

# D.G.P.S. SURVEY REPORT

FOREST AREA DEMARCATION AND BOUNDARY POINT FIXATION  
FOR FOREST LAND DIVERSION PROPOSAL FOR  
CONSTRUCTION OF BRIDGE ACROSS KAJAL RIVER  
ON NAGRI TO JAWARRA RAOD  
PROJECT OF PUBLIC WORKS DEPARTMENT BRIDGE DIVISION  
AT FOREST COMPARTMENT NO.- 317AP, 322  
UNDER FOREST DIVISION – DHAMTARI  
FOREST RANGE – DUGLI  
DISTRICT – DHAMTARI  
SURVEYED AREA – 1.701 HECTARE

(SUBMITTED UNDER FOREST CONSERVATION ACT 1980)



## APPLICANT

PUBLIC WORKS DEPARTMENT  
BRIDGE CONSTRUCTION  
DIVISION RAIPUR (C.G.)



**P W D**  
CHHATTISGARH  
Public Works Department

*Rang Officer*  
**Rang Officer**  
Forest Rang Dugali

सत्यापित प्रति

वन मंडलाधिकारी,  
सामान्य वन मण्डल, धमतरी

## SURVEYED BY

**SIDDHARTH GEO CONSULTANTS**

621/3, 1<sup>st</sup> FLOOR, RAMKUND SAMTA COLONY,  
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## CERTIFICATE

### **SIDDHARTH GEO CONSULTANT RAIPUR, (C.G.)**

*This is to certify that the D.G.P.S Surveyed area proposed to be diverted for non forestry purpose, Forest land diversion proposal for Bridge Construction Project on Nagri – Jawarra Road at Compartment no. –317AP, 322 under forest division/range –Dhamtari /Dugli, district- Dhamtari, surveyed area **1.701** Hect. done by us as per the guidelines of forest conservation Act 1980 for **Public Works Department, Bridge construction Division Raipur Chhattisgarh** and the Co-ordinates of Boundary points are correct in our knowledge.*

*The work done is as follow:*

1. Create One Base point with Fixation of three ground control points on static mode.
2. Survey of 34 boundary Pillars by using DGPS and fixed up its Ground position and preparation of Geo-referenced forest map.
3. The Geo-referenced forest map prepared using DGPS and superimposed vectorised SOI Toposheet map.
4. Prepared DGPS survey report and soft copy of all above maps in standard Format and digitized maps in shape file and KML for imported in any GIS database.

*Date : 28/06/2017*

*Place : Raipur*



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**For, Siddharth Geo Consultants**



**Alok Verma**  
**Sr. Manager (Geology)**

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# 1.

## **INTRODUCTION**

**Public Works Department, Bridge construction Division Raipur Chhattisgarh** have been submitted proposal to Forest department Govt. of Chhattisgarh for diversion of Reserve forest land for non-forestry purpose (Bridge Construction Project on Nagri – Jawarra Road) under forest conservation Act 1980. The forest area proposed to be diverted for non – forestry purpose is **1.701** hect. Bridge constructed across Kajal river on Nagri to Jawarra road, north part of the bridge lies at compartment no. 317AP area 0.866 Hectare and south part of the Bridge present at compartment no. 322 area 0.835 Hectare. Of forest division Dhamtari, forest range Dugli, Total forest area is **1.701** Hectare is requirement for Bridge construction.

**Ministry of Environment and Forest, Govt. of India vide their circular no. 11-9/98-FC dated 08/07/2011** have stipulated that to ensure accurate delineation of forest area proposed to be diverted for non – forestry purposed under Section -2 of forest conservation Act 1980 the diversion proposal under forest conservation act shall be accompanied by DGPS surveyed maps of the forest land proposed for diversion.

The **DGPS Survey** work of the area proposed to be diverted for non – forestry purpose, have been done by **Siddharth Geo Consultants**, Raipur, as par the guidelines of forest conservation Act 1980. DGPS survey has been completed successfully in the presence of PWD officials.

  
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## 2.

