

DGPS / Total Station Survey Report

Survey Report of 77.3042 ha. Forest land effected under Korba Forest Division, for Construction and Widening of 4- Lane with paved shoulders configuration of Urga- Pathalgaon Section of NH-130 A in the State of Chhattisgarh. (70+200 to 157+745)

Forest Proposal No - FP/CG/ROAD/122482/2021

Forest Area Proposed for Diversion – 77.3042a.

Korba Forest Division

Submitted By

NHAI, Korba,

National Highway Authority of India



INTRODUCTION TO DGPS

WHAT IS DGPS AND WHY USE IT?

Differential Global Positioning System (DGPS) is an enhancement to Global Positioning System that provides improved location accuracy, from the 15-meter nominal GPS accuracy to about 10 cm in case of the best implementations.

DGPS refers to using a combination of receivers and satellites to reduce/eliminate common receiver based and satellite based errors, reduce orbit errors, reduce ionospheric and tropospheric errors, reduce effects of SA eliminate satellite and receiver clock errors. It also improves accuracy significantly 100's of metres to metres to centimetres to millimetres

1. DGPS uses one or several (network) fixed ground based reference stations (in known locations).
2. The base station compares its own known location, to that computed from a GPS receiver.
3. Any difference is then broadcast as a correction to the user. Correction signals can be broadcast either from ground stations, or via additional satellites. These services are privately owned and usually require a user subscription.

Examples:

- Satellite Based Augmentation System (SBAS),
- Wide Area Augmentation System (WAAS),
- Local Area Augmentation System (LAAS),
- European Geostationary Navigation Overlay Service (EGNOS),
- Omni STAR
- Coast guard beacon service.

Why do we Need Differential GPS?

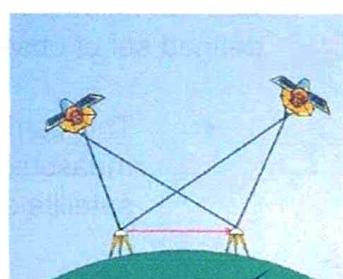
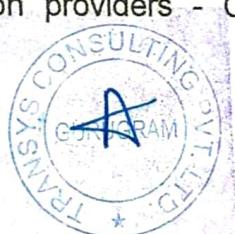
By using DGPS we can improve our positional accuracy from around 1.5m with standard GPS to around 40cm with DGPS, without the need for post processing.

In the case of the road survey van (top right), users can measure the amount of road wear and judge whether the road should be resurfaced just by driving over it. Just one day's driving can replace a month's manual work using traditional methods.

There are many other applications like this. The labour saving is immense but at the same time, previously impossible tasks are made possible such as the prediction of earthquakes before they occur.

DGPS Summary

- Term refers to simple C/A code differential
- Available on GPS receivers from low cost to high cost
- Produces accuracies from sub-metre to metres
- Many real-time DGPS correction providers - Coast guard, EGNOS, Omni STAR



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- Used for many different applications including marine navigation, precision farming and vehicle testing applications.

What is RTK?

Real Time Kinematic is an advanced form of DGPS which uses the satellites carrier wave to compare 2 observations from different receivers within the system, to fine tune the satellite and receiver clock errors, thus improving positional accuracy.

Real Time Kinematic (RTK)

The GPS signal is made up of 3 distinct components:

- Carrier wave • GPS Code
- Navigation message

Typical GPS receivers will use the GPS navigation message to calculate its position. RTK uses the carrier wave of the GPS signal, which is 19.02cm long. By counting the number of cycles (and phase of the carrier), the travel time and distance can be measured more accurately.

RTK Summary

- Similar technique as DGPS that uses the carrier phase to provide more accurate positioning
- Cost is higher compared to DGPS receivers • Produces accuracies from 20 cm to sub-centimetres
- RTK corrections provided via a local base station or by a private correction provider - Omni STAR, Leica, Trimble
- Produces accuracies from 20 cm to sub-centimetres
- RTK corrections provided via a local base station or by a private correction provider - Omni STAR, Leica, Trimble

Used for many different applications including machine control (construction, container ports, farming), vehicle testing applications, surveying (land, marine, hydrographic, aerial)

RINEX FILE

The first proposal for the ***Receiver Independent Exchange Format RINEX*** was developed by the Astronomical Institute of the University of Berne for the easy exchange of the Global Positioning System (GPS) data to be collected during the first large European GPS campaign EUREF 89, which involved more than 60 GPS receivers of 4 different manufacturers. The governing aspect during the development was the following fact: Most geodetic processing software for GPS data use a well-defined set of observables:

- The carrier-phase measurement at one or both carriers (actually being a measurement on the beat frequency between the received carrier of the satellite signal and a receiver generated reference frequency).



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- The pseudo range (code) measurement, equivalent to the difference of the time of reception (expressed in the time frame of the receiver) and the time of transmission (expressed in the time frame of the satellite) of a distinct satellite signal.
- The observation time being the reading of the receiver clock at the instant of validity of the carrier-phase and/or the code measurements. Usually the software assumes that the observation time is valid for both the phase and the code measurements, and for all satellites observed. Consequently, all these programs do not need most of the information that is usually stored by the receivers: They need phase, code, and time in the above-mentioned definitions, and some station related information like station name, antenna height, etc. Up till now two major format versions have been developed and published:
- The original RINEX Version 1 presented at and accepted by the 5th International Geodetic Symposium on Satellite Positioning in Las Cruces, 1989. [Gurtner et al. 1989], [Evans 1989]
- RINEX Version 2 presented at and accepted by the Second International Symposium of Precise Positioning with the Global Positioning system in Ottawa, 1990, mainly adding the possibility to include tracking data from different satellite systems (GLONASS, SBAS). [Gurtner and Mader 1990a, 1990b], [Gurtner 1994]. Several subversions of RINEX Version 2 have been defined:
 - Version 2.10: Among other minor changes allowing for sampling rates other than integer seconds and including raw signal strengths as new observables. [Gurtner 2002]
 - Version 2.11: Includes the definition of a two-character observation code for L2C pseudoranges and some modifications in the GEO NAV MESS files [Gurtner and Estey 2005]
- Version 2.20: Unofficial version used for the exchange of tracking data from spaceborne receivers within the IGS LEO pilot project [Gurtner and Estey 2002]. As spin-offs of this idea of a receiver-independent GPS
- Version 2.11: Includes the definition of a two-character observation code for L2C pseudo ranges and some modifications in the GEO NAV MESS files [Gurtner and Estey 2005]
- Version 2.20: Unofficial version used for the exchange of tracking data from spaceborne receivers within the IGS LEO pilot project [Gurtner and Estey 2002]. As spin-offs of this idea of a receiver-independent GPS exchange format other RINEX-like exchange file formats have been defined, mainly used by the International GNSS Service IGS:
 - Exchange format for **satellite and receiver clock offsets** determined by processing data of a GNSS tracking network [Ray and Gurtner 1999]
 - Exchange format for the complete **broadcast data of spacebased augmentation systems** SBAS. [Suard et al. 2004]
- IONEX: Exchange format for **ionosphere models** determined by processing data of a GNSS tracking network [Schaer et al. 1998]
- ANTEX:




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ANTEX: Exchange format for **phase centre variations** of geodetic GNSS antennae [Rothacher and Schmid 2005]. The upcoming European Navigation Satellite System Galileo and the enhanced GPS with new frequencies and observation types, especially the possibility to track frequencies on different channels, ask for a more flexible and more detailed definition of the observation codes. To improve the handling of the data files in case of "mixed" files, i.e. files containing tracking data of more than one satellite system, each one with different observation types, the record structure of the data record has been modified significantly and, following several requests, the limitation to 80 characters length has been removed. As the changes are quite significant, they lead to a new RINEX Version 3. The new version also includes the unofficial Version 2.20 definitions for space-borne receivers. The major change asking for a version 3.01 was the requirement to generate consistent phase observations across different tracking modes or channels, i.e. to apply $\frac{1}{4}$ -cycle shifts prior to RINEX file generation, if necessary, to facilitate the processing of such data.

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The RINEX version 3.00 format consists of three ASCII file types:

1. Observation data File
2. Navigation message File
3. Meteorological data File

Each file type consists of a header section and a data section. The header section contains global information for the entire file and is placed at the beginning of the file. The header section contains header labels in columns 61-80 for each line contained in the header section. These labels are mandatory and must appear exactly as given



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in these descriptions and examples. The format has been optimized for minimum space requirements independent from the number of different observation types of a specific receiver or satellite system by indicating in the header the types of observations to be stored for this receiver and the satellite systems having been observed. In computer systems allowing variable record lengths the observation records may be kept as short as possible. Trailing blanks can be removed from the records. There is no maximum record length limitation for the observation records.

Each Observation file and each Meteorological Data file basically contain the data from one site and one session. Starting with Version 2 RINEX also allows including observation data from more than one site subsequently occupied by a roving receiver in rapid static or kinematic applications. Although Version 2 and higher allow to insert header records into the data section it is not recommended to concatenate data of more than one receiver (or antenna) into the same file, even if the data do not overlap in time. If data from more than one receiver have to be exchanged, it would not be economical to include the identical satellite navigation messages collected by the different receivers several times. Therefore the navigation message file from one receiver may be exchanged or a composite navigation message file created containing non-redundant information from several receivers in order to make the most complete file. The format of the data records of the RINEX Version 1 navigation message file was identical to the former NGS exchange format. RINEX version 3 navigation message files may contain navigation messages of more than one satellite system (GPS, GLONASS, Galileo, Quasi Zenith Satellite System (QZSS), BeiDou System (BDS) and SBAS).

The actual format descriptions as well as examples are given in the Appendix Tables at the end of the document.

BASIC DEFINITIONS

Time:

The time of the measurement is the receiver time of the received signals. It is identical for the phase and range measurements and is identical for all satellites observed at that epoch. For single-system data files it is by default expressed in the time system of the respective satellite system. Otherwise the actual time can (for mixed files must) be indicated in the Start Time header record.

Pseudo-Range:

The pseudo-range (PR) is the distance from the receiver antenna to the satellite antenna including receiver and satellite clock offsets—satellite clock offset + other biases) so that the pseudo-range reflects the actual behaviour of the receiver and satellite clocks. The pseudo-range is stored in units of meters.

Phase:

The phase is the carrier-phase measured in whole cycles. The half cycles measured by squaring type receivers must be converted to whole cycles and flagged by the respective observation code.

The phase changes in the same sense as the range (negative doppler). The phase observations between epochs must be connected by including the integer number of




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cycles. The observables are not corrected for external effects like atmospheric refraction, satellite clock offsets, etc. If necessary phase observations are corrected for phase shifts needed to guarantee consistency between phases of the same frequency and satellite system based on different signal channels.

If the receiver or the converter software adjusts the measurements using the real-time-derived receiver clock offsets $dT(r)$, the consistency of the 3 1 Time (corr) = Time(r) - $dT(r)$

$$2 \text{ PR (corr)} = \text{PR (r)} - dT(r)*c \quad 3 \text{ phase (corr)} = \text{phase (r)} - dT(r)*\text{freq}$$

Doppler:

The sign of the doppler shift as additional observable is defined as usual: Positive for approaching satellites.

Satellite numbers:

Starting with RINEX Version 2 the former two-digit satellite numbers **nn** are preceded by a one-character system identifier **s**. The same satellite system identifiers are also used in all header records when appropriate.

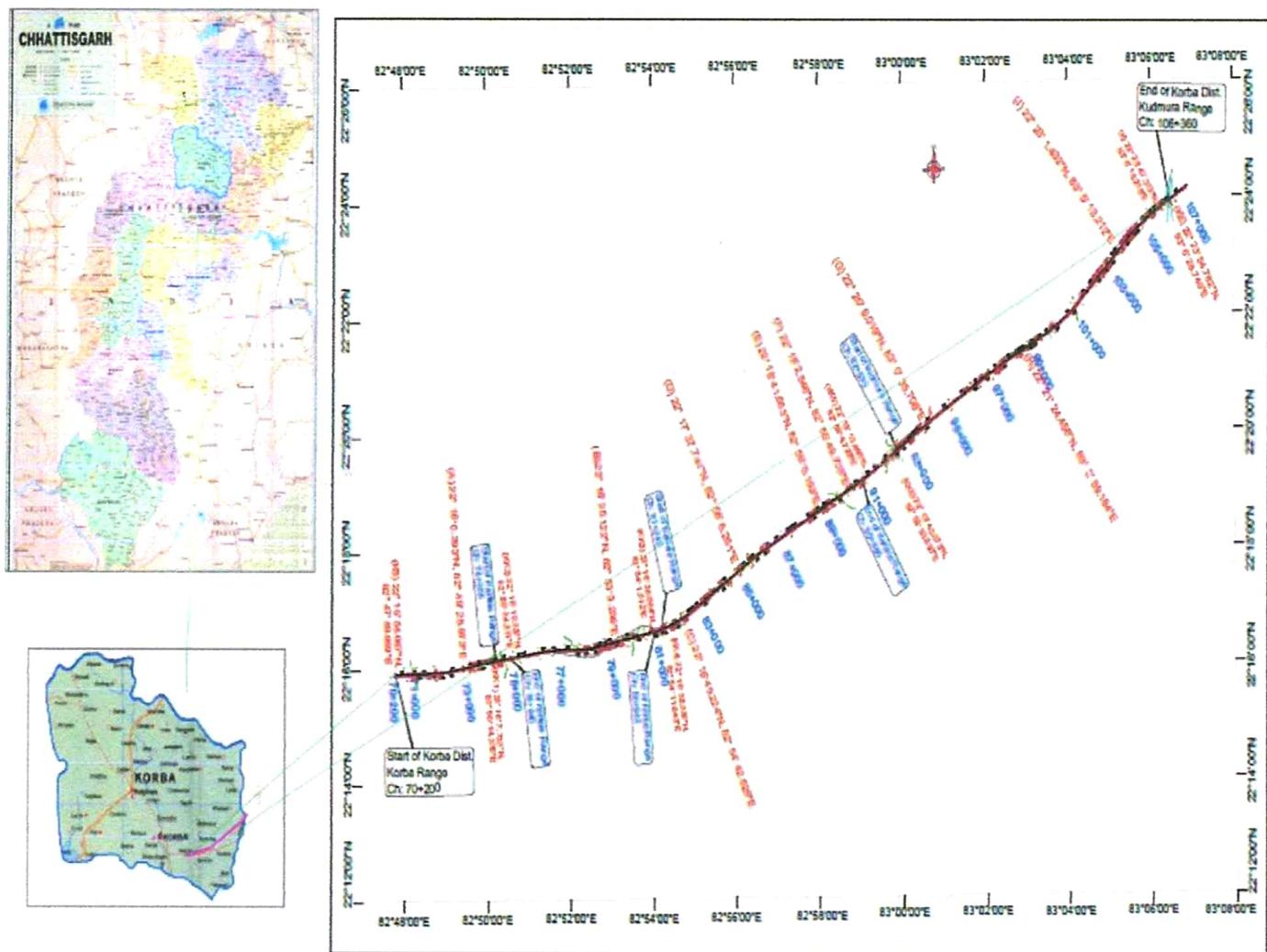
THE EXCHANGE OF RINEX FILES:

The original RINEX file naming convention was implemented in the MSDOS era when file names were restricted to 8.3 characters. Modern operating systems typically support 255 character file names. The goal of the new file naming convention is to be more: descriptive, flexible and extensible than the RINEX 2.11 file naming convention. All elements are fixed length and are separated by an underscore "_" except for the: file type and compression fields that uses a period "." separator. Fields must be padded with zeros to fill the field width. The file compression field is optional. In order to further reduce the size of observation files Yuki Hatanaka developed a compression scheme that takes advantage of the structure of the RINEX observation data by forming higher order differences in time between observations of the same type and satellite. This compressed file is also an ASCII file that is subsequently compressed again using the above mentioned standard compression programs.



