



**कार्यालय :- वन संरक्षक, प्रादेशिक अंचल, चाईबासा।**  
(संयुक्त वन भवन कार्यालय चाईबासा, पो-चाईबासा, पो सिंहभूम, पिन-833201)  
दूरभाष-06582-256332 (0)Mail.gov.in-cf-chaibasa@gov.in



पत्र संख्या: CHAI/MIN/...764.....

सेवा में,

प्रधान मुख्य वन संरक्षक-सह-  
कार्यकारी निदेशक, बंजर भूमि विकास बोर्ड,  
झारखण्ड, राँची।

चाईबासा, दिनांक - 23.06.2021

**विषय :-** सोनुवा-पनसुवा-लोढ़ाई-गुदड़ी पथ के कि०मी० 0.00 से 41.56 कि०मी० तक चौड़ीकरण एवं मजबूतीकरण कार्य के लिए 18.28 हे० वनभूमि के अपयोजन प्रस्ताव के संबंध में।

**प्रसंग :-** (1) आपका ज्ञापांक 669 दिनांक 08.06.2021  
(2) वन प्रमण्डल पदाधिकारी, पोड़ाहाट वन प्रमण्डल का पत्रांक 765 दिनांक 23.06.2021

महाशय,

उपर्युक्त विषयक संबंध में सूचित करना है कि सोनुवा-पनसुवा-लोढ़ाई-गुदड़ी पथ के कि०मी० 0.00 से 41.56 कि०मी० तक चौड़ीकरण एवं मजबूतीकरण कार्य के लिए 18.28 हे० वनभूमि के अपयोजन प्रस्ताव पर भारत सरकार, पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, एकीकृत क्षेत्रीय कार्यालय, राँची के पत्रांक No. F.P/JH/Road/26179/2017/4663 दिनांक 03.06.2021 द्वारा कुल 05 बिन्दुओं पर पृच्छा की गई है।

पृच्छित बिन्दुओं का अनुपालन/निराकरण प्रतिवेदन वन प्रमण्डल पदाधिकारी, पोड़ाहाट वन प्रमण्डल के प्रासंगिक पत्र-02 (छायाप्रति संलग्न) द्वारा उपलब्ध कराया गया है जो निम्नवत् है :-

| क्रम संख्या | पृच्छित बिन्दु                                                                                                                                                                                                         | अनुपालन                                                                                                                                                                                     |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1           | Comments of the concerned DFO regarding the vulnerability of the forest area to soil erosion.                                                                                                                          | वन प्रमण्डल पदाधिकारी, पोड़ाहाट वन प्रमण्डल द्वारा vulnerability of the forest area to soil erosion से संबंधित मंतव्य उपलब्ध कराया गया है। अनुलग्नक-01 के रूप में संलग्न है।                |
| 2           | Details of the other two alternatives explored with the reasons of their rejection.                                                                                                                                    | प्रयोक्ता अभिकरण द्वारा other two alternatives explored with the reasons of their rejection से संबंधित प्रतिवेदन समर्पित किया गया है। पृष्ठ संख्या 2-3 जो अनुलग्नक-02 के रूप में संलग्न है। |
| 3           | Since the forest land proposed for diversion is in hilly area, Cost Benefit Analysis is required.                                                                                                                      | प्रयोक्ता अभिकरण द्वारा Cost Benefit Analysis से संबंधित प्रतिवेदन समर्पित किया गया है। पृष्ठ सं० 4-19 जो अनुलग्नक-02 में संलग्न है।                                                        |
| 4           | Since a large of Reserved Forest is proposed for diversion, a proper justification along with the volume of the traffic survey for the requirement of 16 m ROW for the purpose of reconstruction of the proposed road. | प्रयोक्ता अभिकरण द्वारा 16 m ROW निर्माण की आवश्यकता से संबंध में प्रतिवेदन समर्पित किया गया है। पृष्ठ सं० 20-22 जो अनुलग्नक-02 के रूप में संलग्न है।                                       |

|   |                                                                                                                                                                                          |                                                                                                                 |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| 5 | As per submitted kml file, forest land proposed for diversion is calculated as 15.585319 ha instead of 18.28 ha: Correct kml file of the forest land proposed for diversion is required. | प्रयोक्ता अभिकरण द्वारा Modified kml file upload किया गया है। पृष्ठ सं० 23 जो अनुलग्नक-02 के रूप में संलग्न है। |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|

