demarcation GPS Reading with mapping	Nov-Dec	2	400	0	400
2	Site preparation.	Nov-Dec	2	400	0	400
3	Silvicultural Operation including clearance of weed, climber cutting, high stump cutting, singling of shoots etc	Jan-Feb	5	1000	0	1000
4	Nursery cost (6 month old seedling) part @`9.45/- seedling for 220 seedling.	Jan-March	8	1600	479	2079
5	Contingency and Unforeseen Expenditures		0	0	133	133
	Sub-Total		17	3400	612	4012
	1ST YEAR OPERATION					
1	Pitting 30 cm cube size	Feb/Mar	6	1200	0	1200
2	Carriage and planting including casualty replacement	Jul/Aug	5	1000	0	1000
3	Complete weeding, Soil working, Manuring	Aug/Sep	6	1200	0	1200
4	Cost of Vermi compost @200gms/ plant @`20/- per Kg= `800.00 and Granular Insecticide 5 gms/ plant @`80/- per Kg= `80.00	Aug/Sep	0	0	880	880
5	Cost of Chemical fertilizer (a) Urea 70 gms/ plant@`6/- per Kg= `84.00 (b)NPK 50 gms/ plant @`24/- per kg= `240.00 as basal dose.		0	0	324	324
6	Silvicultural Operation involving clearance of weeds, cutting of climbers, singling of shoots etc.	Sep/ Oct	15	3000	0	3000

7	Soil Conservation Measures (Staggered trenches of dimension 2m X 0.5m X 0.5m @60 nos per ha) or its equivalent	Sep/ Oct	20	4000	0	4000
8	Fire line Tracing and Inspection path	Feb/ Mar	3	600	0	600
9	Watch & ward	Aug-Mar	7	1400	0	1400
10	Contingency and Unforeseen Expenditures		0	0	304	304
	Sub-Total		62	12400	1508	13908
	2ND YEAR OPERATION					
1	Casualty Replacement including cost of seedling, carriage and planting	Jul/ Aug	1	200	189	389
2	Complete weeding and cultural operations	Sep/ Oct	2	400	0	400
3	Soil working and manuring	Sep/ Oct	2	400	0	400
4	Cost of Fertilizer and insecticide (a) Vermi compost @200gms/ plant @`20/- per Kg= `800.00 (b) Granular Insecticides 5 gms/ plant for 20 plants 100 gms @`80/- per Kg= `8.00	Sep/ Oct	0	0	808	808
5	Soil Conservation Measures (Renovation of staggered trenches etc.)	Sep/ Oct	8	1600	0	1600
6	Fireline Tracing and Inspection path	Feb/ Mar	1	200	0	200
7	Watch & ward (whole year)	Apr/ Mar	7	1400	0	1400
8	Contingency and Unforeseen Expenditures		0	0	181	181
	Sub-Total		21	4200	1178	5378
	3RD YEAR OPERATION					
1	Complete weeding and cultural operations	Aug/ Sep	1	200	0	200
2	Soil working	Aug/ Sep	1	200	0	200
3	Fireline Tracing and Inspection path	Feb/ Mar	1	200	0	200
4	Watch & ward (whole year)	Apr-Mar	7	1400	0	1400
5	Contingency and Unforeseen Expenditures		0	0	200	200
	Sub-Total		10	2000	200	2200