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Location Plan



Proposal for Diversion of 77.3042 ha. Forest land under Korba Division, for Construction and Widening of 4- Lane with paved shoulders configuration of Urga- Pathalgao Section of NH-130 A in the State of Chhattisgarh. (70+200 to 157+745).



GPS Survey points for Diversion

Korba Forest division, District Korba


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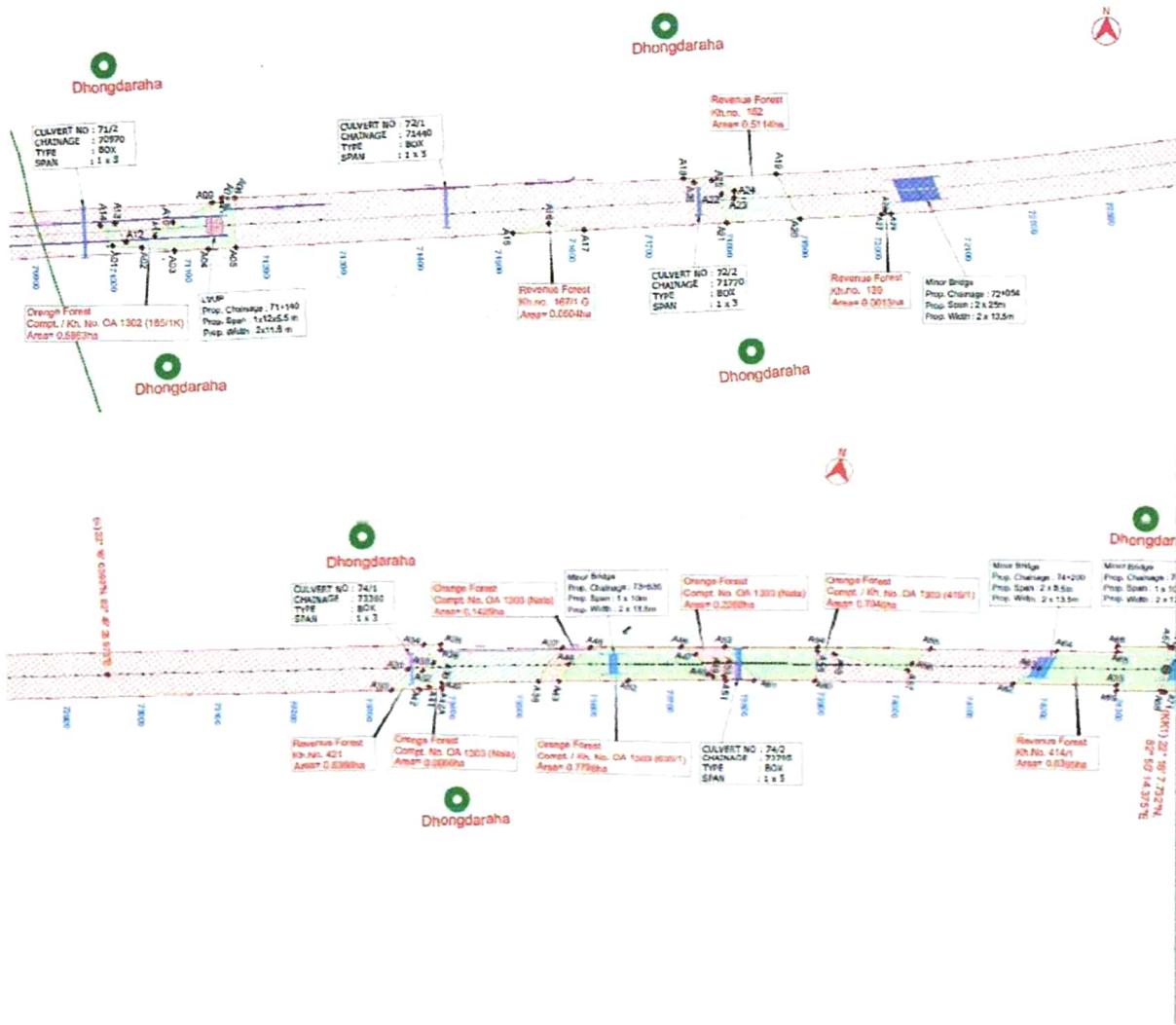

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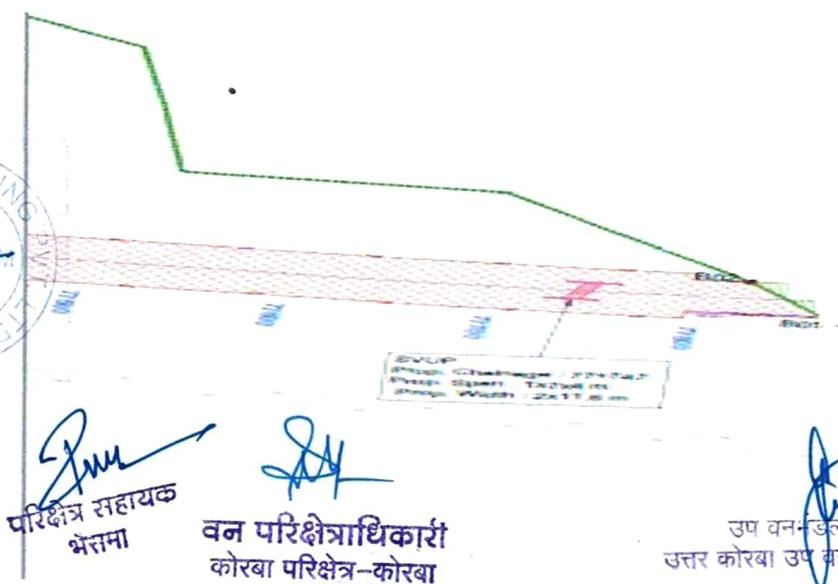

उप वनमंडलाधिकारी
उत्तर कोरबा उप वन मंडल, कोरबा


वनमण्डलाधिकारी,
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1. Village – Dhongdaraha, Taluka – Korba, Area – 7.89517482 Ha.



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वनमण्डलाधिकारी,
कोरबा वनमण्डल, कोरबा

GPS Coordinates: Degree, Minute & second (Area- 7.89517482 ha.)

Point No.	Latitude (N)	Longitude (E)	Remark	Survey No	Area in (Ha)
A01	22° 15' 54.174" N	82° 48' 18.119" E	Dhongdaraha Village	OA 1302 (185/1K)	0.5863
A02	22° 15' 54.094" N	82° 48' 19.469" E			
A03	22° 15' 53.954" N	82° 48' 20.957" E			
A04	22° 15' 54.013" N	82° 48' 22.469" E			
A05	22° 15' 54.062" N	82° 48' 23.721" E			
A06	22° 15' 56.175" N	82° 48' 23.677" E			
A07	22° 15' 56.152" N	82° 48' 23.072" E			
A08	22° 15' 55.989" N	82° 48' 23.079" E			
A09	22° 15' 55.973" N	82° 48' 22.664" E			
A10	22° 15' 55.158" N	82° 48' 20.890" E			
A11	22° 15' 54.571" N	82° 48' 20.057" E			
A12	22° 15' 54.353" N	82° 48' 18.745" E			
A13	22° 15' 55.112" N	82° 48' 18.252" E			
A14	22° 15' 55.062" N	82° 48' 17.576" E			
A15	22° 15' 54.581" N	82° 48' 36.301" E	Dhongdaraha Village	167/1 G	0.0504
A16	22° 15' 54.968" N	82° 48' 37.954" E			
A17	22° 15' 54.678" N	82° 48' 39.568" E			
A18	22° 15' 56.806" N	82° 48' 44.078" E	Dhongdaraha Village	152	0.5114
A19	22° 15' 56.969" N	82° 48' 48.275" E			
A20	22° 15' 55.059" N	82° 48' 49.360" E			
A21	22° 15' 54.930" N	82° 48' 46.038" E			
A22	22° 15' 56.114" N	82° 48' 45.777" E			
A23	22° 15' 55.967" N	82° 48' 46.364" E			
A24	22° 15' 56.263" N	82° 48' 46.395" E			
A25	22° 15' 56.708" N	82° 48' 45.355" E			
A26	22° 15' 56.636" N	82° 48' 44.542" E	Dhongdaraha Village	139	0.0013
A27	22° 15' 55.208" N	82° 48' 53.058" E			
A28	22° 15' 55.324" N	82° 48' 53.213" E			
A29	22° 15' 55.228" N	82° 48' 53.477" E			
A30	22° 16' 1.635" N	82° 49' 38.987" E	Dhongdaraha Village	421	0.8366
A31	22° 16' 2.647" N	82° 49' 39.584" E			
A32	22° 16' 2.673" N	82° 49' 40.266" E			
A33	22° 16' 3.091" N	82° 49' 40.701" E			
A34	22° 16' 3.816" N	82° 49' 40.140" E			
A35	22° 16' 3.946" N	82° 49' 40.898" E			
A36	22° 16' 3.706" N	82° 49' 40.945" E			
A37	22° 16' 4.629" N	82° 49' 46.528" E			
A38	22° 16' 3.005" N	82° 49' 45.668" E			
A39	22° 16' 2.267" N	82° 49' 41.228" E			
A40	22° 16' 2.095" N	82° 49' 41.262" E			
A41	22° 16' 2.027" N	82° 49' 40.696" E			

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कोरबा परिक्षेत्र-कोरबा

उष वनमण्डलाधिकारी
झत्तर कोरबा उप. वन मण्डल, कोरबा

वनमण्डलाधिकारी,
कोरबा वनमण्डल, कोरबा



A42	22° 16' 1.851" N	82° 49' 40.246" E			
A40	22° 16' 2.095" N	82° 49' 41.262" E	Dhongdaraha Village	OA 1303 (Nala)	0.0066
A41	22° 16' 2.027" N	82° 49' 40.696" E			
A42	22° 16' 1.851" N	82° 49' 40.246" E			
A42A	22° 16' 1.998" N	82° 49' 41.275" E			
A37	22° 16' 4.629" N	82° 49' 46.528" E	Dhongdaraha Village	OA 1303 (Nala)	0.1425
A38	22° 16' 3.005" N	82° 49' 45.668" E			
A43	22° 16' 3.160" N	82° 49' 46.628" E			
A44	22° 16' 3.981" N	82° 49' 46.985" E			
A45	22° 16' 4.836" N	82° 49' 47.834" E			
A43	22° 16' 3.160" N	82° 49' 46.628" E	Dhongdaraha Village	OA 1303 (635/1)	0.7798
A44	22° 16' 3.981" N	82° 49' 46.985" E			
A45	22° 16' 4.836" N	82° 49' 47.834" E			
A46	22° 16' 5.473" N	82° 49' 51.976" E			
A47	22° 16' 5.245" N	82° 49' 52.691" F			
A48	22° 16' 4.472" N	82° 49' 53.415" E			
A49	22° 16' 4.406" N	82° 49' 53.647" E			
A50	22° 16' 4.484" N	82° 49' 54.172" E			
A51	22° 16' 4.328" N	82° 49' 54.248" E			
A52	22° 16' 3.662" N	82° 49' 49.817" E			
A46	22° 16' 5.473" N	82° 49' 51.976" E	Dhongdaraha Village	OA 1303 (Nala)	0.2268
A47	22° 16' 5.245" N	82° 49' 52.691" F			
A48	22° 16' 4.472" N	82° 49' 53.415" E			
A49	22° 16' 4.406" N	82° 49' 53.647" E			
A50	22° 16' 4.484" N	82° 49' 54.172" E			
A51	22° 16' 4.328" N	82° 49' 54.248" E			
A53	22° 16' 5.771" N	82° 49' 53.976" E			
A61	22° 16' 4.520" N	82° 49' 55.572" E	Dhongdaraha Village	OA 1303 (419/1)	0.7046
A53	22° 16' 5.771" N	82° 49' 53.976" E			
A54	22° 16' 6.371" N	82° 49' 58.198" E			
A55	22° 16' 7.066" N	82° 50' 3.390" E			
A56	22° 16' 6.300" N	82° 50' 2.653" E			
A57	22° 16' 5.974" N	82° 50' 2.515" E			
A58	22° 16' 6.185" N	82° 49' 59.013" E			
A59	22° 16' 6.194" N	82° 49' 58.237" E			
A60	22° 16' 4.910" N	82° 49' 58.333" E			
A61	22° 16' 4.520" N	82° 49' 55.572" E			
A62	22° 16' 6.124" N	82° 50' 7.483" E	Dhongdaraha Village	414/1	0.8395
A63	22° 16' 6.952" N	82° 50' 8.588" E			
A64	22° 16' 7.835" N	82° 50' 9.270" E			
A65	22° 16' 8.196" N	82° 50' 12.037" E			
A66	22° 16' 8.438" N	82° 50' 12.001" E			
A67	22° 16' 8.745" N	82° 50' 14.352" E			
A68	22° 16' 6.768" N	82° 50' 14.297" E			
A69	22° 16' 6.506" N	82° 50' 12.292" E			
A70	22° 16' 6.747" N	82° 50' 12.256" E			