उपरोक्त के आलोक में उल्लेखित अनुलग्नकों की प्रति (04 प्रतियों में) अत्रसह संलग्न सूचनार्थ एवं आवश्यक कार्रवाई हेतु समर्पित है।

अनु०:-यथोक्त।

आपका विश्वासी,



वन संरक्षक,  
प्रादेशिक अंचल, चाईबासा।



**कार्यालय : वन प्रमण्डल पदाधिकारी, पोड़ाहाट वन प्रमण्डल, चाईबासा।**

पत्रांक **765** E-mail:- **dfo-porahat@gov.in** / चाईबासा, दिनांक **23/06/2021** /

सेवा में,

वन संरक्षक,  
प्रादेशिक अंचल, चाईबासा।

विषय :- सोनुवा-पनसुवा-लोढाई-गुदड़ी पथ के कि०मी० 0.00 से 41.56 कि०मी० तक चौड़ीकरण एवं मजबूतीकरण कार्य के लिए 18.28 हे० वनभूमि के अपयोजन प्रस्ताव के संबंध में।

प्रसंग :- आपका ज्ञापांक-763, दिनांक-23.06.2021

महाशय,

उपर्युक्त विषयक प्रसंगाधीन पत्र के सम्बन्ध में सूचित करना है कि क्षेत्रीय कार्यालय, राँची का पत्रांक-4663, दिनांक-03.06.2021 द्वारा पृच्छित 5 बिन्दुओं पर बिन्दुवार अनुपालन प्रतिवेदन निम्नांकित विवरणी के अनुसार है:-

| क्रमांक | पृच्छित बिन्दु                                                                                                                                                                                                              | अनुपालन                                                                |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| 01      | 02                                                                                                                                                                                                                          | 03                                                                     |
| 1.      | Comments of the concerned DFO regarding the vulnerability of the forest area to soil erosion.                                                                                                                               | Attached as annexure 1.                                                |
| 2.      | Details of the other two alternatives explored with the reasons of their rejection.                                                                                                                                         | Attached as page no. 2-3 of annexure 2.                                |
| 3.      | Since the forest land proposed for diversion is in hilly area, Cost Benefit Analysis is required.                                                                                                                           | Attached as page no. 4-19 of annexure 2.                               |
| 4.      | Since a large area of Reserved Forest is proposed for diversion, a proper justification along with the volume of the traffic survey for the requirement of 16 m ROW for the purpose of reconstruction of the proposed road. | Attached as page no. 20-22 of annexure 2.                              |
| 5.      | As per submitted kml file, forest land proposed for diversion is calculated as 15.585319 ha instead of 18.28 ha. Correct kml file of the forest land proposed for diversion is required.                                    | Attached as page no. 23 of annexure 2. Modified kml has been uploaded. |

अनु०:-प्रतिवेदन (छः प्रतियों में)।

आपका विश्वासी,

*Handwritten signature*  
23/6/21

वन प्रमण्डल पदाधिकारी,  
पोड़ाहाट वन प्रमण्डल चाईबासा।

**Note on Vulnerability of the forest areas to Erosion**

**Project: Widening and Strengthening of Sonua-Pansua-Lodhai-Gudari Road.**

The slope in forest sections is moderate (0.2-0.3) to high (0.4-0.5). These forests have rocky sub surface with layer of soil on it of varying thickness. The hills come close to the proposed road after Pansua dam and before Banskatta village (11000-15000 chainage) and in parts after Jante village (chainage 25000-35000). They are prone to moderate soil erosion, especially after tree felling. Guard walls would be necessary in sections where standing hills are adjacent to road and in rest portions where steep hills (slope  $> 0.4$ ) come close to the road, slope stabilization needs to be taken so as to avoid soil erosion.