4TH YEAR OPERATION						
1	Fireline Tracing and Inspection path	Feb/ Mar	1	200	0	200
2	Watch & ward and cultural operations	Apr-Mar	2	400	0	400
	Sub-Total		3	600	0	600
5TH YEAR OPERATION						
1	Fireline Tracing and Inspection path	Feb/ Mar	1	200	0	200
2	Watch & ward and cultural operations	Apr-Mar	2	400	0	400
	Sub-Total		3	600	0	600
6TH YEAR OPERATION						
1	Fireline Tracing and Inspection path	Feb/ Mar	1	200	0	200
2	Watch & ward and cultural operations	Apr-Mar	2	400	0	400
	Sub-Total		3	600	0	600
7TH YEAR OPERATION						
1	Fireline Tracing and Inspection path	Feb/ Mar	1	200	0	200
2	Watch & ward and cultural operations	Apr-Mar	2	400	0	400
	Sub-Total		3	600	0	600
8TH YEAR OPERATION						
1	Fireline Tracing and Inspection path	Feb/ Mar	1	200	0	200
2	Watch & ward and cultural operations	Apr-Mar	2	400	0	400
	Sub-Total		3	600	0	600
9TH YEAR OPERATION						
1	Fireline Tracing and Inspection path	Feb/ Mar	1	200	0	200
2	Watch & ward and cultural operations	Apr-Mar	2	400	0	400
	Sub-Total		3	600	0	600
10TH YEAR OPERATION						
1	Fireline Tracing and Inspection path	Feb/ Mar	1	200	0	200
2	Watch & ward and cultural operations	Apr-Mar	2	400	0	400
	Sub-Total		3	600	0	600
	Grand Total		131	26200	3498	29698

ABSTRACT

Year	Person days	Labour	Material	Total
0th Year	17	3400	612	4012
1st Year	62	12400	1508	13908
2nd Year	21	4200	1178	5378
3rd Year	10	2000	200	2200
4th Year	3	600	0	600
5th Year	3	600	0	600
6th Year	3	600	0	600
7th Year	3	600	0	600
8th Year	3	600	0	600
9th Year	3	600	0	600
10th Year	3	600	0	600
Total	131	26200	3498	29698
Total Cost Norm per ha.				29698.00
Total Cost of plantation (178.328 ha.)				5295984.94 or 5295985.00

ADDITIONAL COST PROPOSED

Special Soil Conservation Measures proposed to be cared out in aforesaid ANR area

Sl. No.	Item of work	Preferable period of execution	Person days	Labour (`)	Material (`)	Total
1	Percolation Pits of size 1.0mt cube in staggard mannar 100 nos per ha.	Sep-March	32	6400	0	6400
2	Staggered trenches of size 2m X 0.5 m X 0.5m @ 60 Nos per ha.	Sep-March	20	4000	--	4000
3	Provisions has been made to constructed Loose Boulder structure (LBS) in the existing eroded nalas & gais @₹.3000/- pr Ha. on an average.	Sep-March	15	3000	0	3000
	Total:-		67	13400	--	13400
Total Cost Norm per ha.						13400.00
Total Cost of plantation (178.328 ha.)						23,89,595.20

EPA ACTIVITIES IN THE VSS AREA COMING UNDER THE PROJECT

Sl. No.	Item of work	Total
1	EPA activities to be carried out on the VSS areas basing on their need & their peripheral developmental activities in their VSS. Total 4 4 nos of VSS are coming under this project area. Hence it is proposed to provide financial assistances of Rs.2000/- per Ha. per VSS X4 nos VSS.	3,56,656.00
	Total:-	3,56,656.00

FIRE PROTECTION THROUGH INVOLVING VSS

Sl. No.	Item of work	Total
1	Provision for incentive to 4 nos. of VSS to check the fire hazard during fire season @ 10,000/- per year per VSS for 10th years	4,00,000.00
	Total:-	4,00,000.00

BIOTIC INTERFERENCE (CATTLE PROOF TRENCH)

Sl. No.	Item of work	Preferable period of execution	Person days	Labour (`)	Material (`)	Total
1	Cattle proof trench / stone bunding along the boundary. Trench having cross section top-2 mtr, bottom-1 mtr, depth-1.5 mtr . An average of 126 RMT per Ha. provision has been given to check biotic interference	Sep-March	91	18200	0	18200
	Total:-		91	18200	0	18200
Total Cost Norm per ha.						18200
Total Cost of plantation (178.328 ha.)						3245569.6

