LiDAR / DGPS Survey report for Forest Diversion of proposed OFC Cable routes in Kanker Forest Division with Route Length 183.560 Km. under (CG) SKY Project

APPLICATION SUBMITTED BY:

Jio Digital Fibre Private Ltd.

LIDAR / DGPS SURVEY AND GIS MAPPING DONE BY:

Genesys International Corporation Limited
Mumbai, Maharashtra

GENESYS

Jio Digital Fibre Pvt. Ltd. RAIPUR (C.G.)

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1 Introduction and Background

1.1 Background

The Chhattisgarh Infotech Promotion Society (CHiPS) has selected an implementation partner (i.e. Jio Digital Fibre Private Ltd.) for Sanchar Kranti Yojna (CG-SKY) project. The Government has taken a leap forward to design the Sanchar Kranti Yojna (CG-SKY) for providing a solution to improve the telecom connectivity in the state of Chhattisgarh by incentivizing the telecom operators to install Cell-Sites. In order to create commercial viability for Telecom operators to invest in the network infrastructure the Government is distributing approx. 50 lakh Smartphones. The primary objective is to ensure the mobile network connectivity is extended to all villages in state of Chhattisgarh with a population of 1000 or above as per the 2011 census and to further strengthen network coverage in all towns and villages, which already have coverage by either erecting new telecom towers or upgradation of existing towers. Based on preliminary assessment, besides the urban areas, approximately 14,000 villages will come under network connectivity and approximately 50,80,000 Smartphones will be distributed under the CG-SKY scheme. The scheme would cover all villages and towns in the State of Chhattisgarh, except those villages having less than 1,000 population and not having connectivity. It may be noted that villages with less than 1,000 population, but having connectivity shall be considered for the CG-SKY.

1.2 Proposed Routes

Following image (Fig-1) shows the proposed routes in Kanker Division

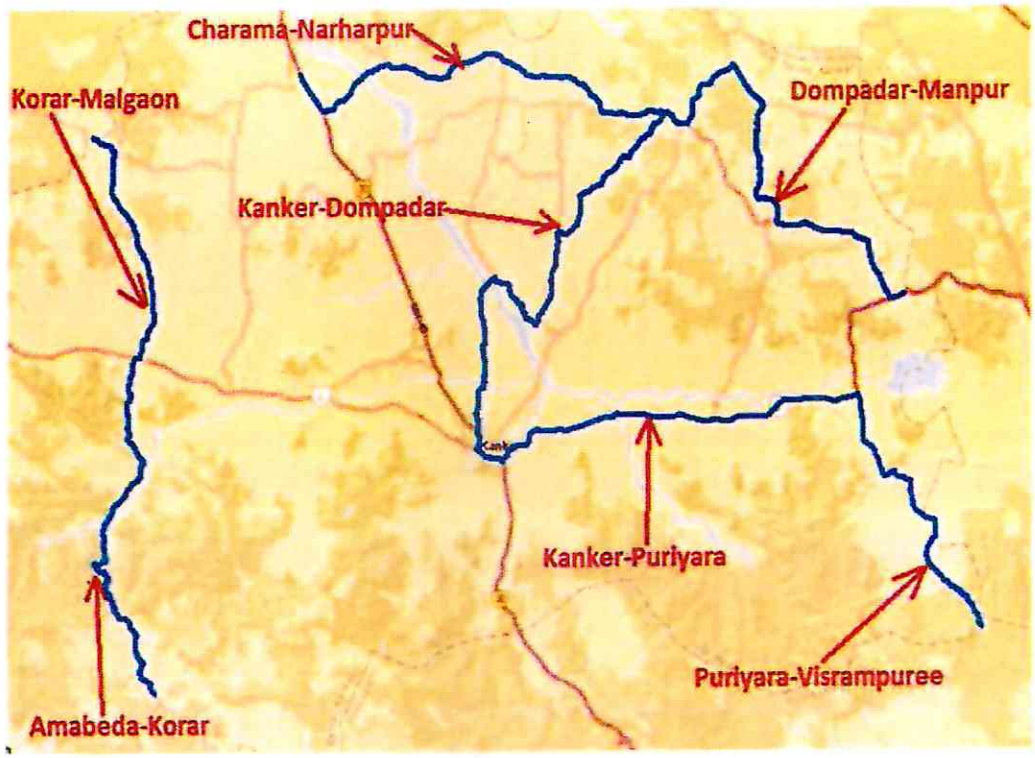


Fig-1: OFC Cable Proposed Routes on Online Map in Kanker Division.

1.3 Work Location

The proposed OFC Cable route in Kanker Forest Division (Tehsils covered along the route are: - Narharpur, Kanker, Charama & Bhanupratappur District: Kanker. The Division length is approx. 183.560 km. The survey site passes through forest ranges – Narharpur, Sarona, Sitanadi, Charama, Korar, Kanker of Kanker Forest division. The OFC Cable route is covered under Survey of India Toposheets No. 64H2, 64H3, 64H4, 64H6, 64H7, 64H8, 64H10, 64H11, 64H12, 64H14, 64H5, 64H16 on RF 1:50000.

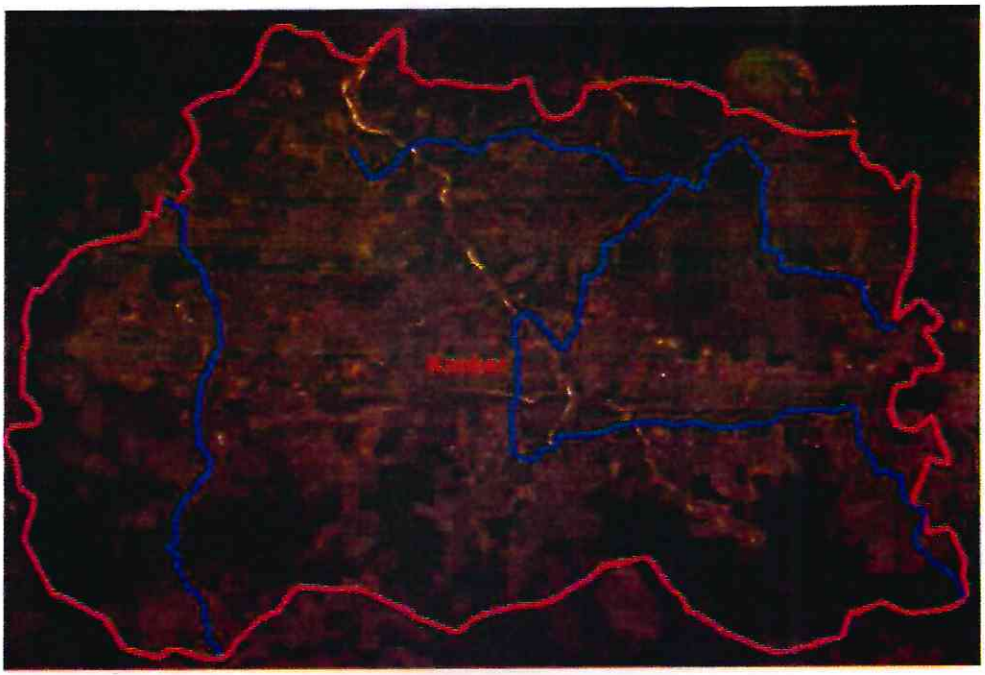


Fig-2: OFC Cable Proposed Routes on Satellite Imagery in Kanker Division.

1.4 Objective

As per directives of Ministry of Environment & Forests (MoEF) dated 8th July 2011; all applications for Forest Diversion, under Forest Conservation Act, 1980 must be accompanied with Geo-referenced shape file, showing tha boundary of tha proposel area (both soft copy and hard copy maps), prepared using Differential GPS (DGPS) and the same should be uploaded to MoEF website along with the online application.

To meet this requirement, Jio Digital Fibre Private Limited entrusted the DGPS survey work to M/s Genesys International Corporation Ltd., Mumbai, through Mobile LiDAR Technology.

2 Scope of Work

1. Establishment of one base station with 72 Hours observation and secondary control points at every 10km along the proposed route.
2. DGPS Survey for collection of ground coordinates along the OFC Cable trench at every 50m interval and/or at every turn/bend along the proposed trench. The DGPS data is collected at forest patches only.
3. Data processing and Interpretation
    a. Geo-referencing of SOI Toposheet (1:50000), Forest Stock map (1:15000, if available) and satellite imagery
    b. Creation of OFC Cable trench boundary vector map using the DGPS Surveyed data
    c. Superimposition of cable route layer on Geo-referenced forest maps, SOI Toposheet and Satellite imagery.
    d. Computation of Forest area proposed for diversion. It includes Reserved/Protected Forest & Revenue Forest.
    e. Preparation of Geo-referenced forest map at 1:15000 scale, and SOI Toposheet at 1:50000 scale.
    f. Preparation of DGPS survey report along with soft copy of maps in shapefile format and kml file
4. Printing of report and Geo-referenced maps and Technical compliance.