Also, while going from Sonua to Gudari, in the section after Jante Village (chainage 25000+) a stream/rivulet in certain sections, is coming close to the left side of the proposed road. In such sections, to avoid bank erosion, river bank stabilization measures along shoulder of road, are advised on left side of the proposed road.

*Hatish*

DIVISIONAL FOREST OFFICER

PORAHAT FOREST DIVISION  
DIVISIONAL FOREST OFFICER  
PORAHAT FOREST DIVISION  
CHAIBASA



कार्यपालक अभियंता का कार्यालय  
पथ निर्माण विभाग, पथ प्रमण्डल, मनोहरपुर।

eercdmanohar-jhr@nic.in

पत्रांक :- 390 (चनु०)

मनोहरपुर/दिनांक :- 21.06.21 -

सेवा में,

वन प्रमण्डल पदाधिकारी,  
पोड़ाहाट वन प्रमण्डल, चाईबासा।

विषय :- सोनुवा-पनसुवा-लोढ़ाई-गुदड़ी पथ के कि०मी० 0.00 से कि०मी० 41.56 तक चौड़ीकरण एवं मजबूतीकरण कार्य हेतु 18.28 हे० वन भूमि अपयोजन प्रस्ताव के संबंध में।

संदर्भ :- पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार, क्षेत्रीय कार्यालय, राँची का पत्रांक-FP/JH/ROAD/26179/2017/6463 दिनांक 03.06.2021.

महाशय,

उपयुक्त विषयक प्रासंगिक पत्र के द्वारा पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय, भारत सरकार के क्षेत्रीय कार्यालय द्वारा 5 (पाँच) बिन्दुओं पर Query किया गया है। बिन्दु संख्या 2 से 5 अधोहस्ताक्षरी के कार्यालय से संबंधित है। उनका बिन्दुवार व्याख्या निम्न है, जो पत्र के साथ अलग-अलग पेज पर अंकित कर दिया गया है।

सभी वर्णित जानकारियाँ तथा Referecned किया गया Enclosure सहित सभी दस्तावेज/जानकारी को Parivesh Web Portal पर Upload कर दिया जायेगा।

अनु०:- यथोक्त।

विश्वासभाजन,

कार्यपालक अभियंता, 21.6.21  
प०नि०वि०, पथ प्रमण्डल,  
मनोहरपुर।

DIVISIONAL FOREST OFFICER  
PORAHAT FOREST DIVISION  
CHAIBASA

Query No. 2 – Details of the other two alternative explored with the reasons of their rejected

Explanation :- विषय योजना में सोनुवा-पनसुवा-लोढ़ाई-गुदड़ी पथ की कुल लम्बाई 41.56 कि०मी० है। गुदड़ी प्रखण्ड की निकटतम प्रमुख रेल हेड एवं अनुमण्डल मुख्यालय चक्रधरपुर से दूरी  $41.5 + 28$  कि०मी० = 63.5 कि०मी० होती है। यह पथ जिला मुख्यालय चाईबासा से  $61.5$  कि०मी० +  $30$  कि०मी० =  $91.5$  कि०मी० है। यह पथ जिला मुख्यालय चाईबासा से गुदड़ी पहुँचने वाला न्यूनतम दूरी वाला मार्ग है।