TOTAL COST OF PROJECT

1.	Plantation over 178.328 ha @ ₹. 29698.00 per ha.	52,95,984.94 or 52,95,985.00
2	Total additional cost:- SPECIAL SOIL CONSERVATION MEASURES,:..... 23,89,595.20 EPA ACTIVITIES IN THE VSS AREA, ...3,56,656.00 FIRE PROTECTION,..... 4,00,000.00 BIOTIC INTERFERENCE (CATTLE PROOF TRENCH) 32,45,569.6	63,91,820.8
	Total	1,16,87,805.8
5	Add 20% escalation	23,37,561.16
	Grand Total:-	1,40,25,366.96
6	One four wheeler (Bolero van)vehicle within a cost of ₹.16.00 Lakhs (Rupees Sixteen Lakhs) to be provided by the user agency for monitoring of Compensatory Afforestation	16,00,000.00
	Grand Total:-	1,56,25,366.96 Or 1,56,25,367.00

(Rupees One crore Fifty-six lakhs Twenty-five thousand Three hundred Sixty-seven) Only

A. PROVISION OF FUNDS AND FUND UTILIZATION

₹. 1,56,25,367/- (Rupees One crore Fifty-six lakhs Twenty-five thousand Three hundred Sixty-seven) only shall be deposited by the User Agency NHAI on approval of the scheme to the Ad-hoc CAMPA Account and the funds will be utilized for raising of Compensatory Afforestation by the Divisional Forest Officer, Rourkela Division on allotment by the Principal Chief Conservator of Forests, Odisha, Bhubaneswar.

Divisional Forest Officer,
Rourkela Forest Division.

Divisional Forest Officer
Rourkela Division

OFFICE OF THE DIVISIONAL FOREST OFFICER, ROURKELA DIVISION.
Phone:-0661-2664637/Fax:-0661-2664639, E-Mail ID: dforourkela@yahoo.co.in

Memo No.1909..(2)/ 4F (Misc.) 2017
Dated, Rourkela the 25th , March, 2017

To

The Regional Chief Conservator of Forests
Rourkela Circle

Sub:- Submission of scheme for compensatory Afforestation over178.328ha. of degraded forest land identified in Karda DPF, Dalimdihi Revenue Forest, Barpani & Jatia RF under Banki & Biramitrapur Range for Baharagora to Singra Section of NH-6.

Ref: Memo No.6814 dt.16.03.2017 of Addl. Principal Chief Conservator of Forests, Forest Diversion & Nodal Officer, FC Act to your address.

With reference to Memo No. on the subject cited above, it is to inform you that, after site inspection of the above proposed Compensatory Afforestation land, Land suitability certificate is furnished herewith for favour of your information and necessary action.

Encl: Land Suitability Certificate- 3Copies

25/3/17
Divisional Forest Officer,
Rourkela Division.

Memo No 1910 /Dt. 25.03.17
Copy to Addl. Principal Chief Conservator of Forests, Forest Diversion & Nodal Officer, FC Act for favour of kind information and necessary action with reference to his Memo No.6814 dt.16.03.2017.

25/3/17
Divisional Forest Officer,
Rourkela Division.

Memo No 1911 /Dt. 25.03.17
Copy forwarded to the Project Director, National Highways Authority of India, Project Implementation Unit, Balasore for favour of kind information and necessary action with reference to his Memo No.6814 dt.16.03.2017.

25/3/17
Divisional Forest Officer,
Rourkela Division.

"LAND SUITABILITY CERTIFICATE BY DFO CONCERNED"

This is to certify that 178.328 ha. land of Karda DPF & Dalimdihi Revenue Forest of Lahunipara Tehsil **of Banki Range and Barpani RF & Jatia RF of Biramitrapur Range under Rourkela Forest Division,** District **Sundargarh** identified for Compensatory Afforestation is suitable for ANR with gap plantation @500 plants per ha. from forest management point of view and is free from all sorts of encumbrances and encroachment.

Place Rourkela
Date 25.03.2017

(Divisional Forest Officer)
Rourkela Forest Division
Office Seal_____

Divisional Forest Officer
Rourkela Division