3 Deliverables

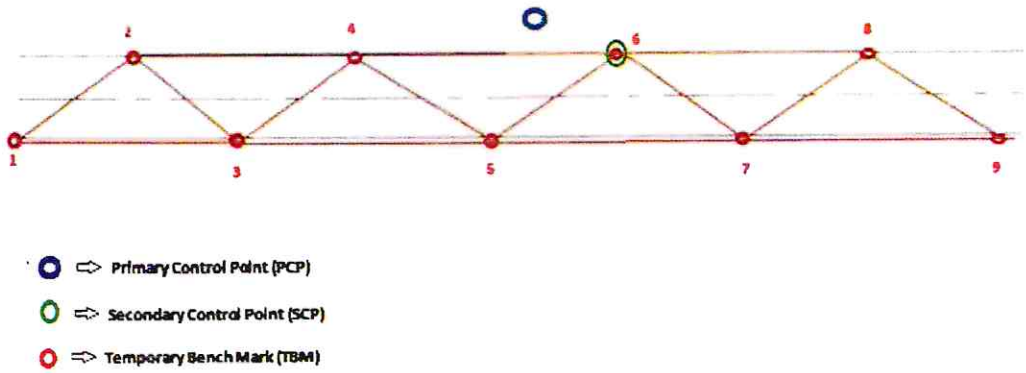
The deliverables envisaged for the assignment are described below

1. Post processed DGPS observations data as well as raw data in RINEX format.
2. DGPS Reports - Base line & network adjustment report for the primary and Secondary Control Points.
3. Geo-referenced SOI maps & forest block maps based on DGPS observations – Hard and Soft Copy (SHP and KML formats).
4. Proposed Forest Diversion area statement as per DGPS Survey
5. DGPS Survey and mapping report

4 Technical Approach (Brief Description)

4.1 GCP Establishment for LiDAR (DGPS) Survey:

Example of defined Triangular Network GCP method.



Primary Control Point: 72 Hours of DGPS observation for Post Processing the PCP data with IGS stations.

Secondary Control Point: 2 - 4 Hours of DGPS observation for Post Processing the SCP data with PCP Data.

Temporary Bench Mark: 1 Hour of DGPS observation for improving the spatial accuracy of the LiDAR point cloud data.

4.2 Mobile LiDAR (DGPS) data collection:

DGPS based Mobile LiDAR data was collected along with 360 degree panoramic view of the OFC route corridor (25 meter on each side along the center of the road).

Mobile LiDAR Van

4.3 DRS / GIS Map Creation Using LiDAR data:

All the features along the route are captured using LiDAR data and Panoramic Imagery to create the DRS / GIS Map.

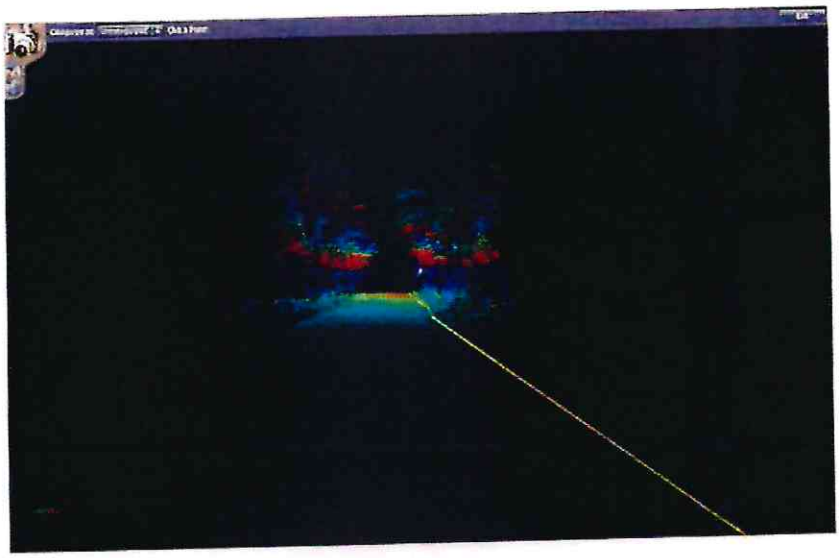
Feature Extraction on LiDAR

Final DRS / GIS Map

4.4 Demarcation of Proposed OFC on LiDAR data:

Proposed OFC line is demarcated based on the feasibility of trenching to be done on ground by referring the LiDAR data with the Panoramic imagery.

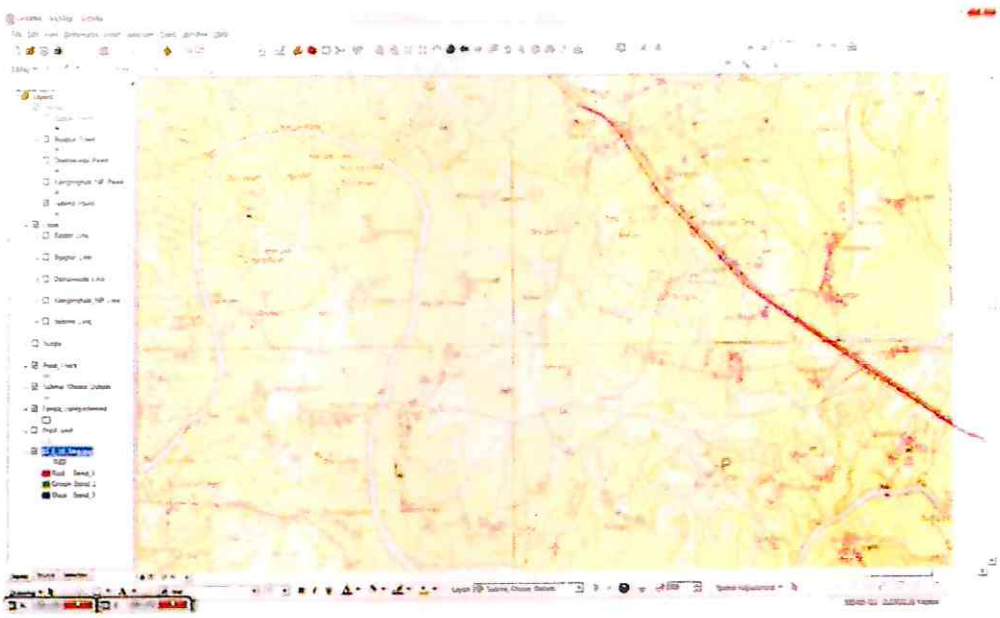
Proposed OFC Line on LiDAR Data (with Panoramic Imagery)



Proposed OFC Line on LiDAR Data only

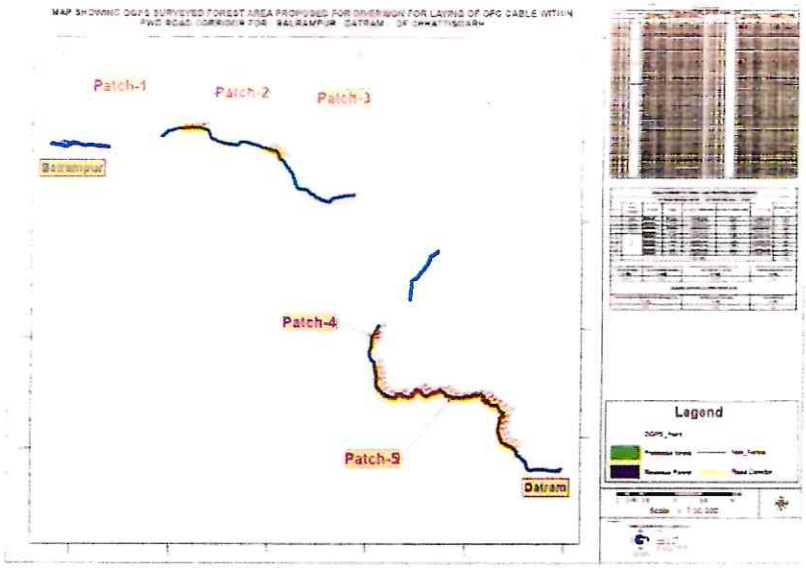
4.5 Geo-referencing of Maps:

- Geo-referencing of Revenue Village Maps, SOI Toposheets and Forest Maps are to be done. SOI Toposheets and Forest Maps would be geo-referenced based on the coordinates provided on the maps whereas Revenue Village Maps would be geo-referenced with the help of GCPs collected (at least 5 GCPs for a village having Government Forest Land are to be collected)



4.6 Creation of Vector Data for Forest Diversion:

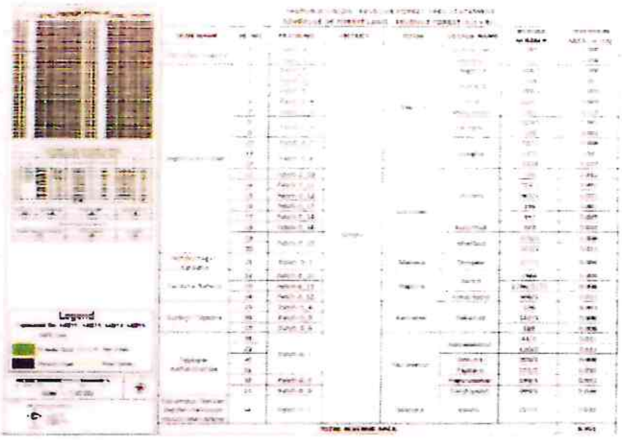
Different Layers such as Polygon of Reserved/Protected Forest Patch, Centerline of Forest Trench, Non-Forest Trench line, Polygons showing Revenue Forest patches etc. are to be created using the Geo-referenced maps and the provided information by the forest department.