उप वन मंडलाधिकारी
उत्तर कोरबा उप वन मंडल, कोरबा

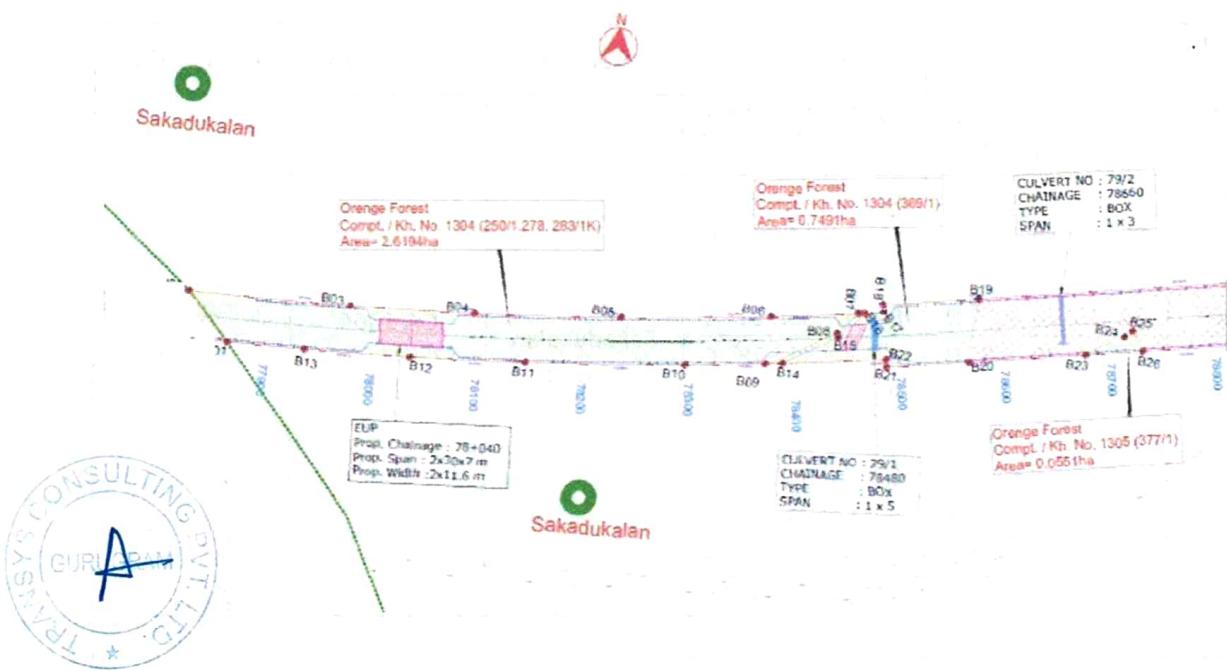
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A71	22° 16' 6.786" N	82° 50' 14.437" E	Dhongdaraha & Nonbirra Village OA 1456 (413/1 & 46/3)	3.2064
A72	22° 16' 8.763" N	82° 50' 14.492" E		
A73	22° 16' 9.142" N	82° 50' 17.390" E		
A74	22° 16' 9.970" N	82° 50' 23.730" E		
A75	22° 16' 10.561" N	82° 50' 28.257" E		
A76	22° 16' 11.149" N	82° 50' 32.754" E		
A77	22° 16' 9.957" N	82° 50' 32.733" E		
A78	22° 16' 9.720" N	82° 50' 34.380" E		
A79	22° 16' 9.539" N	82° 50' 32.997" E		
A80	22° 16' 9.217" N	82° 50' 33.045" E		
A81	22° 16' 8.765" N	82° 50' 29.586" E		
A82	22° 16' 8.168" N	82° 50' 25.014" E		
A83	22° 16' 7.681" N	82° 50' 21.285" E		
A84	22° 16' 7.229" N	82° 50' 17.826" E		

2 Village – Sakadukalan, Taluka – Korba, Area – 9.4222622 ha.



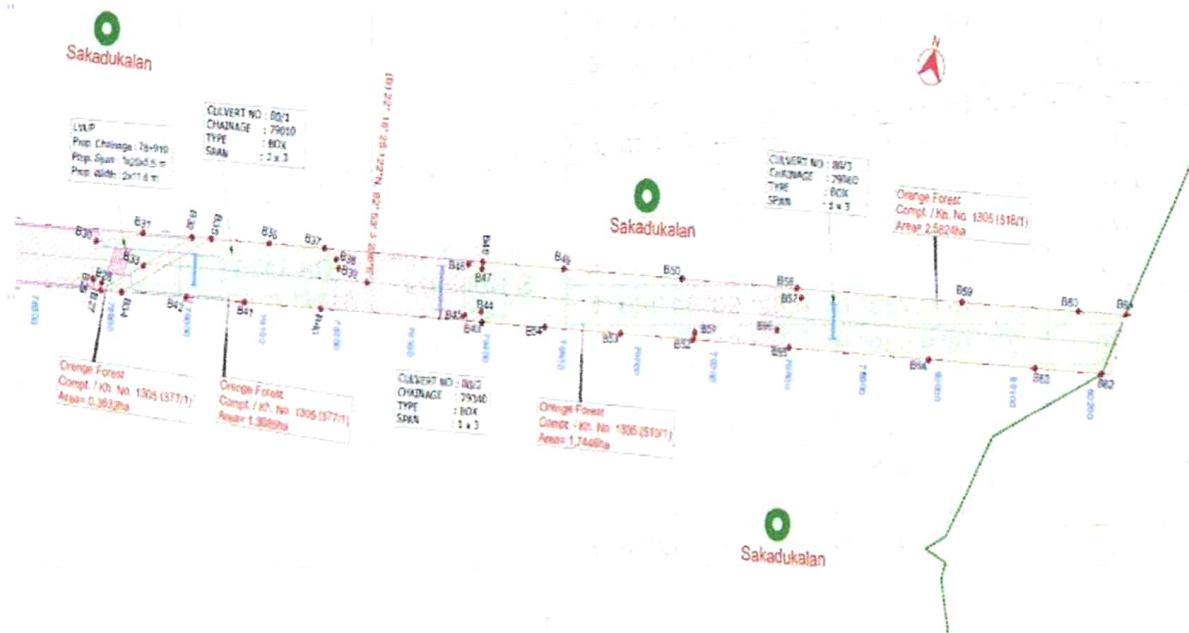
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वन परिक्षेत्राधिकारी
कोरबा परिक्षेत्र-कोरबा

उप वन मंडलाधिकारी
उत्तर कोरबा उप वन मंडल, कोरबा

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वनमण्डलाधिकारी,
कोरबा वनमण्डल, कोरबा



GPS Coordinates: Degree, Minute & second (Area- 9.4222622 ha.)

Point No.	Latitude (N)	Longitude (E)	Remark	Survey No	Area in (Ha)
B01	22° 16' 17.335" N	82° 52' 15.995" E	Sakadukalan Village	OA 1304 (250/1,278, 283/1K)	2.6194
B02	22° 16' 18.759" N	82° 52' 14.521" E			
B03	22° 16' 18.966" N	82° 52' 19.848" E			
B04	22° 16' 19.259" N	82° 52' 24.004" E			
B05	22° 16' 19.748" N	82° 52' 28.838" E			
B06	22° 16' 20.405" N	82° 52' 33.721" E			
B07	22° 16' 20.866" N	82° 52' 36.578" E			
B08	22° 16' 20.166" N	82° 52' 35.958" E			
B09	22° 16' 18.926" N	82° 52' 33.738" E			
B10	22° 16' 18.558" N	82° 52' 31.123" E			
B11	22° 16' 17.961" N	82° 52' 25.894" E			
B12	22° 16' 17.639" N	82° 52' 22.046" E			
B13	22° 16' 17.433" N	82° 52' 18.541" E			
B14	22° 16' 19.012" N	82° 52' 34.295" E	Sakadukalan Village	OA 1304 (369/1)	0.7491
B15	22° 16' 20.041" N	82° 52' 36.018" E			
B16	22° 16' 20.901" N	82° 52' 36.776" E			
B17	22° 16' 21.012" N	82° 52' 37.412" E			
B18	22° 16' 21.251" N	82° 52' 37.362" E			
B19	22° 16' 21.837" N	82° 52' 40.518" E			
B20	22° 16' 19.839" N	82° 52' 40.476" E			
B21	22° 16' 19.335" N	82° 52' 37.755" E	Sakadukalan Village	OA1305 (377/1)	0.0551
B22	22° 16' 19.575" N	82° 52' 37.706" E			
B23	22° 16' 20.554" N	82° 52' 44.273" E			
B24	22° 16' 21.270" N	82° 52' 45.467" E			
B25	22° 16' 21.487" N	82° 52' 45.713" E			
B26	22° 16' 20.906" N	82° 52' 46.140" E			

PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)

वन परिक्षेत्राधिकारी
कोरबा परिक्षेत्र-कोरबा



B27	22° 16' 21.896" N	82° 52' 51.397" E	Sakadukalan Village	OA1305 (377/1)	0.3632
B28	22° 16' 22.140" N	82° 52' 51.376" E			
B29	22° 16' 22.160" N	82° 52' 50.945" E			
B30	22° 16' 23.365" N	82° 52' 50.749" E			
B31	22° 16' 24.143" N	82° 52' 52.758" E			
B32	22° 16' 24.557" N	82° 52' 54.954" E			
B33	22° 16' 23.115" N	82° 52' 53.068" E			
B34	22° 16' 22.073" N	82° 52' 52.336" E	Sakadukalan Village	OA1305 (377/1)	1.3085
B35	22° 16' 24.717" N	82° 52' 55.804" E			
B36	22° 16' 25.216" N	82° 52' 58.455" E			
B37	22° 16' 25.697" N	82° 53' 1.008" E			
B38	22° 16' 25.482" N	82° 53' 1.636" E			
B39	22° 16' 25.238" N	82° 53' 1.828" E			
B40	22° 16' 23.775" N	82° 53' 1.370" E			
B41	22° 16' 23.116" N	82° 52' 57.872" E	Sakadukalan Village	OA 1305 (510/1)	1.7446
B42	22° 16' 22.618" N	82° 52' 55.228" E			
B43	22° 16' 25.177" N	82° 53' 8.814" E			
B44	22° 16' 25.484" N	82° 53' 8.653" E			
B45	22° 16' 25.183" N	82° 53' 7.940" E			
B46	22° 16' 26.840" N	82° 53' 7.660" E			
B47	22° 16' 26.839" N	82° 53' 8.310" E			
B48	22° 16' 27.065" N	82° 53' 8.271" E	Sakadukalan Village	OA 1305 (518/1)	2.5824
B49	22° 16' 27.754" N	82° 53' 11.929" E			
B50	22° 16' 28.762" N	82° 53' 17.283" E			
B51	22° 16' 27.207" N	82° 53' 18.381" E			
B52	22° 16' 26.978" N	82° 53' 18.366" E			
B53	22° 16' 26.358" N	82° 53' 15.083" E			
B54	22° 16' 25.713" N	82° 53' 11.660" E			
B55	22° 16' 27.796" N	82° 53' 22.720" E	Sakadukalan Village	OA 1305 (518/1)	2.5824
B56	22° 16' 28.216" N	82° 53' 22.025" E			
B57	22° 16' 29.500" N	82° 53' 22.803" E			
B58	22° 16' 29.746" N	82° 53' 22.504" E			
B59	22° 16' 31.171" N	82° 53' 30.073" E			
B60	22° 16' 32.163" N	82° 53' 35.340" E			
B61	22° 16' 32.568" N	82° 53' 37.492" E			
B62	22° 16' 30.478" N	82° 53' 36.963" E	वन परिषेकार्थी, कोरबा परिषेक्ट्र-कोरबा	उप वनमण्डल धूकारी उत्तर कोरबा उप वन मंडल, कोरबा	PROJECT DIRECTOR NHAI, PIU, KORBA (C.G.)
B63	22° 16' 29.912" N	82° 53' 33.957" E			
B64	22° 16' 29.001" N	82° 53' 29.119" E			



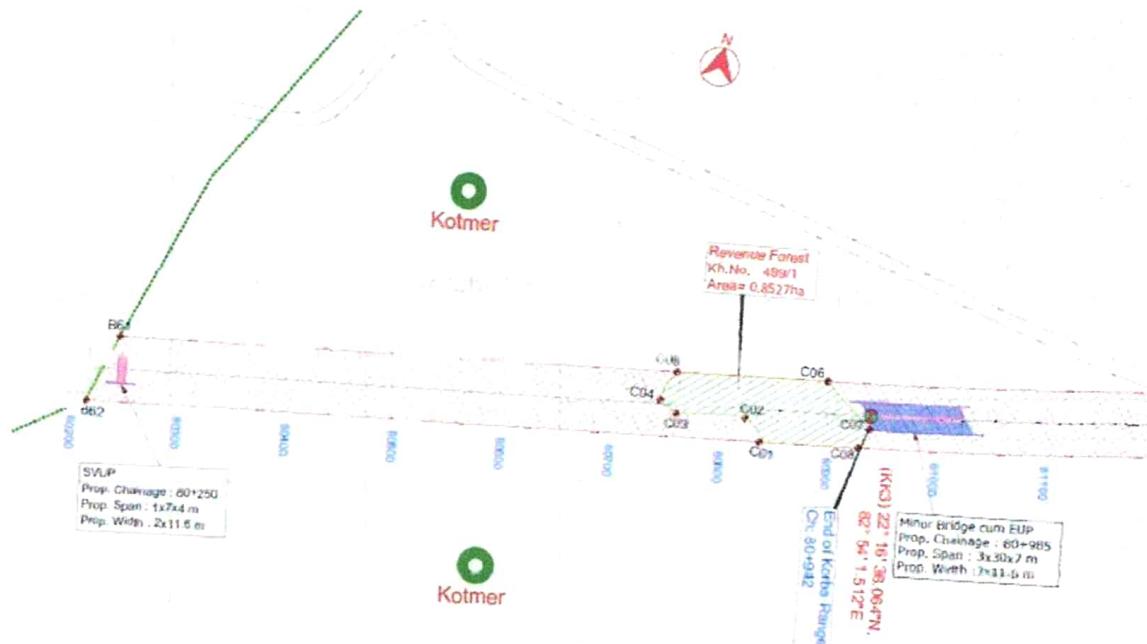
परिषेक्ट्र संहायक
भेत्समा.

वन परिषेकार्थी
कोरबा परिषेक्ट्र-कोरबा

उप वनमण्डल धूकारी
उत्तर कोरबा उप वन मंडल, कोरबा

वनमण्डल धूकारी,
कोरबा वनमण्डल, कोरबा

3. Village – Kotmer, Taluka-Kartala, Area – 0.8527 ha.



GPS Coordinates: Degree, Minute & second (Area- 0.8527 ha.)