अन्य वैकल्पिक निम्नवत हैं :-

1. चक्रधरपुर-सोनुवा-गोइलकेरा-बड़डीहा-गुदड़ी पथ है, जिसकी लम्बाई-63 कि०मी० तथा जिला मुख्यालय से  $63$  कि०मी० +  $61.00$  कि०मी० =  $124$  कि०मी० एवं चक्रधरपुर रेल हेड एवं अनुमण्डल मुख्यालय से  $63$  कि०मी० +  $37$  कि०मी० =  $100$  कि०मी० है। यह पथ वर्तमान में  $3.05$  मीटर चौड़ी है तथा  $39$  कि०मी० लम्बाई सघन वन क्षेत्र से गुजरती है। इस पथ के उन्नयन (Improvement/ चौड़ीकरण एवं सुदृढीकरण) कार्य में ज्यादा वन भूमि अपयोजन की आवश्यकता होगी। पथ जीर्ण-शीर्ण अवस्था में है। पथ के वर्तमान चौड़ाई में Traffic के Through Movement संभव नहीं है। जिला मुख्यालय, अनुमण्डल मुख्यालय एवं निकटतम रेल हेड से अधिक दूरी होने के साथ अधिक वन भूमि अपयोजन की आवश्यकता होगी। इसलिए इस प्रस्ताव को वैकल्पिक मार्ग के रूप में उन्नयन (Improvement) कार्य के लिए उपयुक्त नहीं समझा गया।

(ii) जिला मुख्यालय, अनुमण्डल मुख्यालय एवं प्रमुख रेल हेड से गुदड़ी पहुँचने का दूसरा वैकल्पिक मार्ग बन्दगाँव-बड़केल-गिरु-गुदड़ी पथ हो सकता है, जो N.H. 75E पर स्थित बन्दगाँव से निकलती है। इस पथ की बन्दगाँव से गुदड़ी तक की लम्बाई  $57$  कि०मी० है। जिसका  $21.00$  कि०मी० अंश सघन वन क्षेत्र से गुजरता है, अधिकांश अंश में पगडंडी मात्र की तरह है इस मार्ग द्वारा चक्रधरपुर अनुमण्डल से  $57$  कि०मी० +  $51$  कि०मी० =  $108$  कि०मी० एवं जिला मुख्यालय-चाईबासा  $138$  कि०मी० होगी। इसके अतिरिक्त इस पथ के उन्नयन कार्य के लिए सोनुवा-गुदड़ी की तुलना में अधिक वन भूमि अपयोजन की आवश्यकता होगी तथा तुलनात्मक रूप से कम जनसंख्या यातायात सुगमता प्रदान करेगा। इसलिए प्रस्ताव को अनुपयुक्त पाया गया। दोनों वैकल्पिक मार्गों की दूरी को चार्ट के द्वारा Elaborate किया जा रहा है :-

| क्रमांक | पथ का नाम                                              | चक्रधरपुर से दूरी | जिला मुख्यालय से दूरी | वन पथ की लम्बाई |
|---------|--------------------------------------------------------|-------------------|-----------------------|-----------------|
| 1.      | सोनुवा-पनसुवा-गुदड़ी पथ, 41.56 कि०मी०                  | 63.5 कि०मी०       | 91.5 कि०मी०           | 17.56 कि०मी०    |
| 2.      | चक्रधरपुर-सोनुवा-गोइलकेरा-बड़डीहा-गुदड़ी पथ, 63 कि०मी० | 100.00 कि०मी०     | 124.00 कि०मी०         | 39.00 कि०मी०    |
| 3.      | बन्दगाँव-बड़केल-गिरु-गुदड़ी पथ, 57 कि०मी०              | 108 कि०मी०        | 138 कि०मी०            | 21 कि०मी०       |

उपर्युक्त तथ्यों के अवलोकन से स्पष्ट होगा कि सोनुवा-पनसुवा-लोढ़ाई-गुदड़ी पथ न्यूनतम दूरी वाला पथ के सबसे कम वन भूमि अपयोजन वाला पथ है। गुदड़ी क्षेत्र काफी अविकसित क्षेत्र है। यहाँ के लोगों को आकस्मिक स्वास्थ्य सेवाओं के लिए नजदीक के किसी बड़े स्वास्थ्य केन्द्र/हास्पिटल जाने का कोई मार्ग उपलब्ध नहीं है। अन्य आकस्मिकता की स्थिति में भी जिला मुख्यालय, अनुमण्डल मुख्यालय से गुदड़ी पहुँचने को All Weather मार्ग