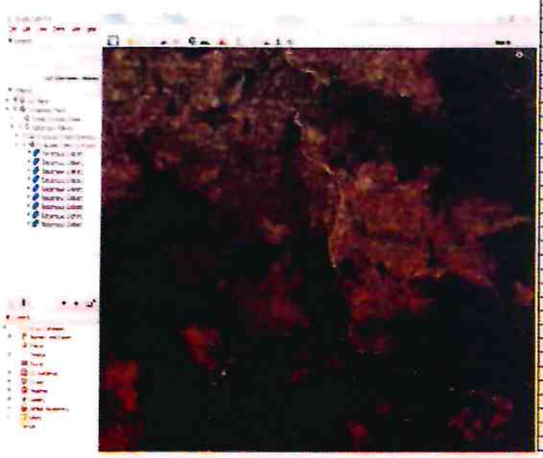
4.7 Generation of Map and Survey Reports for Forest Diversion:

A map is created by overlaying the created vector data for the forest patches on the Geo-referenced SOI Toposheets / Forest Maps. The reports are generated for DGPS Points (with Lat/long) placed at the regular intervals of 150m on the proposed OFC route in the forest area. Another report is generated having area calculation for the proposed trench area in different type of Forest Lands. Samples of these are as below.

Geo-referenced Map



Forest Area Statement 1



KML File

DGPS Survey Points						
Jaspur Division						
Sr.No.	Point ID	Patch No	UTM Coordinates Easting (m)	UTM Coordinates Northing (m)	Geographical Coordinates Latitude "N"	Geographical Coordinates Longitude "E"
1	P1	Patch- 1_1	784783.859	2568180.832	23° 9' 10.952" N	83° 46' 52.558" E
2	P2		784722.029	2568182.587	23° 9' 11.365" N	83° 46' 50.394" E
3	P3		784660.364	2568204.822	23° 9' 11.508" N	83° 46' 48.238" E
4	P4	Patch- 1_2	782507.989	2568583.485	23° 9' 25.437" N	83° 45' 32.882" E
5	P5		782478.669	2568629.794	23° 9' 26.959" N	83° 45' 31.863" E
6	P6		782491.242	2568685.541	23° 9' 28.756" N	83° 45' 32.362" E
7	P7	Patch- 1_3	782630.136	2569413.952	23° 9' 52.317" N	83° 45' 37.726" E
8	P8		782557.469	2569333.241	23° 9' 49.760" N	83° 45' 35.120" E
9	P9		782535.966	2569205.425	23° 9' 45.719" N	83° 45' 34.281" E
10	P10	Patch- 1_4	781683.634	2562868.911	23° 9' 2.600" N	83° 45' 10.475" E
11	P11		781690.026	2562718.86	23° 8' 57.732" N	83° 45' 10.600" E
12	P12		781827.312	2562582.486	23° 8' 53.335" N	83° 45' 8.665" E
13	P13		781763.554	2562452.425	23° 8' 49.156" N	83° 45' 5.981" E
14	P14		781727.130	2562313.878	23° 8' 44.678" N	83° 45' 4.610" E
15	P15	Patch- 1_5	781198.380	2558612.043	23° 6' 44.796" N	83° 44' 43.259" E
16	P16		781104.435	2558489.422	23° 6' 40.832" N	83° 44' 40.108" E
17	P17		781017.132	2558371.435	23° 6' 37.053" N	83° 44' 37.064" E
18	P18		780907.049	2558354.302	23° 6' 36.563" N	83° 44' 33.187" E
19	P19		780797.383	2558329.207	23° 6' 35.815" N	83° 44' 29.340" E
20	P20	Patch- 1_6	778219.961	2556965.349	23° 5' 53.378" N	83° 42' 57.917" E
21	P21		778162.061	2556872.454	23° 5' 50.107" N	83° 42' 55.823" E
22	P22		778162.947	2556730.58	23° 5' 45.487" N	83° 42' 55.761" E
23	P23		778089.634	2556651.849	23° 5' 43.004" N	83° 42' 51.180" E
24	P24		777949.518	2556753.241	23° 5' 46.352" N	83° 42' 48.282" E
25	P25		777923.998	2556881.329	23° 5' 50.653" N	83° 42' 47.476" E
26	P26		777939.120	2557013.764	23° 5' 55.471" N	83° 42' 48.100" E
27	P27		777908.466	2557162.044	23° 5' 59.656" N	83° 42' 47.107" E
28	P28		777841.380	2557160.129	23° 5' 59.655" N	83° 42' 44.750" E
29	P29		777752.756	2557038.44	23° 5' 55.768" N	83° 42' 41.560" E
30	P30		777619.912	2557049.039	23° 5' 56.160" N	83° 42' 36.901" E
31	P31		777500.348	2557064.94	23° 5' 56.748" N	83° 42' 32.713" E
32	P32		777385.609	2556958.254	23° 5' 53.346" N	83° 42' 28.966" E
33	P33		777274.137	2556870.293	23° 5' 50.562" N	83° 42' 24.643" E
34	P34		777137.451	2556856.404	23° 5' 50.193" N	83° 42' 19.834" E
35	P35		776999.421	2556840.498	23° 5' 49.760" N	83° 42' 14.977" E
36	P36		776850.026	2556844.931	23° 5' 49.993" N	83° 42' 9.734" E
37	P37		776703.962	2556864.579	23° 5' 50.720" N	83° 42' 4.618" E
39	P39		776534.722	2556748.684	23° 5' 47.057" N	83° 41' 58.600" E
40	P40	Patch- 1_7	774602.123	2556428.672	23° 5' 37.877" N	83° 40' 47.055" E
41	P41		774407.058	2556398.070	23° 5' 36.941" N	83° 40' 43.662" E
42	P42		774283.498	2556372.210	23° 5' 36.174" N	83° 40' 39.307" E

DGPS Survey Point Details

5 DGPS Survey Results

The total route length is approx. 183.560 km and the proposed forest area for diversion is 2.119 Ha. Forest Area Statement Report is in Annexure-1, and DGPS coordinates and forest patch boundary coordinates is in Annexure-2. The geo-referenced maps are in Annexure - 3, and DGPS Maps of the Proposed Route (Annexure-4)