Point No.	Latitude (N)	Longitude (E)	Remark	Survey No	Area in (Ha)
C01	22° 16' 34.480" N	82° 53' 58.219" E			
C02	22° 16' 35.062" N	82° 53' 57.579" E			
C03	22° 16' 34.664" N	82° 53' 55.400" E			
C04	22° 16' 34.950" N	82° 53' 54.792" E			
C05	22° 16' 35.876" N	82° 53' 55.065" E			
C06	22° 16' 36.779" N	82° 53' 59.858" E			
C07	22° 16' 35.701" N	82° 54' 1.601" E			
C08	22° 16' 35.091" N	82° 54' 1.377" E	Kotmer Village	499/1	0.8527



R. S. K. A. M.
परिक्षेत्र सहायक
करतला

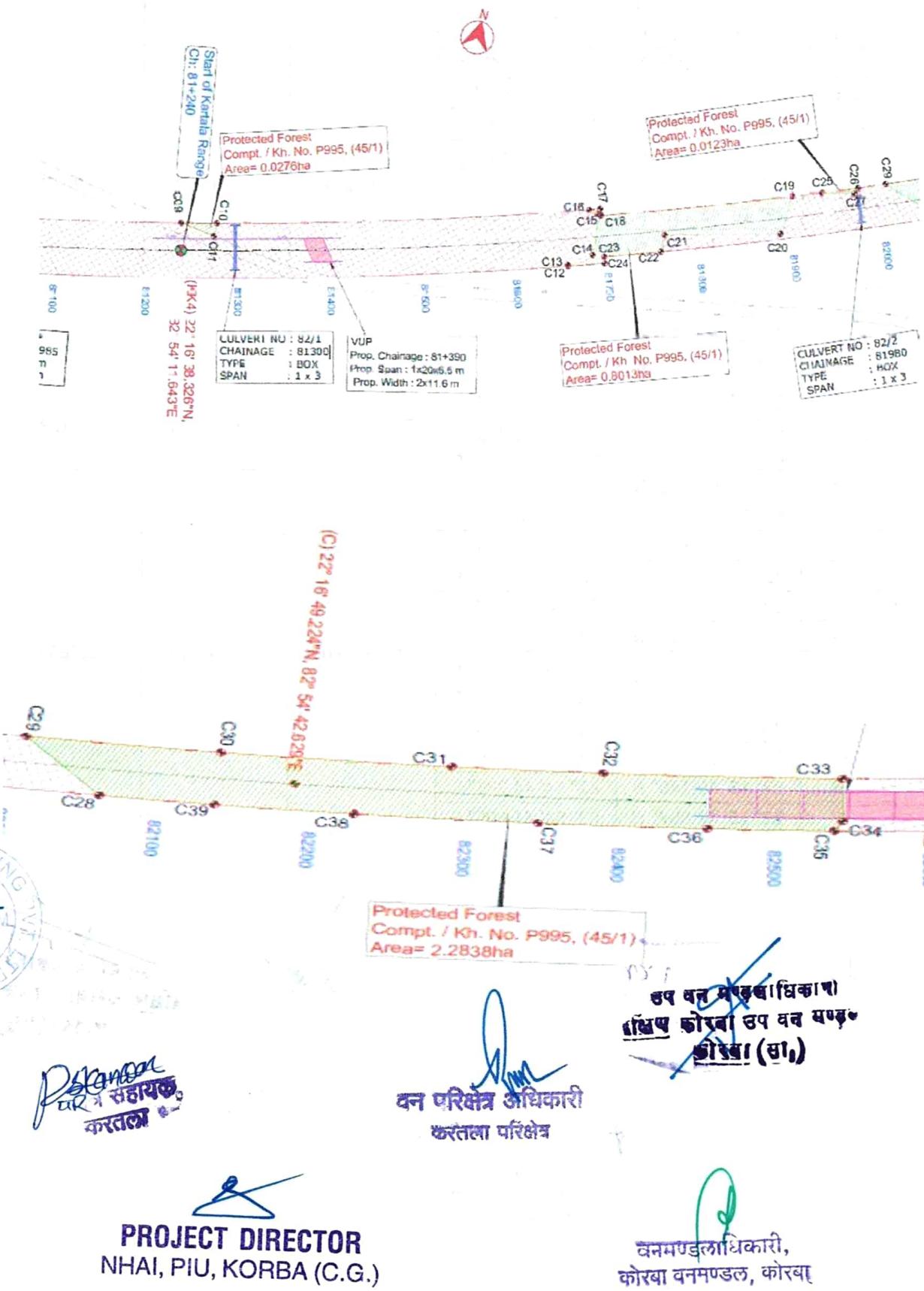
करतला परिक्षेत्र
अधिकारी

उप वनमंडलाधिकारी
उत्तर कोरबा उप वन मंडल, कोटा

उप वन मंडलाधिकारी
उत्तर कोरबा उप वन मंडल
कोटा (गु) (सं.)

PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)

4. Village – Forest, Range – Kartala, Area – 3.1250156ha.



GPS Coordinates: Degree, Minute & second (Area-3.1250156ha.)

Point No.	Latitude (N)	Longitude (E)	Remark	Survey No	Area in (Ha)
C09	22° 16' 39.302" N	82° 54' 11.367" E	Forest Land	P995, (45/1)	0.0276
C10	22° 16' 39.641" N	82° 54' 12.687" E			
C11	22° 16' 39.166" N	82° 54' 12.709" E			
C12	22° 16' 41.567" N	82° 54' 25.960" E			
C13	22° 16' 41.612" N	82° 54' 25.921" E			
C14	22° 16' 42.183" N	82° 54' 26.743" E			
C15	22° 16' 43.639" N	82° 54' 26.517" E			
C16	22° 16' 43.693" N	82° 54' 26.148" E			
C17	22° 16' 43.847" N	82° 54' 26.546" E			
C18	22° 16' 43.619" N	82° 54' 26.638" E			
C19	22° 16' 46.118" N	82° 54' 33.397" E	Forest Land	P995, (45/1)	0.8013
C20	22° 16' 44.718" N	82° 54' 33.354" E			
C21	22° 16' 43.566" N	82° 54' 24.173" E			
C22	22° 16' 42.963" N	82° 54' 29.207" E			
C23	22° 16' 42.248" N	82° 54' 27.186" E			
C24	22° 16' 42.019" N	82° 54' 27.278" E			
C25	22° 16' 46.526" N	82° 54' 34.429" E			
C26	22° 16' 47.036" N	82° 54' 35.691" E			
C27	22° 16' 46.809" N	82° 54' 35.633" E			
C28	22° 16' 46.813" N	82° 54' 38.996" E	Forest Land	P995, (45/1)	0.0123
C29	22° 16' 47.437" N	82° 54' 36.666" E			
C30	22° 16' 49.177" N	82° 54' 40.718" E			
C31	22° 16' 51.333" N	82° 54' 45.391" E			
C32	22° 16' 52.842" N	82° 54' 48.467" E			
C33	22° 16' 55.301" N	82° 54' 53.183" E			
C34	22° 16' 54.291" N	82° 54' 53.860" E			
C35	22° 16' 53.965" N	82° 54' 53.836" E			
C36	22° 16' 52.655" N	82° 54' 51.366" E			
C37	22° 16' 50.939" N	82° 54' 47.975" E			
C38	22° 16' 49.146" N	82° 54' 44.231" E	Forest Land	P995, (45/1)	2.2838
C39	22° 16' 47.857" N	82° 54' 41.395" E			



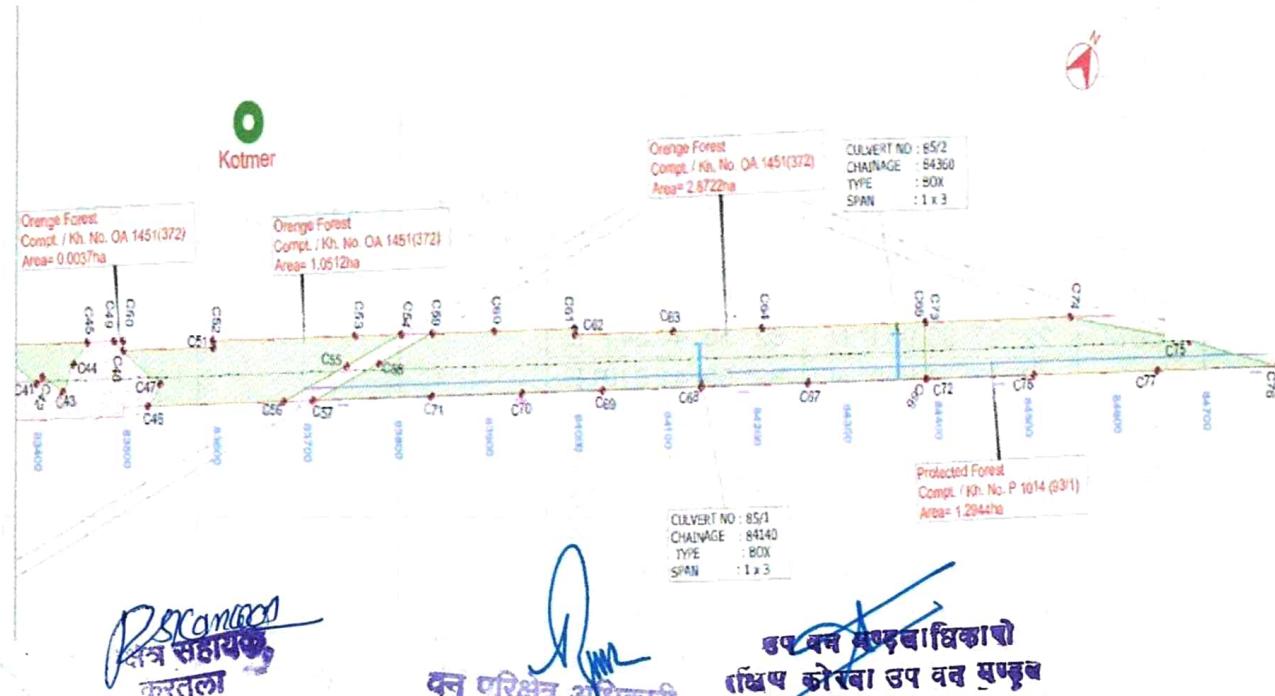
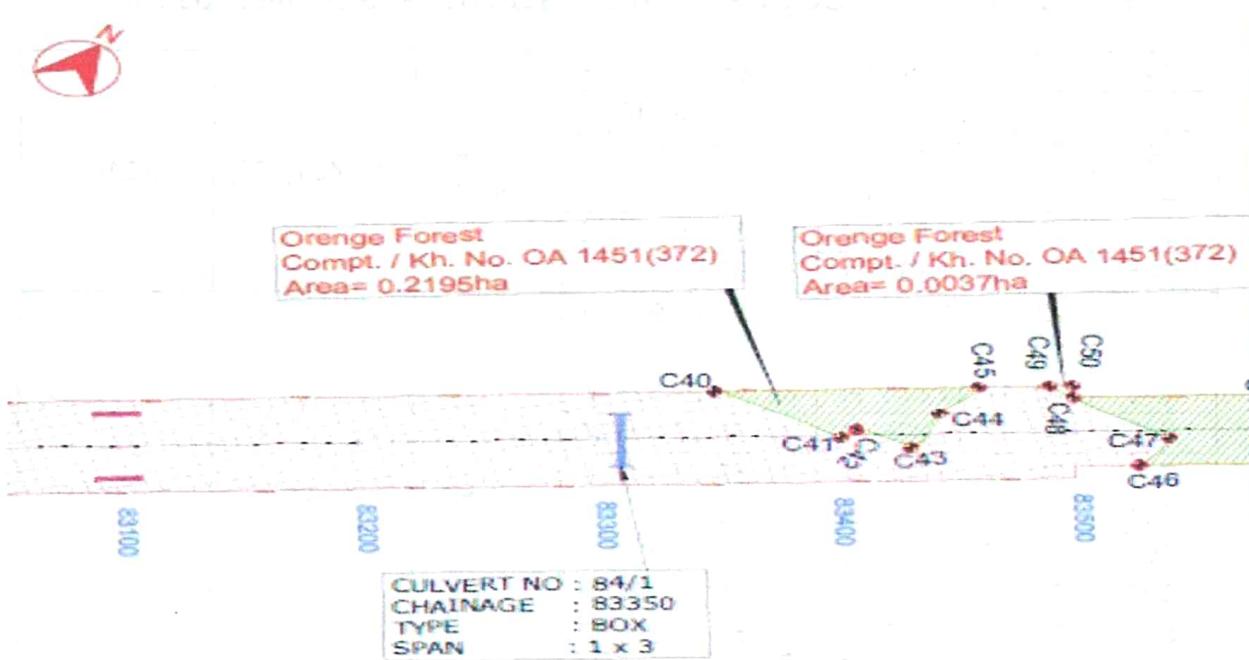
Parikshit Sahayak
करतला

PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)

करतला परिक्षेत्र अधिकारी
परिक्षेत्र करतला

उप वन प्रणवाधिकारी
प्रधिप करतला उप वन प्रणवाधिकारी
गोखा (सा.)

5. Village – Kotmer, Range –Kartala, Area – 5.4410991ha.



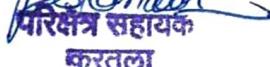
PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)



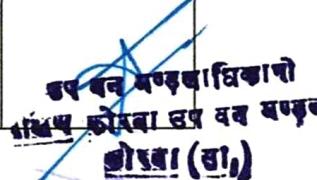
GPS Coordinates: Degree, Minute & second (Area-5.4410991ha.)

C40	22° 17' 9.454" N	82° 55' 16.772" E	Kotmer Village	OA1451(372)	0.2195
C41	22° 17' 9.510" N	82° 55' 18.916" E			
C42	22° 17' 9.766" N	82° 55' 19.016" E			
C43	22° 17' 9.817" N	82° 55' 19.892" E			
C44	22° 17' 10.631" N	82° 55' 19.850" E			
C45	22° 17' 11.380" N	82° 55' 20.010" E			
C46	22° 17' 11.120" N	82° 55' 22.976" E	Kotmer Village	OA 1451 (372)	0.0037 & 1.0512
C47	22° 17' 11.820" N	82° 55' 23.037" E			
C48	22° 17' 11.875" N	82° 55' 21.328" E			
C49	22° 17' 11.906" N	82° 55' 20.893" E			
C50	22° 17' 12.081" N	82° 55' 21.187" E			
C51	22° 17' 13.626" N	82° 55' 24.271" E			
C52	22° 17' 13.763" N	82° 55' 24.177" E			
C53	22° 17' 16.512" N	82° 55' 28.797" E			
C54	22° 17' 17.400" N	82° 55' 30.288" E			
C55	22° 17' 15.685" N	82° 55' 28.951" E			
C56	22° 17' 13.758" N	82° 55' 27.410" E			
C57	22° 17' 14.320" N	82° 55' 28.355" E	Kotmer Village	OA1451(372)	2.8722
C58	22° 17' 16.343" N	82° 55' 29.977" E			
C59	22° 17' 17.993" N	82° 55' 31.286" E			
C60	22° 17' 19.192" N	82° 55' 33.300" E			
C61	22° 17' 20.768" N	82° 55' 35.949" E			
C62	22° 17' 20.631" N	82° 55' 36.043" E			
C63	22° 17' 22.557" N	82° 55' 39.280" E			
C64	22° 17' 24.308" N	82° 55' 42.223" E			
C65	22° 17' 27.460" N	82° 55' 47.520" E			
C66	22° 17' 26.227" N	82° 55' 48.367" E			
C67	22° 17' 23.951" N	82° 55' 44.541" E			
C68	22° 17' 21.850" N	82° 55' 41.010" E			
C69	22° 17' 19.924" N	82° 55' 37.772" E	Forest Land	P 1014 (93/1)	1.2944
C70	22° 17' 18.348" N	82° 55' 35.124" E			
C71	22° 17' 16.596" N	82° 55' 32.181" E			
C72	22° 17' 26.227" N	82° 55' 48.367" E			
C73	22° 17' 27.460" N	82° 55' 47.520" E			
C74	22° 17' 30.311" N	82° 55' 52.314" E			
C75	22° 17' 32.018" N	82° 55' 56.612" E			
C76	22° 17' 33.095" N	82° 55' 59.910" E			
C77	22° 17' 30.753" N	82° 55' 55.974" E			
C78	22° 17' 28.328" N	82° 55' 51.899" E			