Divisional Forest Officer  
Porahat Forest Division  
CHAIBASA

Er. Raghubansh Chaughary  
Executive Engineer  
H. C. D. Road Division,  
Manikpur

21.6.21

(3)

उपलब्ध नहीं है। सोनुवा-पनसुवा-लोढ़ाई-गुदड़ी पथ के Near Vicinity में सोनुवा से गुदड़ी को जोड़नेवाली कोई और वैकल्पिक मार्ग उपलब्ध नहीं है। इसलिए सोनुवा-पनसुवा-लोढ़ाई-गुदड़ी पथ का चौड़ीकरण एवं मजबूतीकरण कार्य को सरकार द्वारा कराने का निर्णय लिया गया है।

*Hetish*  
DIVISIONAL FOREST OFFICER  
PORAHAT FOREST DIVISION  
CHAIBASA

*Chandavey*  
Er. Raghubansh Chaudhary  
Executive Engineer,  
R. C. D. Road Division,  
Manoharpur  
21.6.21

(4)

**QUERY 3) COST BENEFIT ANALYSIS – PORAHAT FOREST DIVISION**

**Table-B Estimation of Costs for Cost Benefit Analysis**

| Sl. No. | Parameters                                                                                                                                                                                                                                 | NPV Factor as per guidelines | Remarks                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Ecosystem services losses due to proposed forest diversion                                                                                                                                                                                 | 1                            | The total area considered for diversion is 18.28 ha. The economic value of loss of eco-system services due to diversion of forests is taken as the NPV of the forest land being diverted as per MoEFCC, forest type and forest class is considered as per FSI report 2015, and NPV value as per MoEFCC guidelines dated 05.02.2009 at Rs.803000/- for Dense forest class-III, density >0.4. The value is calculated at Rs.146.78 lakhs for the forest area diverted. |
| 2       | Loss of animal husbandry productivity, including loss of fodder                                                                                                                                                                            | 0.1                          | The economic value of loss due to diversion of forests is taken as the NPV of the forest land being diverted as per MoEFCC, forest type and forest class is considered as per FSI report 2015, and NPV value as per MoEFCC guidelines dated 05.02.2009 at Rs.803000/- for Dense forest class-III, the value is calculated at Rs.14.67 lakhs for the forest area diverted.                                                                                            |
| 3       | Cost of human settlement                                                                                                                                                                                                                   |                              | Nil, as No human settlement is displaced in forest area.                                                                                                                                                                                                                                                                                                                                                                                                             |
| 4       | Loss of public facilities and administrative infrastructure (Roads, buildings, schools, dispensaries, electric lines, railways, etc.) on forest land, which would require forest land if these facilities were diverted due to the project |                              | Diversion is made only for widening and upgradation to intermediate lane of existing alignment.                                                                                                                                                                                                                                                                                                                                                                      |
| 5       | Possession value of forest land diverted                                                                                                                                                                                                   | 0.3                          | The loss is calculated as per the NPV value and factor as per guidelines. This value is calculated at Rs.44.03 lakhs for the forest area diverted.                                                                                                                                                                                                                                                                                                                   |
| 6       | Cost of suffering of oustees                                                                                                                                                                                                               |                              | Nil, no displacement of people is anticipated.                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 7       | Habitat fragmentation cost                                                                                                                                                                                                                 | 0.5                          | The loss is calculated as per the NPV value and factor as per guidelines. This value is calculated at Rs.73.39 lakhs for the forest area diverted.                                                                                                                                                                                                                                                                                                                   |
| 8       | Compensatory afforestation and soil and moisture conservation cost                                                                                                                                                                         |                              | This is calculated as per the CA costs as per Jharkhand Government Forest guidelines The total value of CA scheme is calculated at Rs.72 lakhs.                                                                                                                                                                                                                                                                                                                      |
|         |                                                                                                                                                                                                                                            | <b>Total</b>                 | <b>The total cost in terms of NPV for the forest land diversion is calculated at Rs.350.87 lakhs.</b>                                                                                                                                                                                                                                                                                                                                                                |