5.1 Forest Area Statement (Annexure-1):

SCHEDULE OF FOREST LAND - RESERVE & PROTECTED FOREST									
KANKER DIVISION - FOREST AREA STATEMENT									
SPAN NAME	SR. NO.	PATCH NUMBER	DIVISION	RANGE	VILLAGE NAME	COMPARTMENT	TYPE OF LAND	DIVERSION AREA (in HA)	LENGTH (KM)
Dompadar-Manpur	1	Patch-1_1	Kanker	Narharpur	Dabbipani	OA 471	Orange Area	0.019	0.380
	2	Patch-1_2			Mandradarha	OA 472		0.104	2.080
					Jamgaon			0.018	0.360
Kanker-Dompadar	4	Patch-2_1			Dabena	OA 498		0.029	0.580
	5					199	Reserved Forest	0.043	0.860
	6					OA 493	Orange Area	0.023	0.460
	7					201	Reserved Forest	0.021	0.420
	8	Patch-2_3				OA 497	Orange Area	0.027	0.540
	9					OA 495		0.002	0.040
	10	Patch-2_3 & 4				OA 511		0.058	1.160
	11	Patch-2_4			Raipur	198	Reserved Forest	0.019	0.380
	12				Dabena	200		0.028	0.560
	13	Patch-2_5			Dudumbahara	OA 1419	Orange Area	0.016	0.320
	14					OA 1421		0.011	0.220
	15					195	Reserved Forest	0.024	0.480
	16	Patch-2_6			Badal	OA 1415	Orange Area	0.018	0.360
	17				Dudumbahara	FDC 194	Reserved Forest	0.045	0.900
	18					OA 1417	Orange Area	0.017	0.340
	19					OA 1416	Orange Area	0.027	0.540
	20	Patch-2_7			Badal	OA 1411		0.009	0.180
	21	Patch-2_8			Surahi	OA 1401		0.057	1.140
	22	Patch-2_9			Narharpur (NP)	OA 1402		0.024	0.480
	23				Surahi	183	Reserved Forest	0.080	1.600
	24				Narharpur (NP)	OA 594	Orange Area	0.048	0.960
	25	Patch-2_11			Kochwahi	OA 591		0.008	0.160
	26				Narharpur (NP)	OA 590		0.047	0.940
Puriyara-Visrampuree	27	Patch-4_3		Sarona	Sarwandi	427	Reserved Forest	0.018	0.360
	28	Patch-4_5			Bhimadih	429		0.015	0.300
	29	Patch-4_6			Gattagudum	153		0.058	1.160
	30	Patch-4_9			Sainmunda	125		0.065	1.300
	31			Sitanadi	Narharpur	124		0.086	1.720
Charama-Narharpur	32	Patch-5_3		Charama	Karrajaisa	OA1474	Orange Area	0.018	0.360
	33	Patch-5_10		Narharpur	Dumarpani	OA 573		0.042	0.840
	34					OA 575		0.006	0.120
	35				Bahnapani	P179	Protected Forest	0.020	0.400
	36				Dumarpani	OA 574	Orange Area	0.031	0.620
	37	Patch-5_12			Bahnapani	OA 580		0.033	0.660
Amabeda-Korar	38	Patch-6_1		Korar	Khasgaon	OA 1632		0.035	0.700
	39	Patch-6_2				OA 1631		0.032	0.640
	40	Patch-6_3			Banoli	P269	Protected Forest	0.026	0.520
	41					P271		0.093	1.860
	42					P268		0.055	1.100
	43					OA 1601	Orange Area	0.078	1.560
	44	Patch-6_4				OA 1600		0.052	1.040
	45					P270	Protected Forest	0.038	0.760
	46	Patch-6_5			Hatkara	P286		0.002	0.040
	47					P285		0.008	0.160
	48	Patch-6_6			Hetarkasa	OA 1592	Orange Area	0.018	0.360
	49	Patch-6_7			Astara	OA 1598		0.014	0.280
	50	Patch-6_9			Radwahi	OA 1595		0.009	0.180
Korar-Malgaon	51	Patch-7_1		Kanker	Kolanpur	OA 308		0.015	0.300
	52	Patch-7_2		Charama	Kishanpuri	OA 1533		0.037	0.740
	53	Patch-7_2				OA 1532		0.020	0.400
	54	Patch-7_3		Charam	Rampur	OA 1534		0.014	0.280
TOTAL FOREST AREA								1.760	35.200

Divisional Forest Officer
Forest Division Kanker

SCHEDULE OF FOREST LAND - REVENUE FOREST (CJJ + BJJ)

KANKER DIVISION - REVENUE FOREST AREA STATEMENT

SPAN NAME	SR. NO.	PATCH NUMBER	DISTRICT	TEHSIL	VILLAGE NAME	KHASRA NUMBER	TYPE OF LAND	DIVERSION AREA (in HA)	LENGTH (KM)
Dompadar-Manpur	1	Patch-1_1	Kanker	Narharpur	Ghotiyawahi	59	Revenue Forest	0.002	0.040
	2					58		0.007	0.140
Kanker-Dompadar	3	Patch-2_1			Jamgaon	33		0.009	0.180
	4					709/113		0.011	0.220
	5	Patch-2_2			Debena	292		0.007	0.140
	6	Patch-2_3				391		0.006	0.120
	7	Patch-2_3&4				94/1		0.013	0.260
	8	Patch-2_3				80/1		0.010	0.200
	9	Patch-2_4				20/1		0.006	0.120
	10					37/1		0.008	0.160
	11	Patch-2_5			Dudumbahara	183		0.004	0.080
	12	Patch-2_10			Narharpur (NP)	1045		0.003	0.060
	13	Patch-2_11			Antiharra	336/1		0.014	0.280
	14	Patch-2_12				392		0.013	0.260
	15	Patch-2_13				381/1		0.018	0.360
	16	Patch-2_14				462		0.018	0.360
	17					479		0.008	0.160
	18	Patch-2_15				523		0.014	0.280
	19	Patch-2_16			Kishanpuri(Pando)	647		0.006	0.120
	20					650		0.007	0.140
	21	Patch-2_17				693		0.008	0.160
	22	Patch-2_18			Umaradah	159		0.001	0.020
	23	Patch-2_19				1063/1		0.026	0.520
	24	Patch-2_20			Chawad	609		0.004	0.080
	25					610		0.003	0.060
	26					611		0.007	0.140
	27	Patch-2_21			Rampur	1148		0.008	0.160
Kanker-Puriyara	28	Patch-3_1		Kanker	Kodabhat	75/1		0.003	0.060
	29	Patch-3_2			Bevarti	1213/1		0.007	0.140
	30	Patch-3_3				1221		0.002	0.040
	31	Patch-3_4				1228		0.005	0.100
Puriyara-Visrampuree	32	Patch-4_1		Narharpur	SARONA	492/1		0.008	0.160
	33	Patch-4_2			Maseson(Rugan)	198		0.002	0.040
	34	Patch-4_4			Bhimadin	230		0.008	0.160
	35	Patch-4_5				242		0.005	0.100
	36					465/1		0.004	0.080
	37							0.002	0.040
	38	Patch-4_7			Basanwahi	456		0.002	0.040
	39	Patch-4_8				470		0.001	0.020
	40					472		0.001	0.020
Charama-Narharpur	41	Patch-5_1		Charama	Karrajaisa	1126/1		0.002	0.040
	42	Patch-5_2				1128/1		0.007	0.140
	43	Patch-5_4				1227		0.005	0.100
	44	Patch-5_5		Narharpur	Dumarpani	75		0.010	0.200
	45	Patch-5_6				203		0.003	0.060
	46	Patch-5_7				426		0.002	0.040
	47					425		0.007	0.140
	48	Patch-5_8				416		0.006	0.120
	49	Patch-5_9				1391		0.005	0.100
	50	Patch-5_10				1386		0.005	0.100
	51	Patch-5_11			Bahnapani	479		0.002	0.040
	52	Patch-5_13			Narharpur (NP)	1045		0.003	0.060
Amabeda-Korar	53	Patch-6_3		Bhanupratappur	Banoli	243		0.003	0.060
	54					248		0.003	0.060
	55	Patch-6_4				203		0.003	0.060
	56	Patch-6_5			Radwahi	456/1		0.002	0.040
TOTAL REVENUE AREA								0.359	7.180

Total Route Length (in KM)	Total Forest Patch Length (in KM)	OFC Cable Trench Width (in KM)	Total Forest Diversion Area (in HA)
183.560	42.380	0.0005	2.119

Summary Of Forest And Non Forest Area

Protected Forest, Reserved Forest & Orange Area (in HA)	Revenue Forest Area (in HA)	Non Forest Area (in HA)
1.760	0.359	7.059