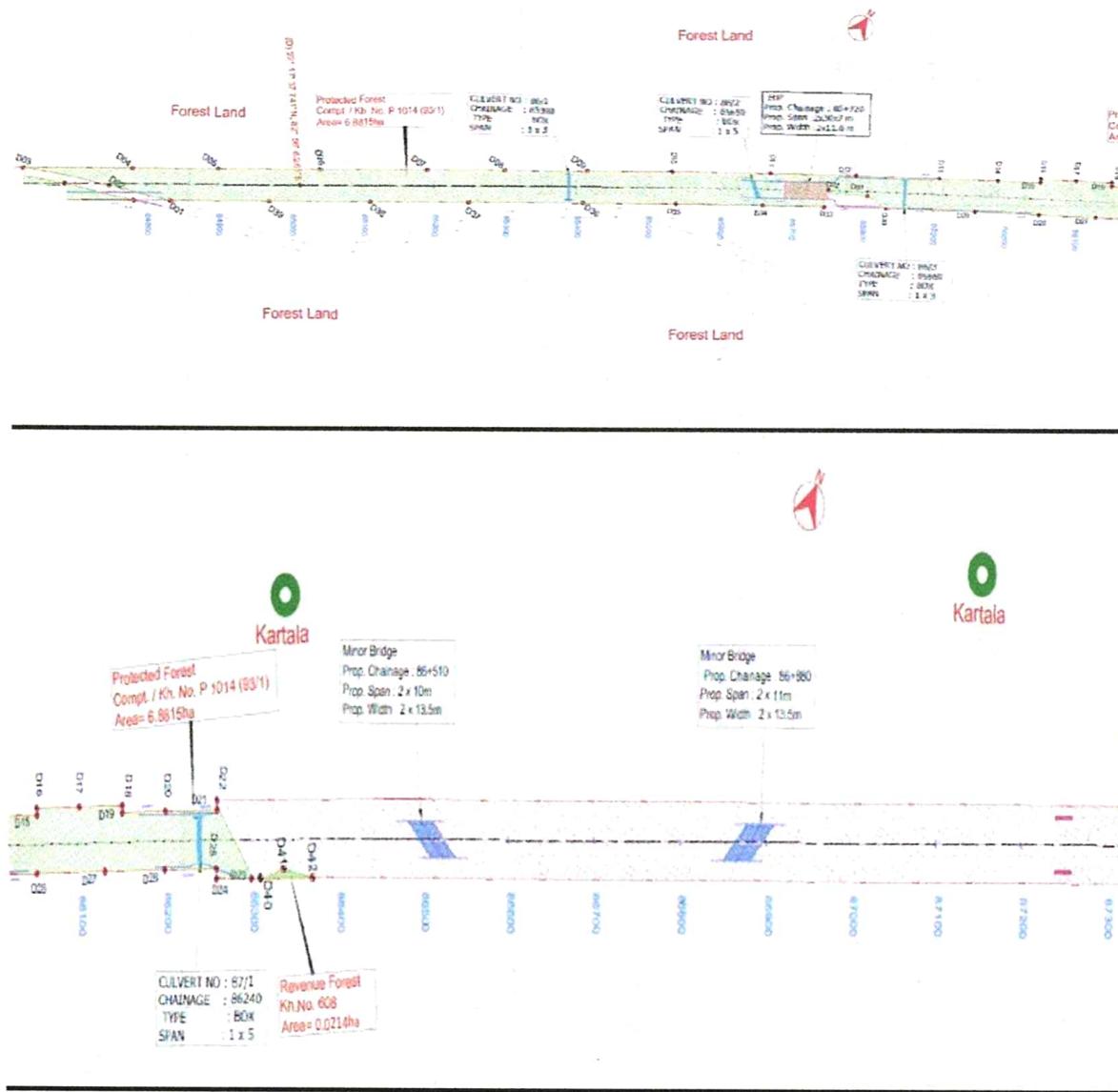



प्रोजेक्ट एडमिनिस्ट्रेशन
करतला


PROJECT DIRECTOR
NIAL PIU, KORBA (C.G.)


करतला परिवेश अधिकारी
करतला परिवेश

6. Village – Kartala, Range – Kartala, Area – 6.9029161 ha.

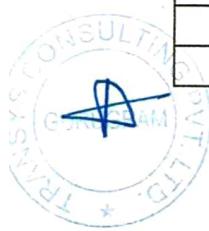


GPS Coordinates: Degree, Minute & second (Area-6.9029161 ha.)

Point No.	Latitude (N)	Longitude (E)	Remark	Survey No	Area in (Ha)
D01	22° 17' 33.987" N	82° 56' 1.411" E			
D02	22° 17' 33.048" N	82° 55' 58.491" E			
D03	22° 17' 31.597" N	82° 55' 54.472" E			
D04	22° 17' 34.288" N	82° 55' 58.999" E			
D05	22° 17' 36.390" N	82° 56' 2.530" E			
D06	22° 17' 38.841" N	82° 56' 6.651" E			
D07	22° 17' 41.467" N	82° 56' 11.066" E			
D08	22° 17' 43.393" N	82° 56' 14.303" E			
D09	22° 17' 45.418" N	82° 56' 17.704" E			

वन परिक्षेत्र अधिकारी
करतला परिक्षेत्र
दूष पर्यावरण विभागीय
पर्यावरण विभागीय
कोरबा उप वन बट्टवंश
कोरबा (सा.)

PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)



**TRINITY CONSULTANT
ENGINEERS**
परिक्षेत्र सहायक
करतला

वन परिक्षेत्र अधिकारी
करतला परिक्षेत्र

D10	22° 17' 47.480" N	82° 56' 21.201" E			
D11	22° 17' 49.820" N	82° 56' 25.243" E			
D12	22° 17' 51.856" N	82° 56' 28.826" E			
D13	22° 17' 53.823" N	82° 56' 32.352" E			
D14	22° 17' 55.189" N	82° 56' 34.837" E			
D15	22° 17' 56.175" N	82° 56' 36.649" E			
D16	22° 17' 56.315" N	82° 56' 36.562" E			
D17	22° 17' 57.131" N	82° 56' 38.076" E			
D18	22° 17' 57.943" N	82° 56' 39.593" E			
D19	22° 17' 57.802" N	82° 56' 39.680" E			
D20	22° 17' 58.608" N	82° 56' 41.199" E			
D21	22° 17' 59.570" N	82° 56' 43.027" E			
D22	22° 17' 59.783" N	82° 56' 42.898" E			
D23	22° 17' 58.718" N	82° 56' 45.143" E			
D24	22° 17' 58.083" N	82° 56' 43.926" E			
D25	22° 17' 58.296" N	82° 56' 43.798" E			
D26	22° 17' 57.337" N	82° 56' 41.976" E			
D27	22° 17' 56.210" N	82° 56' 39.856" E			
D28	22° 17' 54.910" N	82° 56' 37.440" E			
D29	22° 17' 53.434" N	82° 56' 34.731" E			
D30	22° 17' 51.340" N	82° 56' 30.951" E			
D31	22° 17' 51.367" N	82° 56' 29.833" E			
D32	22° 17' 50.616" N	82° 56' 28.067" E			
D33	22° 17' 49.866" N	82° 56' 28.333" E			
D34	22° 17' 48.405" N	82° 56' 25.771" E			
D35	22° 17' 46.347" N	82° 56' 22.218" E			
D36	22° 17' 44.091" N	82° 56' 18.385" E			
D37	22° 17' 41.285" N	82° 56' 13.678" E			
D38	22° 17' 38.834" N	82° 56' 9.558" E			
D39	22° 17' 36.383" N	82° 56' 5.437" E			
D40	22° 17' 58.877" N	82° 56' 45.447" E	Kartala Village	608	0.0214
D41	22° 17' 59.504" N	82° 56' 46.144" E			
D42	22° 17' 59.822" N	82° 56' 47.275" E			


 परिक्षेत्र सहायक
 करतला

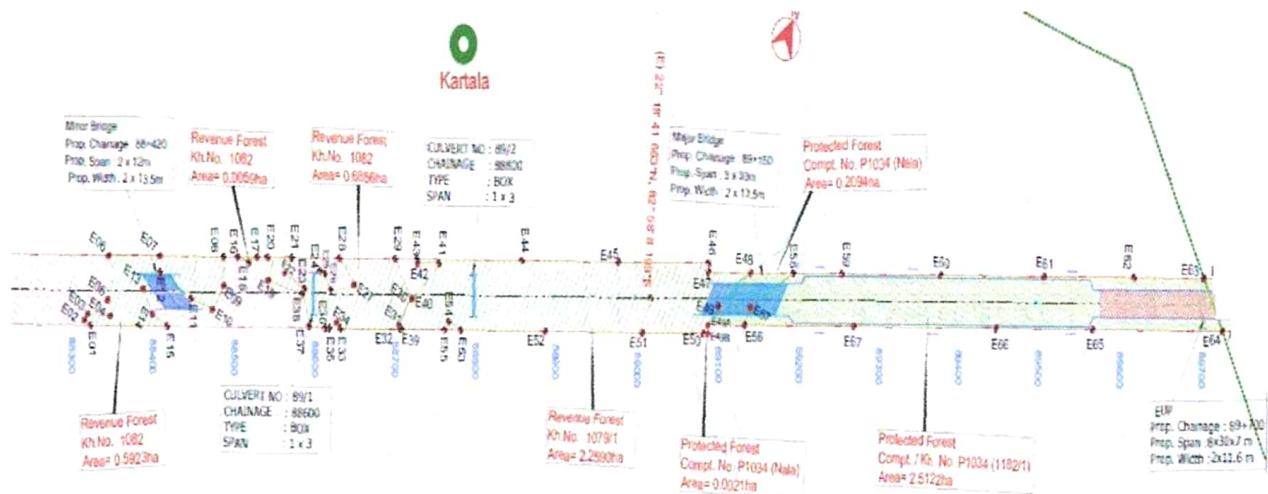

 दून परिक्षेत्र अधिकारी
 करतला परिक्षेत्र

~~८५ वर्ग मण्डलाधिकारी~~
 .पंथ कोरबा उप वर मण्डल
कोरबा (सु.)




 PROJECT DIRECTOR
 NHAI, PIU, KORBA (C.G.)

7. Village – Kartala, Range – Kartala, Area – 6.26632071 ha.



GPS Coordinates: Degree, Minute & second (Area- 6.26632071 ha.)

Point No.	Latitude (N)	Longitude (E)	Remark	Survey No	Area in (Ha)
E01	22° 18' 30.079" N	82° 57' 47.366" E	Kartala Village	1082	0.5923
E02	22° 18' 30.084" N	82° 57' 47.054" E			
E03	22° 18' 30.304" N	82° 57' 47.080" E			
E04	22° 18' 30.694" N	82° 57' 47.974" E			
E05	22° 18' 31.042" N	82° 57' 47.635" E			
E06	22° 18' 32.114" N	82° 57' 47.031" E			
E07	22° 18' 33.092" N	82° 57' 48.948" E			
E08	22° 18' 34.304" N	82° 57' 51.357" E			
E09	22° 18' 33.615" N	82° 57' 51.780" E			
E10	22° 18' 32.824" N	82° 57' 51.708" E			
E11	22° 18' 32.668" N	82° 57' 50.737" E			
E12	22° 18' 32.712" N	82° 57' 49.210" E			
E13	22° 18' 31.985" N	82° 57' 48.806" E			
E14	22° 18' 31.553" N	82° 57' 49.520" E			
E15	22° 18' 31.531" N	82° 57' 50.252" E			
E16	22° 18' 34.564" N	82° 57' 51.902" E	Kartala Village	1082	0.0059
E17	22° 18' 34.947" N	82° 57' 52.635" E			
E18	22° 18' 34.646" N	82° 57' 52.396" E			
E19	22° 18' 34.611" N	82° 57' 53.396" E			
E20	22° 18' 35.146" N	82° 57' 53.032" E	Kartala Village	1082	0.6856
E21	22° 18' 35.603" N	82° 57' 53.952" E			
E22	22° 18' 35.094" N	82° 57' 53.908" E			
E23	22° 18' 35.110" N	82° 57' 54.874" E			
E24	22° 18' 35.839" N	82° 57' 55.221" E			

प्रारंभिक सहायक
कार्तला

कर्तला परिषेव
कर्तला अधिकारी

उप वन मण्डल अधिकारी
कोरबा उप वन मण्डल
कोरबा (ता.) PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)

E25	22° 18' 35.875" N	82° 57' 55.441" E			
E26	22° 18' 35.609" N	82° 57' 55.895" E			
E27	22° 18' 36.176" N	82° 57' 56.717" E			
E28	22° 18' 36.525" N	82° 57' 55.774" E			
E29	22° 18' 37.601" N	82° 57' 57.913" E			
E30	22° 18' 36.969" N	82° 57' 59.124" E			
E31	22° 18' 36.058" N	82° 57' 59.042" E			
E32	22° 18' 36.013" N	82° 57' 59.164" E			
E33	22° 18' 34.840" N	82° 57' 56.830" E			
E34	22° 18' 34.919" N	82° 57' 56.601" E			
E35	22° 18' 34.622" N	82° 57' 56.398" E			
E36	22° 18' 34.544" N	82° 57' 56.242" E			
E37	22° 18' 34.288" N	82° 57' 55.611" E			
E38	22° 18' 34.942" N	82° 57' 54.861" E			
E39	22° 18' 36.014" N	82° 57' 59.164" E			
E40	22° 18' 36.969" N	82° 57' 59.124" E			
E41	22° 18' 38.349" N	82° 57' 59.652" E			
E42	22° 18' 37.932" N	82° 57' 58.850" E			
E43	22° 18' 38.026" N	82° 57' 58.757" E			
E44	22° 18' 40.048" N	82° 58' 2.777" E			
E45	22° 18' 41.903" N	82° 58' 6.465" E			
E46	22° 18' 43.603" N	82° 58' 9.846" E			
E47	22° 18' 43.389" N	82° 58' 9.971" E	Kartala Village	1079/1	2.259
E48	22° 18' 44.191" N	82° 58' 11.565" E			
E49	22° 18' 42.762" N	82° 58' 10.844" E			
E49A	22° 18' 42.055" N	82° 58' 10.722" E			
E49B	22° 18' 41.847" N	82° 58' 10.843" E			
E56	22° 18' 42.803" N	82° 58' 12.112" E			
E56	22° 18' 42.803" N	82° 58' 12.112" E			
E57	22° 18' 43.360" N	82° 58' 12.058" E			
E58	22° 18' 45.015" N	82° 58' 13.204" E			
E58	22° 18' 45.015" N	82° 58' 13.204" E			
E59	22° 18' 45.958" N	82° 58' 15.079" E			
E60	22° 18' 47.871" N	82° 58' 18.883" E			
E61	22° 18' 49.880" N	82° 58' 22.879" E			
E62	22° 18' 51.581" N	82° 58' 26.260" E			
E63	22° 18' 52.891" N	82° 58' 28.865" E			
			Forest Land	P1034 (Nala)	0.0021 & 0.2094
			Forest Land	P1034 (1182/1)	2.5122

करतला परिक्षेत्र अधिकारी
परिसन्धि कोरडा बन बन पुस्तक
कार्यालय (पा.)