### **LOCATION OF THE SURVEYED AREA**

The DGPS surveyed area proposed to be diverted for non – forestry purpose is situated near village Jawarra, and 50 Km. SE Direction from District Headquarter Dhamtari (C.G.). It falls in Survey of India Toposheet no. – 64 H/15, The surveyed area is bounded by **Longitudes 81° 58' 40.35001"E to 81° 58' 55.44482"E** & **Latitudes 20° 29' 10.93920"N to 20° 29' 23.07483"N**.

The surveyed area comes under Govt. forest land, under forest division Dhamtari Forest range – Dugli, district Dhamtari. The total DGPS surveyed area proposed to be diverted for non – forestry purpose is **1.701** hect.

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### 3.

## LAND CLASSIFICATION

| District | Tehsil/<br>Village | Type of<br>Land   | Forest<br>Division | Forest<br>Range | Compart<br>ment<br>Number | Surveyed<br>Area (in<br>Hect.) |
|----------|--------------------|-------------------|--------------------|-----------------|---------------------------|--------------------------------|
| Dhamtari | Nagri/<br>Jawarra  | RESERVE<br>Forest | Dhamtari           | Dugli           | 317AP                     | 0.866                          |
|          |                    |                   |                    |                 | 322                       | 0.835                          |
| Total    |                    |                   |                    |                 | 02                        | 1.701                          |

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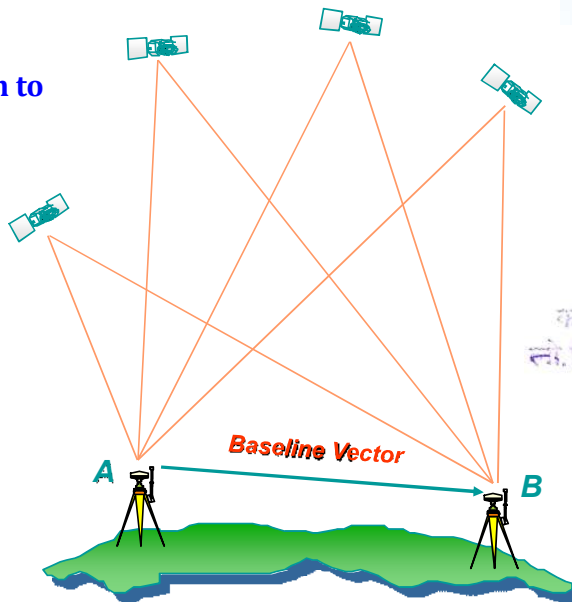
4.

## **FEATURES & METHODOLOGY OF DGPS SURVEY**

**Differential Global Positioning System** (DGPS) is an enhancement to Global Positioning System that uses a network of fixed, ground-based reference stations to broadcast the difference between the positions indicated by the satellite systems and the known fixed positions. These stations broadcast the difference between the measured satellite pseudoranges and actual (internally computed) pseudoranges, and receiver stations may correct their pseudoranges by the same amount.

### ***Differential Positioning***

- It is possible to determine the position of Rover 'B' in relation to Reference 'A' provided
  - The coordinates of the Reference Station (A) are known
  - Satellites are tracked simultaneously
- Differential Positioning
  - eliminates errors in the sat. and receiver clocks
  - minimizes atmospheric delays
  - Accuracy 0.5 cm - 5 m



The survey work has done with the help of **Differential Global Positioning System survey**. Starting DGPS Survey by making Two permanent reference point (Base Stations) by setting up, initialization of all the parameters of BASE Unit. One BASE point has been established.



Than Initialization of the ROVER Unit in the same manner and each boundary pillars was established and fixed after 15 Minutes of reading on static mode and that's how 34 boundary points and two ground control points has been fixed.

After the successful completion of the survey, All the RAW data collected from the field will be post process in the GNSS software, than Validation of the collected data by several methods & Geo-referencing of Cadastral map/Forest Compartment maps using software. Superimposition of output files on Geo-referenced Vectorized Forest Compartment maps, SOI Toposheet.