Divisional Forest Officer
Forest Division Kanker

DGPS Survey Points

Kanker Division

Sr.No.	Point ID	Patch No	UTM Coordinates		Geographical Coordinates	
			Easting (m) (m)	Northing (m) (m)	Latitude "N"	Longitude "E"
1	P1	Patch-1_1	578889.628	2250607.41	20° 21' 6.941" N	81° 45' 21.033" E
2	P2		578802.3917	2250729.425	20° 21' 10.922" N	81° 45' 18.044" E
3	P3		578712.3495	2250849.387	20° 21' 14.838" N	81° 45' 14.957" E
4	P4		578622.5494	2250969.398	20° 21' 18.755" N	81° 45' 11.879" E
5	P5		578573.385	2251065.922	20° 21' 21.902" N	81° 45' 10.198" E
6	P6	Patch-1_2	578365.8216	2251521.071	20° 21' 36.738" N	81° 45' 3.111" E
7	P7		578308.9054	2251659.853	20° 21' 41.261" N	81° 45' 1.170" E
8	P8		578246.4557	2251796.215	20° 21' 45.706" N	81° 44' 59.037" E
9	P9		578173.291	2251926.16	20° 21' 49.943" N	81° 44' 56.534" E
10	P10		578052.7051	2252015.247	20° 21' 52.859" N	81° 44' 52.389" E
11	P11		577932.064	2252104.383	20° 21' 55.776" N	81° 44' 48.241" E
12	P12		577833.0997	2252215.001	20° 21' 59.389" N	81° 44' 44.845" E
13	P13		577780.0965	2252355.296	20° 22' 3.960" N	81° 44' 43.039" E
14	P14		577725.8157	2252495.119	20° 22' 8.516" N	81° 44' 41.188" E
15	P15		577665.7978	2252632.502	20° 22' 12.994" N	81° 44' 39.140" E
16	P16		577610.0328	2252770.54	20° 22' 17.492" N	81° 44' 37.238" E
17	P17		577599.5624	2252920.147	20° 22' 22.360" N	81° 44' 36.900" E
18	P18		577586.7747	2253069.484	20° 22' 27.220" N	81° 44' 36.482" E
19	P19		577531.1033	2253208.297	20° 22' 31.743" N	81° 44' 34.583" E
20	P20		577504.012	2253354.905	20° 22' 36.516" N	81° 44' 33.671" E
21	P21		577487.1393	2253504.019	20° 22' 41.369" N	81° 44' 33.113" E
22	P22		577464.4778	2253691.985	20° 22' 47.486" N	81° 44' 32.360" E
23	P1	Patch-2_1	574764.6605	2254457.132	20° 23' 12.764" N	81° 42' 59.343" E
24	P2		574614.9076	2254461.21	20° 23' 12.918" N	81° 42' 54.177" E
25	P3		574471.995	2254505.202	20° 23' 14.369" N	81° 42' 49.254" E
26	P4		574330.1603	2254554.124	20° 23' 15.981" N	81° 42' 44.368" E
27	P5		574187.4247	2254600.215	20° 23' 17.500" N	81° 42' 39.451" E
28	P6		574042.9758	2254640.532	20° 23' 18.832" N	81° 42' 34.474" E
29	P7		573900.2308	2254685.097	20° 23' 20.302" N	81° 42' 29.556" E
30	P8		573768.335	2254756.523	20° 23' 22.643" N	81° 42' 25.016" E
31	P9		573636.727	2254828.483	20° 23' 25.002" N	81° 42' 20.487" E
32	P10		573502.5869	2254895.395	20° 23' 27.198" N	81° 42' 15.869" E
33	P11		573365.5972	2254956.078	20° 23' 29.191" N	81° 42' 11.152" E
34	P12		573222.8683	2255002.115	20° 23' 30.708" N	81° 42' 6.235" E
35	P13		573076.0764	2254997.947	20° 23' 30.593" N	81° 42' 1.170" E
36	P14		572938.1661	2254939.014	20° 23' 28.695" N	81° 41' 56.404" E
37	P15		572799.3521	2254882.46	20° 23' 26.874" N	81° 41' 51.607" E
38	P16		572651.2474	2254864.056	20° 23' 26.296" N	81° 41' 46.495" E

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Sr.No.	Point ID	Patch No	UTM Coordinates		Geographical Coordinates	
			Easting (m) (m)	Northing (m) (m)	Latitude "N"	Longitude."E"
39	P17	Patch-2_1	572501.3855	2254865.602	20° 23' 26.367" N	81° 41' 41.325" E
40	P18		572395.6282	2254848.702	20° 23' 25.832" N	81° 41' 37.674" E
41	P19		572292.845	2254827.831	20° 23' 25.167" N	81° 41' 34.125" E
42	P20		572189.6689	2254820.873	20° 23' 24.955" N	81° 41' 30.565" E
43	P21	Patch-2_2	572126.0668	2254821.827	20° 23' 24.995" N	81° 41' 28.371" E
44	P22		572061.2264	2254830.655	20° 23' 25.291" N	81° 41' 26.135" E
45	P23		571996.6665	2254841.599	20° 23' 25.655" N	81° 41' 23.909" E
46	P24	Patch-2_3	571349.3282	2255384.182	20° 23' 43.393" N	81° 41' 1.655" E
47	P25		571368.0241	2255530.787	20° 23' 48.159" N	81° 41' 2.321" E
48	P26		571377.7027	2255679.139	20° 23' 52.983" N	81° 41' 2.676" E
49	P27		571350.4621	2255823.25	20° 23' 57.675" N	81° 41' 1.757" E
50	P28		571330.4312	2255971.336	20° 24' 2.494" N	81° 41' 1.087" E
51	P29		571286.551	2256113.093	20° 24' 7.111" N	81° 40' 59.594" E
52	P30		571218.734	2256187.52	20° 24' 9.542" N	81° 40' 57.265" E
53	P31		571134.2235	2256268.003	20° 24' 12.171" N	81° 40' 54.360" E
54	P32		571048.6327	2256382.812	20° 24' 15.917" N	81° 40' 51.424" E
55	P33		570916.2448	2256423.941	20° 24' 17.273" N	81° 40' 46.862" E
56	P34		570767.7355	2256413.472	20° 24' 16.952" N	81° 40' 41.737" E
57	P35		570619.5243	2256415.059	20° 24' 17.024" N	81° 40' 36.623" E
58	P36		570492.3794	2256489.316	20° 24' 19.456" N	81° 40' 32.247" E
59	P37		570346.3129	2256491.735	20° 24' 19.554" N	81° 40' 27.208" E
60	P38		570214.8088	2256477.126	20° 24' 19.097" N	81° 40' 22.669" E
61	P39	Patch-2_4	570088.4975	2256452.458	20° 24' 18.311" N	81° 40' 18.307" E
62	P40		570004.9004	2256560.705	20° 24' 21.843" N	81° 40' 15.438" E
63	P41		569922.9391	2256636.639	20° 24' 24.324" N	81° 40' 12.621" E
64	P42		569903.2055	2256738.22	20° 24' 27.631" N	81° 40' 11.955" E
65	P43		569925.2007	2256861.076	20° 24' 31.624" N	81° 40' 12.731" E
66	P44		569933.3763	2257009.899	20° 24' 36.464" N	81° 40' 13.034" E
67	P45		569982.4999	2257148.691	20° 24' 40.972" N	81° 40' 14.748" E
68	P46		570053.8989	2257279.774	20° 24' 45.227" N	81° 40' 17.230" E
69	P47		570119.9457	2257412.698	20° 24' 49.542" N	81° 40' 19.528" E
70	P48		570200.2967	2257530.5	20° 24' 53.363" N	81° 40' 22.317" E
71	P49		570222.569	2257661.777	20° 24' 57.630" N	81° 40' 23.104" E
72	P50		570168.3871	2257733.524	20° 24' 59.971" N	81° 40' 21.245" E
73	P51		570163.5008	2257815.694	20° 25' 2.645" N	81° 40' 21.088" E

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74	P52	Patch-2_5	570153.0956	2258075.539	20° 25' 11.099" N	81° 40' 20.765" E
75	P53		570156.5308	2258225.088	20° 25' 15.963" N	81° 40' 20.905" E
76	P54		570104.4503	2258363.858	20° 25' 20.484" N	81° 40' 19.128" E
77	P55		570094.9335	2258512.071	20° 25' 25.306" N	81° 40' 18.820" E
78	P56		570066.7276	2258659.283	20° 25' 30.098" N	81° 40' 17.868" E
79	P57		570114.4621	2258787.005	20° 25' 34.246" N	81° 40' 19.533" E
80	P58		570134.9868	2258913.494	20° 25' 38.358" N	81° 40' 20.259" E
81	P59		570103.3641	2258983.518	20° 25' 40.640" N	81° 40' 19.178" E
82	P60		570076.2336	2259105.911	20° 25' 44.625" N	81° 40' 18.259" E
83	P61	Patch-2_6	569965.3257	2259325.126	20° 25' 51.770" N	81° 40' 14.462" E
84	P62		569924.4855	2259466.35	20° 25' 56.370" N	81° 40' 13.073" E
85	P63		569937.882	2259615.227	20° 26' 1.211" N	81° 40' 13.556" E
86	P64		569917.4261	2259763.126	20° 26' 6.024" N	81° 40' 12.871" E
87	P65		569901.5949	2259910.573	20° 26' 10.822" N	81° 40' 12.346" E
88	P66		569933.116	2260056.903	20° 26' 15.578" N	81° 40' 13.454" E
89	P67		569941.2559	2260198.524	20° 26' 20.184" N	81° 40' 13.755" E
90	P68		569925.8152	2260346.853	20° 26' 25.011" N	81° 40' 13.243" E
91	P69		569926.126	2260496.818	20° 26' 29.889" N	81° 40' 13.275" E
92	P70		569935.3097	2260646.352	20° 26' 34.752" N	81° 40' 13.613" E
93	P71		569987.3882	2260786.816	20° 26' 39.314" N	81° 40' 15.430" E
94	P72		569993.4646	2260932.996	20° 26' 44.068" N	81° 40' 15.660" E
95	P73		569952.9614	2261077.378	20° 26' 48.770" N	81° 40' 14.283" E
96	P74		569954.0506	2261184.902	20° 26' 52.267" N	81° 40' 14.336" E
97	P75		569987.9765	2261300.89	20° 26' 56.035" N	81° 40' 15.523" E
98	P76		570011.2383	2261422.898	20° 27' 0.001" N	81° 40' 16.343" E
99	P77	Patch-2_7	569354.1439	2263235.221	20° 27' 59.040" N	81° 39' 53.919" E
100	P78		569296.7245	2263310.095	20° 28' 1.483" N	81° 39' 51.948" E
101	P79		569240.0611	2263377.653	20° 28' 3.688" N	81° 39' 50.001" E
102	P80	Patch-2_8	568240.3796	2264659.081	20° 28' 45.501" N	81° 39' 15.673" E
103	P81		568082.8282	2264504.133	20° 28' 40.481" N	81° 39' 10.213" E
104	P82		567876.9083	2264343.889	20° 28' 35.296" N	81° 39' 3.083" E
105	P83		567600.827	2264285.816	20° 28' 33.442" N	81° 38' 53.546" E
106	P84		567269.4249	2264147.266	20° 28' 28.978" N	81° 38' 42.088" E
107	P85	Patch-2_9	567163.4315	2264072.407	20° 28' 26.557" N	81° 38' 38.419" E
108	P86		567056.9054	2263966.848	20° 28' 23.137" N	81° 38' 34.728" E
109	P87		566951.4185	2263860.306	20° 28' 19.684" N	81° 38' 31.072" E
110	P88		566888.7266	2263727.153	20° 28' 15.361" N	81° 38' 28.890" E