वन परिक्षेत्र अधिकारी
करतला परिक्षेत्र

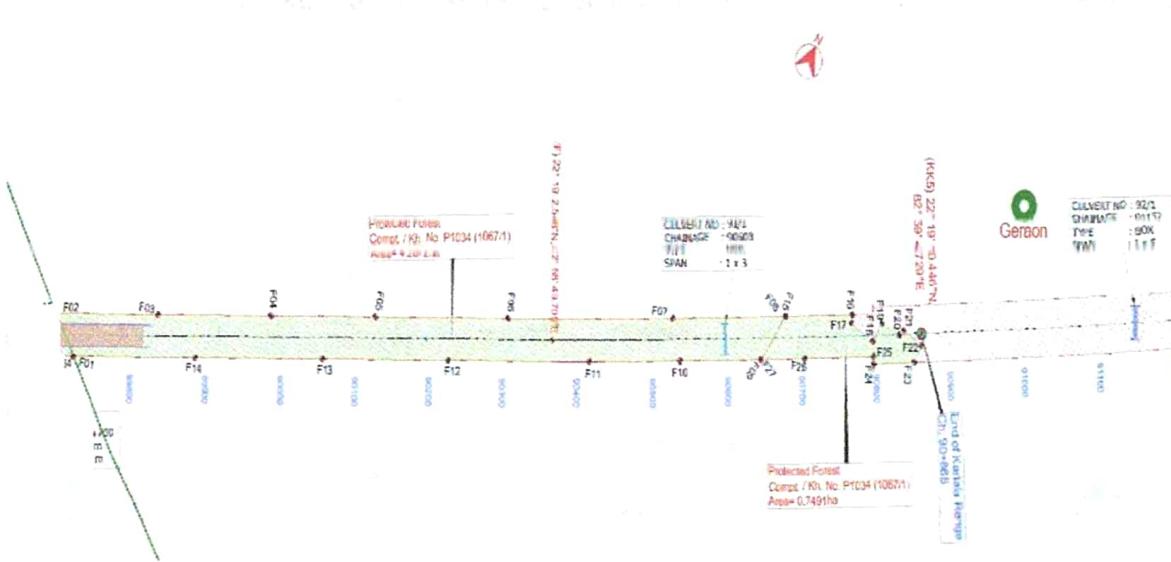
DS/Com/002
परिसन्धि सहायक
करतला

PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)



E64	22° 18' 51.964" N	82° 58' 30.329" E		
E65	22° 18' 49.521" N	82° 58' 25.470" E		
E66	22° 18' 47.666" N	82° 58' 21.782" E		
E67	22° 18' 44.909" N	82° 58' 16.300" E		

8. Village – Forest Land, Range– Kartala, Area – 5.0163098 ha.



GPS Coordinates: Degree, Minute & second (Area-5.0163098 ha.)

Point No.	Latitude (N)	Longitude (E)	Remark	Survey No	Area in (Ha)
F01	22° 18' 51.964" N	82° 58' 30.329" E			
F02	22° 18' 52.891" N	82° 58' 28.865" E			
F04	22° 18' 57.299" N	82° 58' 37.632" E			
F05	22° 18' 59.463" N	82° 58' 41.934" E			
F06	22° 19' 2.245" N	82° 58' 47.466" E			
F07	22° 19' 5.691" N	82° 58' 54.188" E			
F08	22° 19' 8.115" N	82° 58' 58.782" E			
F09	22° 19' 6.304" N	82° 58' 58.546" E			
F10	22° 19' 4.574" N	82° 58' 55.262" E			
F11	22° 19' 2.675" N	82° 58' 51.592" E			
F12	22° 18' 59.722" N	82° 58' 45.755" E			
F13	22° 18' 57.094" N	82° 58' 40.530" E			
F14	22° 18' 54.467" N	82° 58' 35.305" E			
F15	22° 19' 8.115" N	82° 58' 58.782" E			
F16	22° 19' 9.583" N	82° 59' 1.522" E			
F17	22° 19' 9.318" N	82° 59' 1.611" E			
F18	22° 19' 9.233" N	82° 59' 2.846" E			
F19	22° 19' 9.957" N	82° 59' 2.891" E			
F20	22° 19' 9.970" N	82° 59' 3.843" E			

उप वन मण्डलाधिकारी
राष्ट्रीय कोरबा उप वन मण्डल
कोरबा (बा.)

परियोजना सहायक
करतला

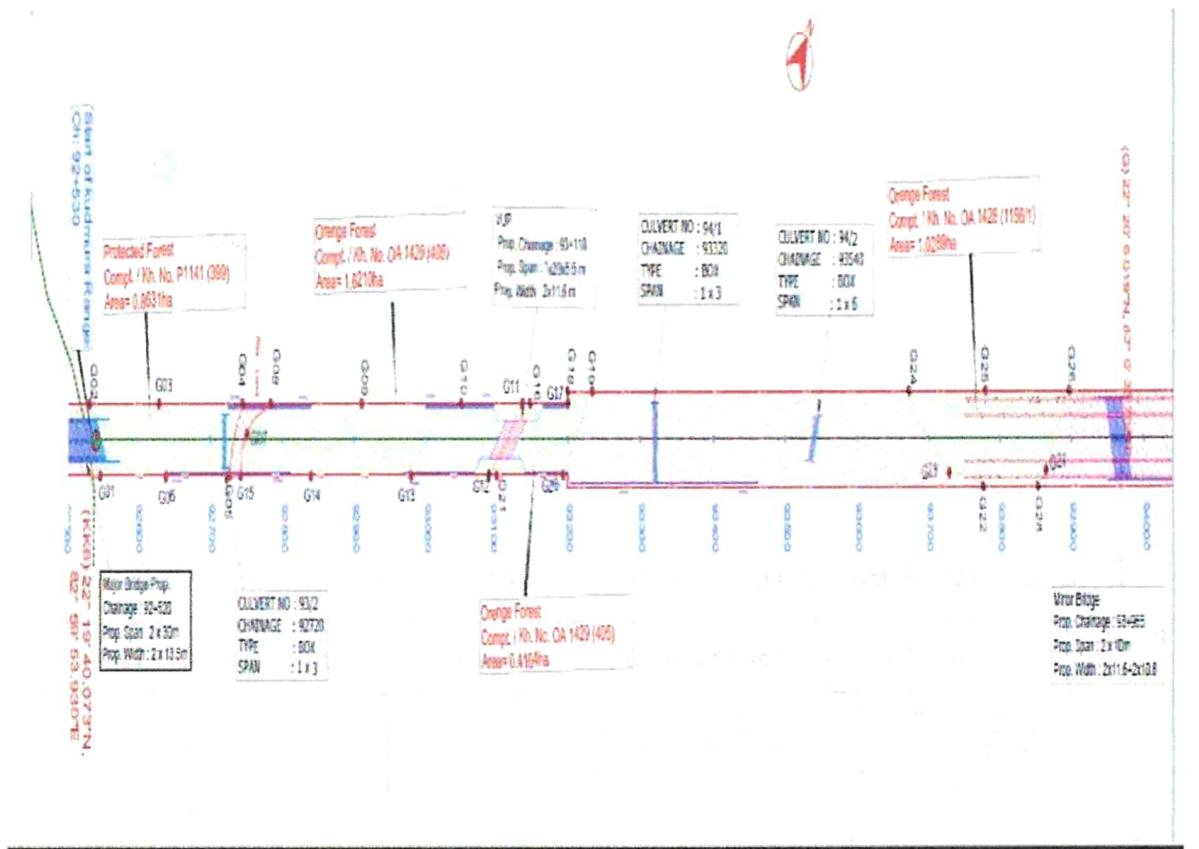
वन परिकल्पना अधिकारी
करतला परिकल्पना

PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)



F21	22° 19' 10.211" N	82° 59' 3.939" E		
F22	22° 19' 10.132" N	82° 59' 4.955" E		
F23	22° 19' 9.477" N	82° 59' 4.946" E		
F24	22° 19' 8.571" N	82° 59' 3.288" E		
F25	22° 19' 8.781" N	82° 59' 3.155" E		
F26	22° 19' 7.266" N	82° 59' 0.348" E		
F27	22° 19' 6.304" N	82° 58' 58.546" E		

9. Village –Chachiya, Range – Kudmura, Area – 7.9253994ha.



PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)

वन परिक्षेत्र संहायक
कारबा

वन परिक्षेत्र अधिकारी
कारबा वन परिक्षेत्र

वन परिक्षेत्र अधिकारी
कुदमुरा परिक्षेत्र कुदमुरा

GPS Coordinates: Degree, Minute & second (Area-7.9253994ha.)

Point No.	Latitude (N)	Longitude (E)	Remark	Survey No	Area in (Ha)
G01	22° 19' 39.622" N	82° 59' 54.541" E	Forest Land	P 1141 (399)	0.8631
G02	22° 19' 40.558" N	82° 59' 53.214" E			
G03	22° 19' 42.296" N	82° 59' 56.018" E			
G04	22° 19' 44.362" N	82° 59' 59.351" E			
G05	22° 19' 42.822" N	82° 59' 59.703" E			
G06	22° 19' 41.259" N	82° 59' 57.181" E			
G07	22° 19' 43.974" N	82° 59' 59.914" E	Chachiya Village	OA 1429 (405)	1.621
G08	22° 19' 45.061" N	83° 0' 0.479" E			
G09	22° 19' 47.343" N	83° 0' 4.160" E			
G10	22° 19' 49.866" N	83° 0' 8.230" E			
G11	22° 19' 51.423" N	83° 0' 10.742" E			
G12	22° 19' 49.370" N	83° 0' 10.265" E			
G13	22° 19' 47.387" N	83° 0' 7.067" E			
G14	22° 19' 44.864" N	83° 0' 2.996" E			
G15	22° 19' 43.109" N	83° 0' 0.165" E			
G16	22° 19' 51.617" N	83° 0' 11.055" E			
G17	22° 19' 52.570" N	83° 0' 12.592" E			
G18	22° 19' 52.773" N	83° 0' 12.446" E			
G19	22° 19' 53.389" N	83° 0' 13.440" E			
G20	22° 19' 51.248" N	83° 0' 13.294" E			
G21	22° 19' 49.567" N	83° 0' 10.583" E			
G22	22° 20' 1.559" N	83° 0' 30.403" E	Chachiya Village	OA 1428 (1156/1)	0.4164
G23	22° 20' 0.940" N	83° 0' 28.844" E			
G24	22° 20' 1.288" N	83° 0' 26.184" E			
G25	22° 20' 3.226" N	83° 0' 29.312" E			
G26	22° 20' 5.346" N	83° 0' 32.731" E			
G27	22° 20' 3.426" N	83° 0' 32.760" E			
G28	22° 20' 2.935" N	83° 0' 32.623" E			
G29	22° 20' 35.869" N	83° 1' 29.980" E	Forest Land	P1138 (884/1)	3.9959
G30	22° 20' 36.929" N	83° 1' 30.022" E			
G31	22° 20' 37.223" N	83° 1' 28.324" E			
G32	22° 20' 39.124" N	83° 1' 31.769" E			
G33	22° 20' 40.948" N	83° 1' 35.074" E			
G34	22° 20' 42.607" N	83° 1' 38.080" E			
G35	22° 20' 44.597" N	83° 1' 41.686" E			
G36	22° 20' 45.924" N	83° 1' 44.090" E			
G37	22° 20' 47.085" N	83° 1' 46.194" E			

वनमण्डल अधिकारी,
कोरबा वनमण्डल, कोरबा

उप वन मण्डलाधिकारी
कोरबा उप वन मण्डल
कोरबा (सु.)

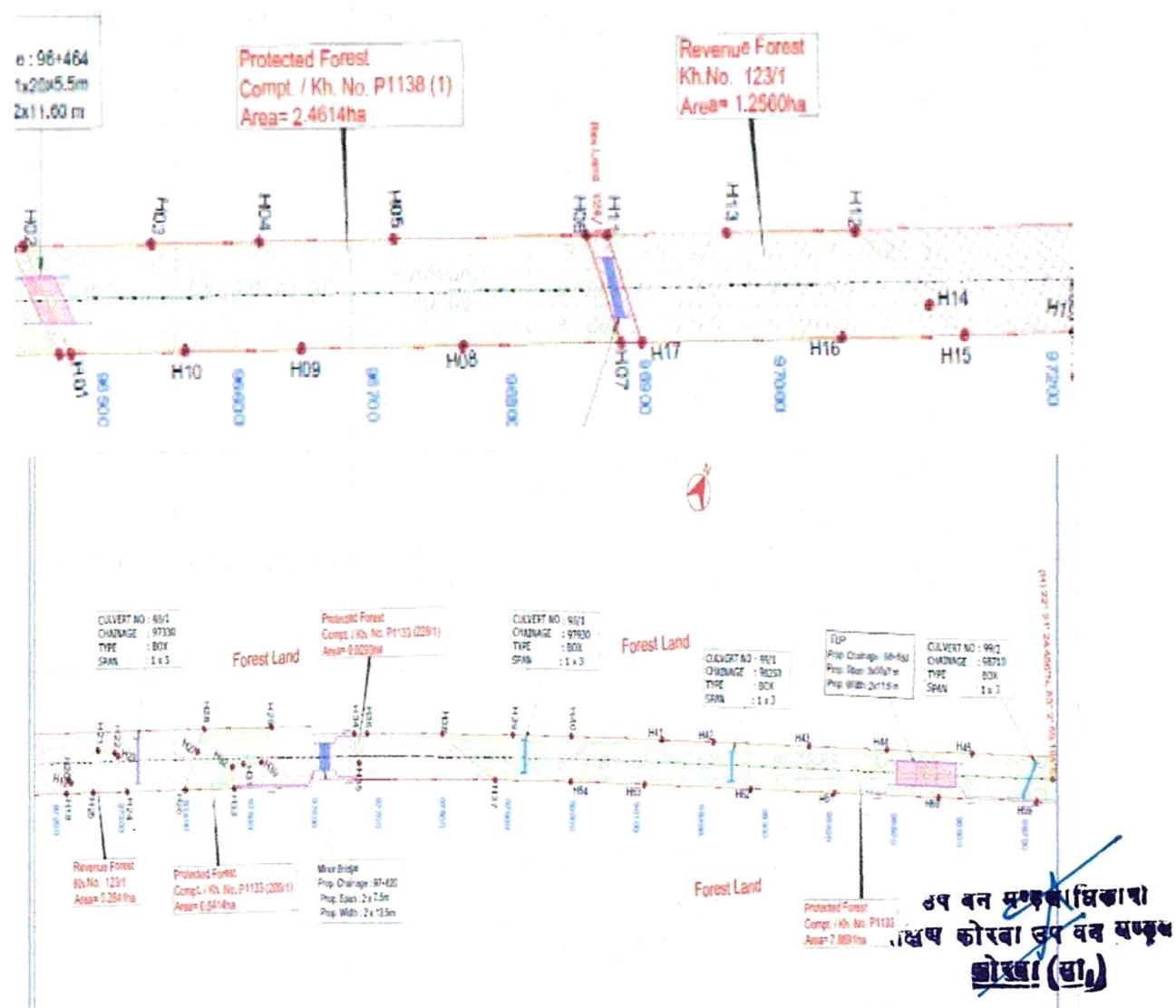
वन परिषेत्र अधिकारी
कुदमुरा परिषेत्र कुदमुरा

PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)



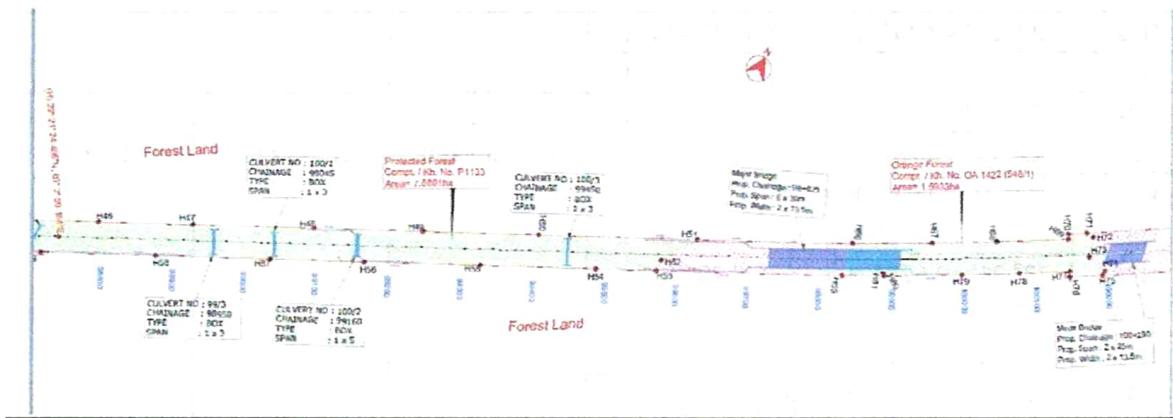
G38	22° 20' 48.361" N	83° 1' 48.568" E			
G39	22° 20' 47.255" N	83° 1' 50.612" E			
G40	22° 20' 45.076" N	83° 1' 46.663" E			
G41	22° 20' 43.749" N	83° 1' 44.258" E			
G42	22° 20' 41.925" N	83° 1' 40.953" E			
G43	22° 20' 39.902" N	83° 1' 37.291" E			
G44	22° 20' 38.110" N	83° 1' 34.040" E			

10. Village –Forest Land, Range – Kudmura, Area – 14.0545909 ha.




वन परिक्षेत्र अधिकारी
कुदमुरा परिक्षेत्र कुदमुरा

PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)



GPS Coordinates: Degree, Minute & second (Area- 14.0545909 ha.)

Point No.	Latitude (N)	Longitude (E)	Remark	Survey No	Area in (Ha)		
H01	22° 20' 47.397" N	83° 1' 50.870" E	Forest Land	P1138 (1)	2.4614		
H02	22° 20' 48.520" N	83° 1' 48.796" E					
H03	22° 20' 50.070" N	83° 1' 51.604" E					
H04	22° 20' 51.396" N	83° 1' 54.008" E					
H05	22° 20' 53.055" N	83° 1' 57.013" E					
H06	22° 20' 55.392" N	83° 2' 1.250" E					
H07	22° 20' 54.126" N	83° 2' 3.065" E					
H08	22° 20' 52.207" N	83° 1' 59.586" E					
H09	22° 20' 50.217" N	83° 1' 55.979" E					
H10	22° 20' 48.790" N	83° 1' 53.393" E					
H11	22° 20' 55.649" N	83° 2' 1.714" E	Katkona Village	123/1	1.256		
H12	22° 20' 58.672" N	83° 2' 7.266" E					
H13	22° 20' 57.111" N	83° 2' 4.365" E					
H14	22° 20' 58.379" N	83° 2' 9.615" E					
H15	22° 20' 58.327" N	83° 2' 10.678" E					
H16	22° 20' 56.850" N	83° 2' 8.001" E					
H17	22° 20' 54.377" N	83° 2' 3.519" E					
H18	22° 20' 59.656" N	83° 2' 13.088" E	Katkona Village	123/1	0.2841		
H19	22° 21' 0.061" N	83° 2' 13.126" E					
H20	22° 21' 0.094" N	83° 2' 12.965" E					
H21	22° 21' 1.632" N	83° 2' 13.807" E					
H22	22° 21' 1.971" N	83° 2' 14.656" E					
H23	22° 21' 1.969" N	83° 2' 14.865" E					
H24	22° 21' 1.197" N	83° 2' 15.879" E					
H25	22° 21' 0.332" N	83° 2' 14.312" E	Forest Land	P1133 (209/1)	0.5414		
H26	22° 21' 2.690" N	83° 2' 18.585" E					
H27	22° 21' 4.071" N	83° 2' 18.517" E					
H28	22° 21' 4.873" N	83° 2' 18.431" E					
H29	22° 21' 6.596" N	83° 2' 21.584" E					
H30	22° 21' 5.358" N	83° 2' 21.697" E	इप्प बन सम्बंधित कार्य				
H31	22° 21' 4.866" N	83° 2' 20.881" E	इप्प बन सम्बंधित कार्य				

~~इप वन प्रसाधिकारो
द्युप छात्रा उप वन संबद्ध~~

कोखा (सा.)

वज परिक्षेत्र अधिकारी
कदम्बा परिक्षेत्र कदम्बा

वनमण्डलाधिकारी,
कोरबा वनमण्डल, कारबा



PROJECT DIRECTOR
NHAI PIU. KORBA (C.G.)

H32	22° 21' 4.499" N	83° 2' 20.411" E			
H33	22° 21' 3.944" N	83° 2' 20.865" E			
H34	22° 21' 8.479" N	83° 2' 25.617" E			
H35	22° 21' 7.775" N	83° 2' 26.361" E			
H36	22° 21' 8.802" N	83° 2' 26.225" E			
H37	22° 21' 10.673" N	83° 2' 33.024" E			
H38	22° 21' 10.673" N	83° 2' 29.788" E			
H39	22° 21' 12.368" N	83° 2' 33.072" E			
H40	22° 21' 13.773" N	83° 2' 35.837" E			
H41	22° 21' 15.925" N	83° 2' 40.152" E			
H42	22° 21' 17.143" N	83° 2' 42.627" E			
H43	22° 21' 19.421" N	83° 2' 47.261" E			
H44	22° 21' 21.244" N	83° 2' 50.969" E			
H45	22° 21' 23.219" N	83° 2' 54.985" E			
H46	22° 21' 25.929" N	83° 3' 0.497" E			
H47	22° 21' 27.928" N	83° 3' 4.563" E			
H48	22° 21' 30.510" N	83° 3' 9.815" E			
H49	22° 21' 32.788" N	83° 3' 14.449" E			
H50	22° 21' 35.219" N	83° 3' 19.393" E			
H51	22° 21' 38.595" N	83° 3' 26.261" E			
H52	22° 21' 36.944" N	83° 3' 25.187" E			
H53	22° 21' 36.429" N	83° 3' 25.221" E			
H54	22° 21' 35.140" N	83° 3' 22.599" E			
H55	22° 21' 32.710" N	83° 3' 17.656" E			
H56	22° 21' 30.280" N	83° 3' 12.712" E			
H57	22° 21' 28.305" N	83° 3' 8.696" E			
H58	22° 21' 25.856" N	83° 3' 3.713" E			
H59	22° 21' 23.445" N	83° 2' 58.809" E			
H60	22° 21' 21.166" N	83° 2' 54.175" E			
H61	22° 21' 18.736" N	83° 2' 49.232" E			
H62	22° 21' 16.761" N	83° 2' 45.216" E			
H63	22° 21' 14.248" N	83° 2' 40.110" E			
H64	22° 21' 12.487" N	83° 2' 36.587" E			
H65	22° 21' 40.430" N	83° 3' 33.269" E			
H66	22° 21' 41.936" N	83° 3' 32.943" E			
H67	22° 21' 43.701" N	83° 3' 36.274" E			
H68	22° 21' 45.185" N	83° 3' 38.970" E			
H69	22° 21' 46.879" N	83° 3' 41.938" E			
H70	22° 21' 47.086" N	83° 3' 41.799" E			
H71	22° 21' 47.542" N	83° 3' 42.580" E			
H72	22° 21' 47.527" N	83° 3' 42.964" E			
H73	22° 21' 46.642" N	83° 3' 43.252" E			
H74	22° 21' 46.453" N	83° 3' 44.249" E			
H75	22° 21' 46.226" N	83° 3' 44.265" E			
H76	22° 21' 45.432" N	83° 3' 42.910" E			
H77	22° 21' 45.638" N	83° 3' 42.771" E			

Forest Land

P1133 (228/1)

0.0293

Forest Land

P 1133

7.8891

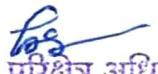
Katkona
VillageOA 1422
(548/1)

1.5933


 उप दूज संसदीय अधिकारी
 खंड कोर्ट उप वक्त उप वक्त
 कुदमुरा (सं.)
 कुदमुरा परिषेन्ट कुदमुरा

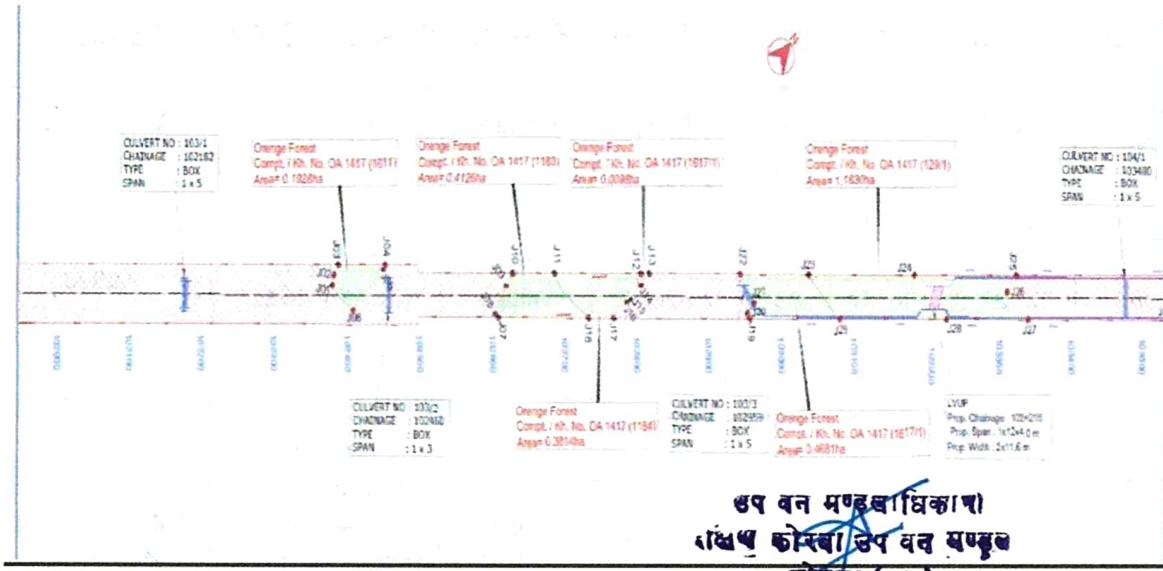



PROJECT DIRECTOR
 NHAI, PIU, KORBA (C.G.)


 वन परिषेन्ट अधिकारी
 कुदमुरा परिषेन्ट कुदमुरा

H78	22° 21' 44.439" N	83° 3' 40.682" E			
H79	22° 21' 43.096" N	83° 3' 38.275" E			
H80	22° 21' 41.341" N	83° 3' 35.014" E			
H81	22° 21' 41.417" N	83° 3' 34.942" E			

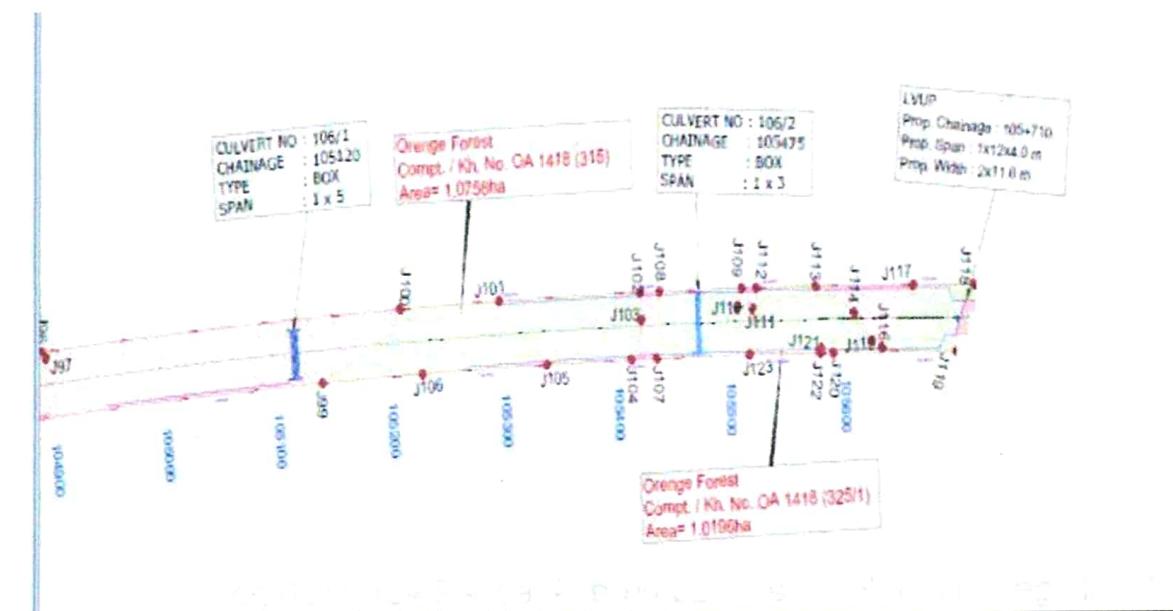
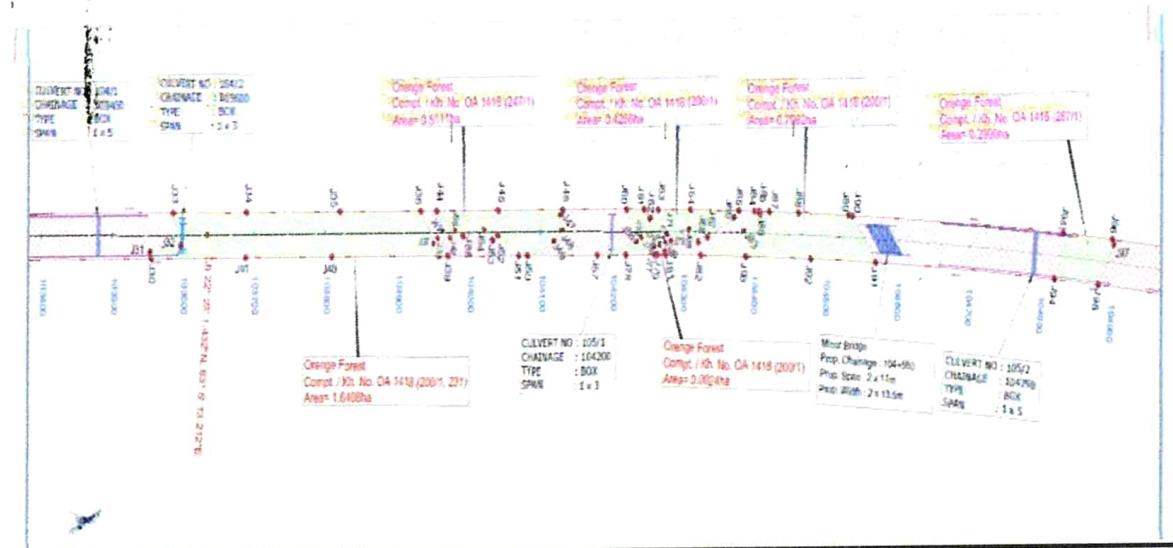
11. Village – Jilga, Range– Kudmura, Area – 8.4202136 ha.



PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)

वनमण्डलाधिकारी,
कोरबा वनमण्डल, कोरबा


बन परिक्षेत्र अधिकारी
कुदमुरा परिक्षेत्र कुदमुरा



GPS Coordinates: Degree, Minute & second (Area- 8.4202136 ha.)

Point No.	Latitude (N)	Longitude (E)	Remark	Survey No	Area in (Ha)
J01	22° 22' 33.501" N	83° 4' 41.303" E			
J02	22° 22' 33.776" N	83° 4' 41.116" E			
J03	22° 22' 34.156" N	83° 4' 41.013" E			
J04	22° 22' 35.590" N	83° 4' 42.626" E			
J05	22° 22' 35.434" N	83° 4' 42.670" E			
J06	22° 22' 33.556" N	83° 4' 42.617" E			
J07	22° 22' 37.864" N	83° 4' 47.839" E			
J08	22° 22' 37.859" N	83° 4' 47.652" E			
J09	22° 22' 38.876" N	83° 4' 47.341" E			
J10	22° 22' 39.371" N	83° 4' 47.258" E			
J11	22° 22' 40.661" N	83° 4' 48.710" E			
J12	22° 22' 43.363" N	83° 4' 51.749" E			
J13	22° 22' 43.638" N	83° 4' 52.058" E			
			Jilga Village	OA 1417, (Rev.Kn. 1611)	0.1928
			Jilga Village	OA 1417 (Rev.Kn. 1183), OA 1417 (Rev.Kn. 1184) & OA 1417 (Rev.Kn.1617/1)	0.4126, 0.3814 & 0.0098



PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)

उप वन मण्डलाधिकारी
संस्थित कोरबा उप वन मण्डल
कोरबा (सा.)

वन परिकल्पना अधिकारी
कुदमुरा परिकल्पना कुदमुरा

J14	22° 22' 43.111" N	83° 4' 52.040" E			
J15	22° 22' 42.452" N	83° 4' 52.010" E			
J16	22° 22' 42.275" N	83° 4' 51.937" E			
J17	22° 22' 41.458" N	83° 4' 51.881" E			
J18	22° 22' 40.685" N	83° 4' 51.011" E			
J19	22° 22' 45.725" N	83° 4' 56.682" E			
J20	22° 22' 45.760" N	83° 4' 56.459" E			
J21	22° 22' 46.231" N	83° 4' 56.411" E			
J22	22° 22' 46.474" N	83° 4' 55.248" E			
J23	22° 22' 48.579" N	83° 4' 57.616" E			
J24	22° 22' 51.855" N	83° 5' 1.300" E			
J25	22° 22' 55.003" N	83° 5' 4.841" E			
J26	22° 22' 54.324" N	83° 5' 4.930" E			
J27	22° 22' 54.318" N	83° 5' 6.348" E			
J28	22° 22' 51.790" N	83° 5' 3.503" E			
J29	22° 22' 48.484" N	83° 4' 59.784" E			
J30	22° 22' 59.106" N	83° 5' 11.733" E			
J31	22° 22' 59.214" N	83° 5' 11.527" E			
J32	22° 23' 0.346" N	83° 5' 12.491" E			
J33	22° 23' 0.848" N	83° 5' 11.417" E			
J34	22° 23' 3.178" N	83° 5' 14.038" E			
J35	22° 23' 6.098" N	83° 5' 17.323" E			
J36	22° 23' 8.609" N	83° 5' 20.147" E			
J37	22° 23' 8.264" N	83° 5' 21.412" E			
J38	22° 23' 8.517" N	83° 5' 21.442" E			
J39	22° 23' 8.420" N	83° 5' 22.212" E			
J40	22° 23' 4.816" N	83° 5' 18.157" E			
J41	22° 23' 2.121" N	83° 5' 15.125" E			
J42	22° 23' 8.914" N	83° 5' 21.875" E			
J43	22° 23' 8.851" N	83° 5' 21.407" E			
J44	22° 23' 9.107" N	83° 5' 20.708" E			
J45	22° 23' 11.039" N	83° 5' 22.882" E			
J46	22° 23' 13.060" N	83° 5' 25.156" E			
J47	22° 23' 12.898" N	83° 5' 25.195" E			
J48	22° 23' 12.582" N	83° 5' 25.656" E			
J49	22° 23' 12.074" N	83° 5' 25.618" E			
J50	22° 23' 10.923" N	83° 5' 25.027" E			
J51	22° 23' 10.644" N	83° 5' 24.714" E			
J52	22° 23' 10.460" N	83° 5' 23.506" E			
J53	22° 23' 10.192" N	83° 5' 23.427" E			
J54	22° 23' 10.178" N	83° 5' 22.865" E			
J55	22° 23' 9.365" N	83° 5' 22.287" E			
J56	22° 23' 9.260" N	83° 5' 21.836" E			
J57	22° 23' 13.126" N	83° 5' 27.506" E			
J58	22° 23' 14.649" N	83° 5' 28.587" E			
J59	22° 23' 14.908" N	83° 5' 28.667" E			
			Jilga Village	OA 1417 (Rev.Kn. 1617/1) & OA 1417 (Rev.Kn. 129/1)	0.4681 & 1.1830
			Jilga Village	OA 1418 (Rev.Kn. 200/1, 231)	1.6408
			Jilga Village	OA 1418 (Rev.Kn. 247/1)	0.5111
			Jilga Village	OA 1418 (Rev.Kn. 200/1)	0.4256

उप वन मण्डलाधिकारी,
एक्षिय कोरबा उप वन मण्डल
कोरबा (सा.)

वनमण्डलाधिकारी,
कोरबा वनमण्डल, कोरबा



J60	22° 23' 15.082" N	83° 5' 27.431" E			
J61	22° 23' 15.634" N	83° 5' 28.055" E			
J62	22° 23' 15.631" N	83° 5' 28.497" E			
J63	22° 23' 16.062" N	83° 5' 28.560" E			
J64	22° 23' 17.092" N	83° 5' 29.731" E			
J65	22° 23' 18.588" N	83° 5' 31.480" E			
J66	22° 23' 18.284" N	83° 5' 31.479" E			
J67	22° 23' 17.000" N	83° 5' 31.022" E			
J68	22° 23' 16.602" N	83° 5' 30.811" E			
J69	22° 23' 16.607" N	83° 5' 30.161" E			
J70	22° 23' 15.760" N	83° 5' 29.801" E			
J71	22° 23' 15.796" N	83° 5' 29.521" E			
J72	22° 23' 15.610" N	83° 5' 29.456" E			
J73	22° 23' 15.560" N	83° 5' 29.602" E			
J74	22° 23' 15.301" N	83° 5' 29.510" E			
J75	22° 23' 15.089" N	83° 5' 29.330" E			
J76	22° 23' 14.986" N	83° 5' 29.570" E			
J77	22° 23' 14.914" N	83° 5' 29.528" E			
J78	22° 23' 14.023" N	83° 5' 28.516" E			
J79	22° 23' 15.024" N	83° 5' 29.632" E	Jilga Village	OA 1418 (Rev.Kn. 200/1)	0.0024
J80	22° 23' 15.332" N	83° 5' 29.807" E			
J81	22° 23' 15.276" N	83° 5' 29.935" E	Jilga Village	OA 1418 (Rev.Kn. 200/1)	0.7982
J82	22° 23' 16.386" N	83° 5' 31.213" E			
J83	22° 23' 18.286" N	83° 5' 32.179" E			
J84	22° 23' 19.075" N	83° 5' 32.058" E			
J85	22° 23' 19.212" N	83° 5' 32.239" E			
J86	22° 23' 19.183" N	83° 5' 32.287" E			
J87	22° 23' 19.512" N	83° 5' 32.578" E			
J88	22° 23' 20.381" N	83° 5' 33.624" E			
J89	22° 23' 21.889" N	83° 5' 35.467" E			
J90	22° 23' 21.966" N	83° 5' 35.628" E			
J91	22° 23' 21.634" N	83° 5' 37.553" E			
J92	22° 23' 19.717" N	83° 5' 35.190" E			
J93	22° 23' 17.772" N	83° 5' 32.854" E	Jilga Village	OA 1418 (Rev.Kn. 287/1)	0.2990
J94	22° 23' 26.812" N	83° 5' 44.257" E			
J95	22° 23' 28.125" N	83° 5' 43.505" E			
J96	22° 23' 29.529" N	83° 5' 45.414" E			
J97	22° 23' 29.457" N	83° 5' 45.578" E			
J98	22° 23' 28.060" N	83° 5' 45.949" E			
J99	22° 23' 33.143" N	83° 5' 53.174" E	Jilga Village	OA 1418 (Rev.Kn. 315)	1.0758
J100	22° 23' 35.678" N	83° 5' 54.267" E			
J101	22° 23' 37.308" N	83° 5' 56.759" E			
J102	22° 23' 39.579" N	83° 6' 0.348" E			
J103	22° 23' 39.094" N	83° 6' 0.733" E			
J104	22° 23' 38.203" N	83° 6' 0.963" E			
J105	22° 23' 36.842" N	83° 5' 58.803" E	इलाहाबाद वन परिषद कोरबा (सा.)		

PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)



इलाहाबाद वन परिषद
कोरबा (सा.)

वन पारिषदेन्द्र अधिकारी
कुदमुरा पारिषदेन्द्र कुदमुरा

J106	22° 23' 34.804" N	83° 5' 55.659" E			
J107	22° 23' 38.608" N	83° 6' 1.616" E			
J108	22° 23' 39.887" N	83° 6' 0.845" E			
J109	22° 23' 41.184" N	83° 6' 2.967" E			
J110	22° 23' 40.786" N	83° 6' 3.110" E			
J111	22° 23' 40.982" N	83° 6' 3.517" E			
J112	22° 23' 41.406" N	83° 6' 3.335" E			
J113	22° 23' 42.312" N	83° 6' 4.853" E			
J114	22° 23' 42.392" N	83° 6' 6.187" E			
J115	22° 23' 42.122" N	83° 6' 6.988" E			
J116	22° 23' 42.151" N	83° 6' 7.336" E			
J117	22° 23' 43.776" N	83° 6' 7.359" E			
J118	22° 23' 44.682" N	83° 6' 8.945" E			
J119	22° 23' 43.182" N	83° 6' 9.320" E			
J120	22° 23' 41.341" N	83° 6' 6.143" E			
J121	22° 23' 41.239" N	83° 6' 5.771" E			
J122	22° 23' 41.142" N	83° 6' 5.805" E			
J123	22° 23' 40.077" N	83° 6' 4.021" E			

Jilga
Village

OA 1418
(Rev.Kn.325/1)

1.0196

उप वन मण्डल अधिकारी
अध. कोरबा उप वन मण्डल

कोरबा (सं.)

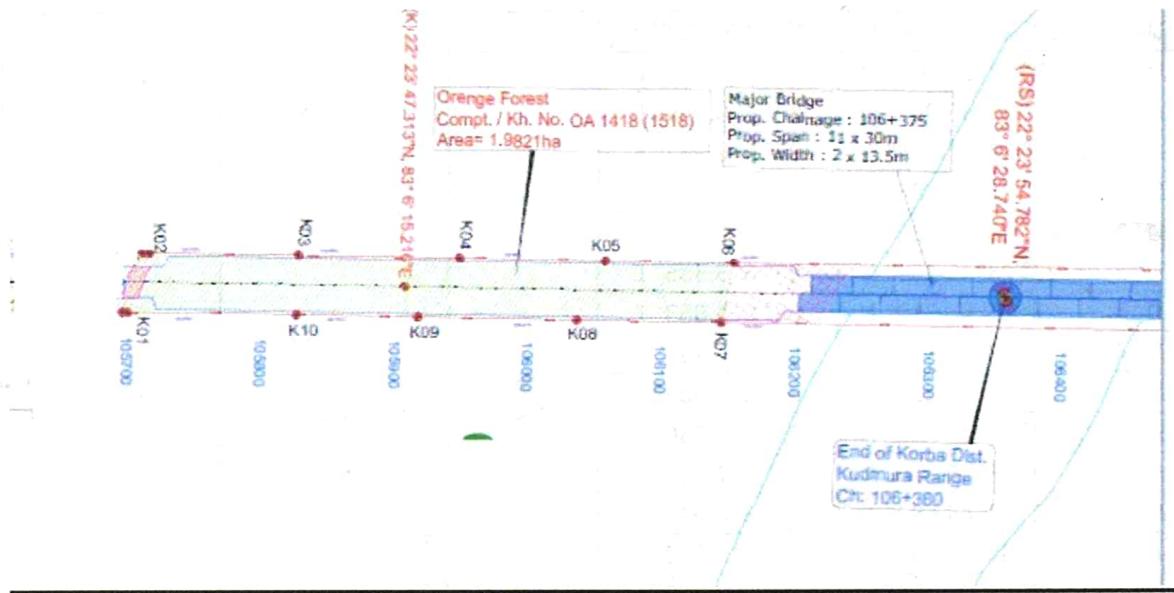


वन पारक्षत्र अधिकारी
कुदमुरा वरिक्षेत्र कुदमुरा

PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)

वनमण्डल अधिकारी,
कोरबा वनमण्डल, कोरबा

12. Village – Jilga, Range– Kudmura, Area – 1.9829 ha.



GPS Coordinates: Degree, Minute & second (Area- 1.9829 ha.)

Point No.	Latitude (N)	Longitude (E)	Remark	Survey No	Area in (Ha)
K01	22° 23' 43.250" N	83° 6' 9.440" E			
K02	22° 23' 44.757" N	83° 6' 9.076" E			
K03	22° 23' 46.614" N	83° 6' 12.410" E			
K04	22° 23' 48.605" N	83° 6' 16.017" E			
K05	22° 23' 50.431" N	83° 6' 19.323" E			
K06	22° 23' 52.027" N	83° 6' 22.212" E			
K07	22° 23' 50.628" N	83° 6' 22.758" E			
K08	22° 23' 48.842" N	83° 6' 19.525" E			
K09	22° 23' 46.850" N	83° 6' 15.918" E			
K10	22° 23' 45.356" N	83° 6' 13.214" E			

उप वन मण्डलाधिकारी
कोरबा उप वन बण्डक
जोखा (झा)

वन परिक्षेत्र अधिकारी
कुदमुरा परिक्षेत्र कुदमुरा



PROJECT DIRECTOR
NHAI, PIU, KORBA (C.G.)

वनमण्डलाधिकारी,
कोरबा वनमण्डल, कोरबा