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**DIVISIONAL FOREST OFFICER**  
**PORAHAT FOREST DIVISION**  
**CHAIBASA**

*Raghubansh Chaudhary*  
**Executive Engineer,**  
**R. C. D. Road Division,**  
**Manoharpur**

Table-C – Existing guidelines for estimating benefits of forest diversion in CBA

| Sl. No. | Parameters                                                                 | Descriptions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------|----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1       | Increase in productivity attributable to the specific project              | The Overall output of the industries established in the vicinity of the area will be increased as the Project road will provide them fast and safe transportation system which will decrease their transportation charge in terms of diesel consumption and hauling capacity due to time saving in hauling with respect to the present condition of the road. Moreover this Project road will also provide a safe and fast access to of the forest officials, Increase in productivity with respect to time saved in travel and manpower hours saved are addressed. This NPV comes to Rs.513.82 Lakhs in 20 years @ 12% interest rate. |
| 2       | Benefits of economy                                                        | During and after the construction of Project road, local people and the industries situated in this area will be benefitted greatly. The construction of the road will provide a safe and fast transportation to people which in turn will accelerate the rate of growth in this area .Industries in this area will be benefitted by the construction of this road as it would prove to be a better transportation facility for them. Increase in District GDP/per capita income and saving in fuel costs would be a direct indicator for benefit to the economy. This comes to Rs.12,334 lakhs at 12% NPV rates.                      |
| 3       | No. of Population benefitted                                               | While overall the populations of Jharkhand state (3.29Cr.) will benefit from the project. Specifically, the population of districts West Singhbhum (15.02 Lakhs) through which the alignment passes will benefit largely. (Source: Census 2011, Jharkhand). More specifically the populations of the following blocks namely Sonua, Anandpur, Goikera, Gudri and Manoharpur will benefit. Population benefitted as on 2011 for these 5 blocks would be 324546. Projected population based upon 2001-2011 population growth rates of 21.75% comes to 395135 in 2021.                                                                    |
| 4       | Economic benefits due to direct and indirect employment due to the project | 300 employees during the construction phase will be employed. During the construction period approx. 99000 man-days will be generated and after the construction indirect employment will be generated due to development of shop along the project road. 99000 man-days will be benefitted in terms of salary and wages @Rs.350/day =Rs.346.50 lakhs.                                                                                                                                                                                                                                                                                 |
| 5       | Economic benefits due to Compensatory afforestation                        | Considering the total forest diverted area for CA i.e. 18.28 ha and the NPV of forest the Economic benefit would be Rs.72 Lakhs ones the total CA is done and similar benefits are accrued as in forest areas.                                                                                                                                                                                                                                                                                                                                                                                                                         |

**Total benefit accrued due to the project at NPV is Rs13,263 lakhs.**

^Note: A period of 20 years is considered as per SP-30 for calculating economic returns due to the project, Economic analysis of Highway projects for benefits calculation. Net present value of benefits is also calculated to compare the cost vs benefit at 12% interest rate. NPV included project construction cost.

**Benefit-Cost Ratio = Net Benefit/Net Loss is 37.80:1 hence project is viable**

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**CHAIBASA**

*[Signature]*  
**Ex. Raghunath Chaudhary**  
**R. C. D. Road Division,**  
**Manoharpur**  
 21.8.21

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Considering the tangible benefits, the project is found to be viable. If considers the intangible benefits also, then the projects become even more viable and attractive.