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111	P89	Patch-2_9	566845.8898	2263585.412	20° 28' 10.756" N	81° 38' 27.392" E
112	P90		566721.6707	2263502.738	20° 28' 8.083" N	81° 38' 23.094" E
113	P91		566579.9778	2263460.073	20° 28' 6.713" N	81° 38' 18.197" E
114	P92		566430.0689	2263457.828	20° 28' 6.659" N	81° 38' 13.023" E
115	P93		566280.8487	2263446.831	20° 28' 6.320" N	81° 38' 7.871" E
116	P94		566139.1364	2263403.038	20° 28' 4.913" N	81° 38' 2.973" E
117	P95		566089.2028	2263264.035	20° 28' 0.398" N	81° 38' 1.231" E
118	P96		566065.4523	2263119.048	20° 27' 55.685" N	81° 38' 0.392" E
119	P97		566053.0862	2262969.655	20° 27' 50.827" N	81° 37' 59.945" E
120	P98		566004.2297	2262830.738	20° 27' 46.314" N	81° 37' 58.241" E
121	P99		565905.4865	2262713.571	20° 27' 42.515" N	81° 37' 54.817" E
122	P100		565788.913	2262619.82	20° 27' 39.480" N	81° 37' 50.781" E
123	P101		565659.5191	2262544.09	20° 27' 37.033" N	81° 37' 46.305" E
124	P102		565625.4801	2262399.844	20° 27' 32.345" N	81° 37' 45.111" E
125	P103		565605.0788	2262308.461	20° 27' 29.375" N	81° 37' 44.395" E
126	P104		565590.2216	2262176.605	20° 27' 25.088" N	81° 37' 43.864" E
127	P105		565608.5225	2262023.743	20° 27' 20.113" N	81° 37' 44.476" E
128	P106		565624.6681	2261912.487	20° 27' 16.492" N	81° 37' 45.018" E
129	P107	Patch-2_10	564012.6307	2261670.521	20° 27' 8.820" N	81° 36' 49.351" E
130	P108		563981.7847	2261675.628	20° 27' 8.990" N	81° 36' 48.287" E
131	P109		563950.998	2261681.546	20° 27' 9.187" N	81° 36' 47.225" E
132	P110	Patch-2_11	563258.3338	2261150.676	20° 26' 52.002" N	81° 36' 23.251" E
133	P111		563074.4023	2261060.232	20° 26' 49.082" N	81° 36' 16.892" E
134	P112		562904.9613	2260947.908	20° 26' 45.448" N	81° 36' 11.030" E
135	P113		562871.4417	2260742.394	20° 26' 38.767" N	81° 36' 9.847" E
136	P114		562819.9451	2260601.61	20° 26' 34.194" N	81° 36' 8.052" E
137	P115		562767.0687	2260461.9	20° 26' 29.656" N	81° 36' 6.210" E
138	P116		562638.4774	2260387.262	20° 26' 27.243" N	81° 36' 1.762" E
139	P117		562495.3445	2260344.757	20° 26' 25.878" N	81° 35' 56.817" E
140	P118		562396.2033	2260242.75	20° 26' 22.571" N	81° 35' 53.383" E
141	P119	Patch-2_12	562032.2318	2259989.218	20° 26' 14.367" N	81° 35' 40.791" E
142	P120		561965.6361	2259855.638	20° 26' 10.030" N	81° 35' 38.476" E
143	P121		561907.6804	2259771.958	20° 26' 7.315" N	81° 35' 36.466" E
144	P122	Patch-2_13	561627.6903	2259498.481	20° 25' 58.452" N	81° 35' 26.769" E
145	P123		561558.4904	2259420.989	20° 25' 55.939" N	81° 35' 24.372" E
146	P124		561485.8046	2259304.645	20° 25' 52.163" N	81° 35' 21.849" E
147	P125		561411.3453	2259207.577	20° 25' 49.014" N	81° 35' 19.268" E

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148	P126	Patch-2_14	560711.7843	2258735.723	20° 25' 33.747" N	81° 34' 55.069" E
149	P127		560622.7365	2258617.133	20° 25' 29.899" N	81° 34' 51.982" E
150	P128		560561.9821	2258544.79	20° 25' 27.553" N	81° 34' 49.877" E
151	P129		560462.77	2258431.676	20° 25' 23.885" N	81° 34' 46.440" E
152	P130		560383.3888	2258328.349	20° 25' 20.533" N	81° 34' 43.688" E
153	P131	Patch-2_15	560302.528	2258223.382	20° 25' 17.128" N	81° 34' 40.885" E
154	P132		560175.8038	2258148.795	20° 25' 14.716" N	81° 34' 36.503" E
155	P133		560046.9525	2258098.284	20° 25' 13.088" N	81° 34' 32.051" E
156	P134	Patch-2_16	559823.0044	2257974.828	20° 25' 9.097" N	81° 34' 24.308" E
157	P135		559727.8893	2257859.079	20° 25' 5.343" N	81° 34' 21.013" E
158	P136		559673.2937	2257783.857	20° 25' 2.902" N	81° 34' 19.120" E
159	P137	Patch-2_17	559573.8833	2257517.1	20° 24' 54.236" N	81° 34' 15.657" E
160	P138		559531.6539	2257447.336	20° 24' 51.972" N	81° 34' 14.192" E
161	P139		559489.444	2257374.23	20° 24' 49.598" N	81° 34' 12.727" E
162	P140	Patch-2_18	558047.516	2256654.916	20° 24' 26.360" N	81° 33' 22.890" E
163	P141		558058.7238	2256627.106	20° 24' 25.455" N	81° 33' 23.273" E
164	P142	Patch-2_19	558121.5662	2255948.883	20° 24' 3.386" N	81° 33' 25.362" E
165	P143		558127.5338	2255799.05	20° 23' 58.511" N	81° 33' 25.550" E
166	P144		558102.1954	2255651.836	20° 23' 53.725" N	81° 33' 24.659" E
167	P145		558073.7086	2255564.109	20° 23' 50.875" N	81° 33' 23.666" E
168	P146		558033.3941	2255450.317	20° 23' 47.178" N	81° 33' 22.262" E
169	P147	Patch-2_20	556505.7901	2252474.085	20° 22' 10.529" N	81° 32' 29.220" E
170	P148		556420.0542	2252351.807	20° 22' 6.561" N	81° 32' 26.249" E
171	P149		556352.4308	2252251.187	20° 22' 3.295" N	81° 32' 23.905" E
172	P150	Patch-2_21	554645.2457	2249258.977	20° 20' 26.139" N	81° 31' 24.689" E
173	P151		554572.1709	2249269.806	20° 20' 26.499" N	81° 31' 22.170" E
174	P152		554509.6104	2249308.97	20° 20' 27.780" N	81° 31' 20.016" E
175	P1	Patch-3_1	554110.296	2241500.153	20° 16' 13.803" N	81° 31' 5.399" E
176	P2		554139.8514	2241495.684	20° 16' 13.654" N	81° 31' 6.418" E
177	P3		554169.4222	2241491.317	20° 16' 13.509" N	81° 31' 7.437" E
178	P4	Patch-3_2	557057.3611	2242427.861	20° 16' 43.672" N	81° 32' 47.099" E
179	P5		557126.5527	2242422.633	20° 16' 43.495" N	81° 32' 49.484" E
180	P6		557195.8703	2242426.822	20° 16' 43.623" N	81° 32' 51.874" E