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**CO-ORDINATES OF THE FIXED BOUNDARY POINTS BY DGPS  
SURVEY FOR BRIDGE CONSTRUCTION PROJECT ACROSS  
KAJAL RIVER OF PWD, BRIDGE DIVISION RAIPUR**

| POINT NAME | LONGITUDE          | LATITUDE           | ELEVATION |
|------------|--------------------|--------------------|-----------|
| JB01       | 81° 58' 48.65881"E | 20° 29' 17.23561"N | 380.516   |
| JB02       | 81° 58' 49.82160"E | 20° 29' 18.60722"N | 380.254   |
| JB03       | 81° 58' 50.92680"E | 20° 29' 19.48562"N | 382.456   |
| JB04       | 81° 58' 51.77281"E | 20° 29' 20.01122"N | 383.12    |
| JB05       | 81° 58' 52.50012"E | 20° 29' 20.67001"N | 383.264   |
| JB06       | 81° 58' 53.11922"E | 20° 29' 21.26042"N | 383.15    |
| JB07       | 81° 58' 54.63841"E | 20° 29' 23.07483"N | 383.316   |
| JB08       | 81° 58' 55.44482"E | 20° 29' 22.45922"N | 383.045   |
| JB09       | 81° 58' 54.60241"E | 20° 29' 21.48721"N | 382.887   |
| JB10       | 81° 58' 53.95440"E | 20° 29' 20.68080"N | 382.645   |
| JB11       | 81° 58' 53.21283"E | 20° 29' 19.94641"N | 382.626   |
| JB12       | 81° 58' 52.41722"E | 20° 29' 19.24082"N | 383.4374  |
| JB13       | 81° 58' 51.51721"E | 20° 29' 18.66121"N | 380.135   |
| JB14       | 81° 58' 50.55601"E | 20° 29' 17.91601"N | 380.42    |
| JB15       | 81° 58' 49.98001"E | 20° 29' 17.25002"N | 376.912   |
| JB16       | 81° 58' 48.84961"E | 20° 29' 15.96840"N | 376.642   |
| JB17       | 81° 58' 47.66882"E | 20° 29' 14.63282"N | 379.531   |
| JB18       | 81° 58' 46.88401"E | 20° 29' 13.78321"N | 382.98    |
| JB19       | 81° 58' 46.30442"E | 20° 29' 13.04161"N | 380.01    |
| JB20       | 81° 58' 45.11283"E | 20° 29' 13.24322"N | 385.213   |
| JB21       | 81° 58' 44.14442"E | 20° 29' 13.05961"N | 388.34    |

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|      |                    |                    |         |
|------|--------------------|--------------------|---------|
| JB22 | 81° 58' 43.32722"E | 20° 29' 12.77161"N | 388.089 |
| JB23 | 81° 58' 42.48121"E | 20° 29' 12.29282"N | 389.421 |
| JB24 | 81° 58' 41.81521"E | 20° 29' 11.67361"N | 388.91  |
| JB25 | 81° 58' 41.18522"E | 20° 29' 10.93920"N | 386.281 |
| JB26 | 81° 58' 40.35001"E | 20° 29' 11.56201"N | 386.88  |
| JB27 | 81° 58' 41.04842"E | 20° 29' 12.33242"N | 388.51  |
| JB28 | 81° 58' 41.84401"E | 20° 29' 13.07042"N | 385.612 |
| JB29 | 81° 58' 42.84120"E | 20° 29' 13.61761"N | 387.223 |
| JB30 | 81° 58' 43.86001"E | 20° 29' 13.99920"N | 383.618 |
| JB31 | 81° 58' 45.10202"E | 20° 29' 14.23683"N | 384.001 |
| JB32 | 81° 58' 45.79681"E | 20° 29' 14.11803"N | 382.215 |
| JB33 | 81° 58' 46.55282"E | 20° 29' 14.92080"N | 378.235 |
| JB34 | 81° 58' 47.54282"E | 20° 29' 16.00801"N | 378.221 |

  
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**FIXATION OF BASE POINT**



**FIXATION OF BOUNDARY POINT**





### FIXATION OF BOUNDARY POINT



*Signature*

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## FIXATION OF BOUNDARY POINT



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