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181	P7	Patch-3_3	557410.0883	2242482.924	20° 16' 45.425" N	81° 32' 59.265" E
182	P8		557428.4177	2242488.041	20° 16' 45.590" N	81° 32' 59.898" E
183	P9		557446.6404	2242493.179	20° 16' 45.755" N	81° 33' 0.527" E
184	P10	Patch-3_4	557624.2214	2242545.429	20° 16' 47.435" N	81° 33' 6.655" E
185	P11		557665.8351	2242556.629	20° 16' 47.795" N	81° 33' 8.091" E
186	P12		557711.6586	2242568.963	20° 16' 48.191" N	81° 33' 9.672" E
187	P1	Patch-4_1	568359.3179	2243099.294	20° 17' 4.178" N	81° 39' 16.817" E
188	P2		568435.4991	2243137.315	20° 17' 5.405" N	81° 39' 19.449" E
189	P3		568502.2526	2243170.725	20° 17' 6.483" N	81° 39' 21.755" E
190	P4	Patch-4_2	572451.8362	2244273.858	20° 17' 41.841" N	81° 41' 38.077" E
191	P5		572484.2332	2244274.774	20° 17' 41.867" N	81° 41' 39.194" E
192	P6	Patch-4_3	576931.6412	2244016.888	20° 17' 32.851" N	81° 44' 12.488" E
193	P7		576960.0247	2243869.599	20° 17' 28.056" N	81° 44' 13.444" E
194	P8		576980.74	2243763.362	20° 17' 24.598" N	81° 44' 14.142" E
195	P9		577000.8048	2243658.228	20° 17' 21.175" N	81° 44' 14.817" E
196	P10	Patch-4_4	577126.5343	2242266.182	20° 16' 35.876" N	81° 44' 18.937" E
197	P11		577127.8549	2242185.142	20° 16' 33.239" N	81° 44' 18.970" E
198	P12		577129.4747	2242104.878	20° 16' 30.628" N	81° 44' 19.014" E
199	P13	Patch-4_5	577132.785	2241889.39	20° 16' 23.618" N	81° 44' 19.095" E
200	P14		577173.9145	2241748.17	20° 16' 19.019" N	81° 44' 20.491" E
201	P15		577293.4521	2241658.182	20° 16' 16.074" N	81° 44' 24.598" E
202	P16		577416.9318	2241573.019	20° 16' 13.286" N	81° 44' 28.841" E
203	P17		577486.0071	2241524.686	20° 16' 11.704" N	81° 44' 31.215" E
204	P18	Patch-4_6	578200.7375	2240433.523	20° 15' 36.105" N	81° 44' 55.682" E
205	P19		578263.9173	2240297.478	20° 15' 31.671" N	81° 44' 57.839" E
206	P20		578323.1605	2240159.684	20° 15' 27.180" N	81° 44' 59.859" E
207	P21		578381.7438	2240021.597	20° 15' 22.679" N	81° 45' 1.857" E
208	P22		578439.7563	2239883.271	20° 15' 18.171" N	81° 45' 3.835" E
209	P23		578496.9428	2239744.6	20° 15' 13.652" N	81° 45' 5.784" E
210	P24		578554.1294	2239605.929	20° 15' 9.133" N	81° 45' 7.734" E
211	P25		578690.3618	2239614.369	20° 15' 9.387" N	81° 45' 12.430" E
212	P26		578788.1018	2239634.143	20° 15' 10.016" N	81° 45' 15.802" E

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Sr.No.	Point ID	Patch No	UTM Coordinates		Geographical Coordinates	
			Easting (m) (m)	Northing (m) (m)	Latitude "N"	Longitude "E"
213	P27	Patch-4_7	581468.6044	2234844.7	20° 12' 33.820" N	81° 46' 47.415" E
214	P28		581447.5205	2234808.018	20° 12' 32.630" N	81° 46' 46.683" E
215	P29	Patch-4_8	581432.5941	2234591.048	20° 12' 25.574" N	81° 46' 46.133" E
216	P30		581432.3949	2234543.629	20° 12' 24.032" N	81° 46' 46.119" E
217	P31	Patch-4_9	583593.3162	2232384.459	20° 11' 13.463" N	81° 48' 0.219" E
218	P32		583712.1538	2232305.14	20° 11' 10.865" N	81° 48' 4.300" E
219	P33		583768.3441	2232166.16	20° 11' 6.335" N	81° 48' 6.213" E
220	P34		583857.9893	2232067.975	20° 11' 3.127" N	81° 48' 9.285" E
221	P35		584004.397	2232099.454	20° 11' 4.128" N	81° 48' 14.334" E
222	P36		584121.8281	2232021.352	20° 11' 1.569" N	81° 48' 18.367" E
223	P37		584195.5481	2231892.576	20° 10' 57.369" N	81° 48' 20.885" E
224	P38		584243.9362	2231755.345	20° 10' 52.897" N	81° 48' 22.529" E
225	P39		584343.7184	2231647.006	20° 10' 49.357" N	81° 48' 25.949" E
226	P40		584430.9018	2231526.63	20° 10' 45.428" N	81° 48' 28.932" E
227	P41		584547.0956	2231434.072	20° 10' 42.399" N	81° 48' 32.920" E
228	P42		584588.5383	2231291.454	20° 10' 37.753" N	81° 48' 34.323" E
229	P43		584634.2524	2231149.286	20° 10' 33.121" N	81° 48' 35.874" E
230	P44		584701.8824	2231016.127	20° 10' 28.779" N	81° 48' 38.182" E
231	P45		584813.0646	2230917.641	20° 10' 25.558" N	81° 48' 41.995" E
232	P46		584908.4909	2230805.92	20° 10' 21.909" N	81° 48' 45.264" E
233	P47		584960.5216	2230665.948	20° 10' 17.347" N	81° 48' 47.033" E
234	P48		584985.6337	2230517.931	20° 10' 12.529" N	81° 48' 47.873" E
235	P49		584933.1084	2230394.738	20° 10' 8.530" N	81° 48' 46.043" E
236	P50		585044.5939	2230307.374	20° 10' 5.670" N	81° 48' 49.869" E
237	P51		585102.9111	2230243.796	20° 10' 3.593" N	81° 48' 51.867" E
238	P52		585077.7175	2230174.003	20° 10' 1.327" N	81° 48' 50.987" E
239	P1	Patch-5_1	539322.0573	2264001.603	20° 28' 27.076" N	81° 22' 37.376" E
240	P2		539335.7462	2263968.763	20° 28' 26.007" N	81° 22' 37.846" E
241	P3	Patch-5_2	539435.9932	2263742.023	20° 28' 18.624" N	81° 22' 41.288" E
242	P4		539473.3311	2263678.498	20° 28' 16.554" N	81° 22' 42.572" E
243	P5		539514.4521	2263617.507	20° 28' 14.567" N	81° 22' 43.987" E
244	P6	Patch-5_3	539662.0052	2263396.401	20° 28' 7.364" N	81° 22' 49.062" E
245	P7		539739.5935	2263279.441	20° 28' 3.553" N	81° 22' 51.731" E
246	P8		539814.7306	2263164.821	20° 27' 59.819" N	81° 22' 54.315" E
247	P9		539859.9173	2263098.98	20° 27' 57.674" N	81° 22' 55.870" E

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Sr.No.	Point ID	Patch No	UTM Coordinates		Geographical Coordinates	
			Easting (m) (m)	Northing (m) (m)	Latitude "N"	Longitude "E"
248	P10	Patch-5_4	539882.1622	2263066.861	20° 27' 56.627" N	81° 22' 56.635" E
249	P11		539910.3161	2263022.587	20° 27' 55.185" N	81° 22' 57.603" E
250	P12		539939.3607	2262979.51	20° 27' 53.781" N	81° 22' 58.602" E
251	P13	Patch-5_5	556492.2511	2263946.036	20° 28' 23.702" N	81° 32' 30.059" E
252	P14		556606.6579	2263919.159	20° 28' 22.816" N	81° 32' 34.005" E
253	P15		556686.8791	2263883.215	20° 28' 21.638" N	81° 32' 36.770" E
254	P16	Patch-5_6	557275.4204	2263956.89	20° 28' 23.970" N	81° 32' 57.093" E
255	P17		557304.5489	2263953.75	20° 28' 23.865" N	81° 32' 58.098" E
256	P18		557330.3886	2263939.283	20° 28' 23.392" N	81° 32' 58.989" E
257	P19	Patch-5_7	557661.4696	2263746.385	20° 28' 17.081" N	81° 33' 10.394" E
258	P20		557749.0616	2263723.859	20° 28' 16.338" N	81° 33' 13.415" E
259	P21		557814.7373	2263669.688	20° 28' 14.569" N	81° 33' 15.676" E
260	P22	Patch-5_8	557845.7854	2263639.303	20° 28' 13.577" N	81° 33' 16.744" E
261	P23		557887.4716	2263601.549	20° 28' 12.345" N	81° 33' 18.179" E
262	P24		557926.5477	2263561.096	20° 28' 11.024" N	81° 33' 19.523" E
263	P25	Patch-5_9	558488.4504	2263227.591	20° 28' 0.114" N	81° 33' 38.878" E
264	P26		558527.6511	2263203.027	20° 27' 59.310" N	81° 33' 40.229" E
265	P27		558565.89	2263177.003	20° 27' 58.459" N	81° 33' 41.545" E
266	P28	Patch-5_10	558595.6054	2263152.702	20° 27' 57.666" N	81° 33' 42.568" E
267	P29		558660.6043	2263018.624	20° 27' 53.297" N	81° 33' 44.796" E
268	P30		558718.9062	2262880.462	20° 27' 48.796" N	81° 33' 46.792" E
269	P31		558830.3881	2262793.915	20° 27' 45.968" N	81° 33' 50.629" E
270	P32		558968.8599	2262736.273	20° 27' 44.078" N	81° 33' 55.402" E
271	P33		559103.0554	2262671.126	20° 27' 41.944" N	81° 34' 0.026" E
272	P34		559205.6631	2262561.751	20° 27' 38.374" N	81° 34' 3.554" E
273	P35		559305.5763	2262449.906	20° 27' 34.725" N	81° 34' 6.989" E
274	P36		559390.7561	2262327.045	20° 27' 30.719" N	81° 34' 9.915" E
275	P37		559432.5127	2262182.976	20° 27' 26.028" N	81° 34' 11.339" E
276	P38		559471.2199	2262038.064	20° 27' 21.309" N	81° 34' 12.657" E
277	P39		559501.2123	2261891.262	20° 27' 16.531" N	81° 34' 13.675" E
278	P40		559562.2161	2261754.32	20° 27' 12.069" N	81° 34' 15.764" E
279	P41		559697.5331	2261732.885	20° 27' 11.357" N	81° 34' 20.431" E
280	P42		559842.0218	2261748.625	20° 27' 11.852" N	81° 34' 25.420" E

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			Easting (m) (m)	Northing (m) (m)	Latitude "N"	Longitude "E"
281	P43	Patch-5_11	561364.1668	2261537.105	20° 27' 4.796" N	81° 35' 17.928" E
282	P44		561396.5569	2261528.729	20° 27' 4.520" N	81° 35' 19.045" E
283	P45	Patch-5_12	562350.3883	2261682.576	20° 27' 9.412" N	81° 35' 51.983" E
284	P46		562456.2209	2261769.188	20° 27' 12.217" N	81° 35' 55.647" E
285	P47		562593.0773	2261790.544	20° 27' 12.895" N	81° 36' 0.373" E
286	P48		562741.5358	2261809.379	20° 27' 13.490" N	81° 36' 5.499" E
287	P49		562848.2709	2261821.18	20° 27' 13.862" N	81° 36' 9.184" E
288	P50		562938.0181	2261800.206	20° 27' 13.169" N	81° 36' 12.279" E
288	P51	Patch-5_13	563952.7406	2261705.087	20° 27' 9.952" N	81° 36' 47.288" E
289	P52		564014.3846	2261694.283	20° 27' 9.593" N	81° 36' 49.414" E
291	P1	Patch-6_1	529590.2236	2226075.031	20° 7' 53.942" N	81° 16' 59.198" E
292	P2		529424.2902	2226321.544	20° 8' 1.971" N	81° 16' 53.497" E
293	P3		529346.2528	2226691.555	20° 8' 14.012" N	81° 16' 50.830" E
294	P4	Patch-6_2	528801.7162	2226975.483	20° 8' 23.278" N	81° 16' 32.090" E
295	P5		528666.8869	2227277.237	20° 8' 33.102" N	81° 16' 27.463" E
296	P6		528693.6118	2227622.947	20° 8' 44.346" N	81° 16' 28.403" E
297	P7	Patch-6_3	526994.8159	2231174.886	20° 10' 39.984" N	81° 15' 30.076" E
298	P8		526851.2203	2231594.452	20° 10' 53.640" N	81° 15' 25.151" E
299	P9		526720.0633	2231955.192	20° 11' 5.382" N	81° 15' 20.651" E
300	P10		526522.8917	2232338.521	20° 11' 17.862" N	81° 15' 13.877" E
301	P11		526215.386	2232714.413	20° 11' 30.105" N	81° 15' 3.302" E
302	P12		526342.3987	2233077.863	20° 11' 41.922" N	81° 15' 7.697" E
303	P13		526547.4099	2233322.835	20° 11' 49.881" N	81° 15' 14.774" E
304	P14		526342.4556	2233470.782	20° 11' 54.704" N	81° 15' 7.720" E
305	P15		526194.576	2233678.201	20° 12' 1.459" N	81° 15' 2.635" E
306	P16		525936.5502	2233770.478	20° 12' 4.474" N	81° 14' 53.748" E
307	P17		525730.7277	2233942.64	20° 12' 10.084" N	81° 14' 46.665" E
308	P18		525595.6007	2234207.777	20° 12' 18.716" N	81° 14' 42.022" E
309	P19		525862.9994	2234138.872	20° 12' 16.461" N	81° 14' 51.233" E
310	P20		526032.9501	2234274.155	20° 12' 20.854" N	81° 14' 57.096" E
311	P21		526246.1615	2234330.432	20° 12' 22.674" N	81° 15' 4.446" E
312	P22		526412.2579	2234461.245	20° 12' 26.922" N	81° 15' 10.177" E
313	P23		526278.4038	2234676.939	20° 12' 33.945" N	81° 15' 5.575" E

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314	P24	Patch-6_4	526268.7294	2235112.836	20° 12' 48.126" N	81° 15' 5.265" E
315	P25		526153.2347	2235411.054	20° 12' 57.833" N	81° 15' 1.300" E
316	P26		526265.0702	2235685.468	20° 13' 6.754" N	81° 15' 5.169" E
317	P27		526195.1544	2236029.377	20° 13' 17.945" N	81° 15' 2.777" E
318	P28		526228.5172	2236443.844	20° 13' 31.426" N	81° 15' 3.949" E
319	P29		526474.1271	2236909.501	20° 13' 46.563" N	81° 15' 12.438" E
320	P30	Patch-6_5	526544.975	2237019.03	20° 13' 50.122" N	81° 15' 14.885" E
321	P31		526659.0019	2237190.259	20° 13' 55.687" N	81° 15' 18.824" E
322	P32	Patch-6_6	528834.4739	2240514.564	20° 15' 43.715" N	81° 16' 33.994" E
323	P33		528785.2302	2240665.706	20° 15' 48.635" N	81° 16' 32.306" E
324	P34		528645.8058	2240817.942	20° 15' 53.595" N	81° 16' 27.508" E
325	P35	Patch-6_7	528187.0085	2241607.252	20° 16' 19.296" N	81° 16' 11.736" E
326	P36		527945.5223	2241797.772	20° 16' 25.507" N	81° 16' 3.422" E
327	P37	Patch-6_8	527790.1947	2241965.059	20° 16' 30.957" N	81° 15' 58.076" E
328	P38		527801.0991	2242007.094	20° 16' 32.324" N	81° 15' 58.455" E
329	P39	Patch-6_9	527855.2797	2243073.741	20° 17' 7.020" N	81° 16' 0.382" E
330	P40		527868.6778	2243274.022	20° 17' 13.534" N	81° 16' 0.855" E
331	P1	Patch-7_1	529112.7504	2248293.321	20° 19' 56.748" N	81° 16' 44.040" E
332	P2		529151.9224	2248599.525	20° 20' 6.707" N	81° 16' 45.409" E
333	P3	Patch-7_2	529308.202	2251815.412	20° 21' 51.312" N	81° 16' 50.988" E
334	P4		529146.6438	2252374.789	20° 22' 9.518" N	81° 16' 45.447" E
335	P5		528913.6946	2252921.404	20° 22' 27.312" N	81° 16' 37.443" E
336	P6	Patch-7_3	527794.5645	2255441.486	20° 23' 49.351" N	81° 15' 58.978" E
337	P7		527684.7968	2255538.427	20° 23' 52.510" N	81° 15' 55.196" E
338	P8		527572.9725	2255654.237	20° 23' 56.284" N	81° 15' 51.344" E

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