Place: RANCHI  
21/6/21  
Date:

*Er. Raghubansh Chaudhary*  
(Signature of User Agency) 21-6-21  
Er. Raghubansh Chaudhary  
Executive Engineer,  
R. C. D. Road Division,  
Manoharpur

*Hatish*  
Countersigned by  
Divisional Forest Officer, Porahat Forest Division  
DIVISIONAL FOREST OFFICER  
PORAHAAT FOREST DIVISION  
CHAIBASA

## Annexures of CBA

| West Singhbhum Census data and projection of population |                    |        |        |                |                        |                                 |
|---------------------------------------------------------|--------------------|--------|--------|----------------|------------------------|---------------------------------|
| Blocks                                                  | Population<br>2011 | Male   | Female | House<br>holds | Decadal Popl.<br>GR    | Projected<br>Population<br>2021 |
| Sonua                                                   | 77,697             | 38,612 | 39,085 | 16,408         | 21.7500                | 94,596                          |
| Gudri                                                   | 38,282             | 19,445 | 18,837 | 7,245          | Annual GR              | 46,608                          |
| Goilkera                                                | 74,019             | 37,167 | 36,852 | 15,072         | 2.175                  | 90,118                          |
| Anandpur                                                | 44,406             | 22,158 | 22,248 | 8,371          |                        | 54,064                          |
| Manoharpur                                              | 90,142             | 45,471 | 44,671 | 18,260         |                        | 1,09,748                        |
| <b>Total 2011</b>                                       | <b>3,24,546</b>    |        |        |                | <b>Total popl.2021</b> | <b>3,95,135</b>                 |

*Hitesh*  
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 PORAHAT FOREST DIVISION  
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*Raghubansh Choudhary*  
 Er. Raghubansh Choudhary  
 Executive Engineer,  
 R. C. D. Road Division,  
 Manoharpur

### Increase in productivity attributable to the specific project

|     |      |          | Percapita<br>income<br>West Singhbhum | Rs.30546/<br>Annum 2018           | Monthly<br>Income base<br>values |
|-----|------|----------|---------------------------------------|-----------------------------------|----------------------------------|
| Sl. | YR.  | VEHICLES | Hrs Saved/day                         | Total savings in<br>man hours Rs. | 2545.5                           |
| 1   | 2013 | 1000     | 500.0                                 | 1749000                           | HOURLY INCOME                    |
| 2   | 2014 | 1020     | 510.0                                 | 1783980                           | 10.6                             |
| 3   | 2015 | 1040     | 520.2                                 | 1819660                           |                                  |
| 4   | 2016 | 1061     | 530.6                                 | 1856053                           |                                  |
| 5   | 2017 | 1082     | 541.2                                 | 1893174                           |                                  |
| 6   | 2018 | 1104     | 552.0                                 | 1931037                           |                                  |
| 7   | 2019 | 1126     | 563.1                                 | 1969658                           |                                  |
| 8   | 2020 | 1149     | 574.3                                 | 2009051                           |                                  |
|     |      |          |                                       |                                   | Per Hr income/saving             |
| 9   | 2021 | 2297     | 1148.7                                | 3965397                           | 10.46                            |
| 10  | 2022 | 2355     | 1177.4                                | 4267758                           | 10.98                            |
| 11  | 2023 | 2414     | 1206.8                                | 4593175                           | 11.53                            |
| 12  | 2024 | 2474     | 1237.0                                | 4943404                           | 12.11                            |
| 13  | 2025 | 2536     | 1267.9                                | 5320339                           | 12.72                            |
| 14  | 2026 | 2599     | 1299.6                                | 5726015                           | 13.35                            |
| 15  | 2027 | 2664     | 1332.1                                | 6162623                           | 14.02                            |
| 16  | 2028 | 2731     | 1365.4                                | 6632523                           | 14.72                            |
| 17  | 2029 | 2799     | 1399.6                                | 7138253                           | 15.46                            |
| 18  | 2030 | 2869     | 1434.6                                | 7682545                           | 16.23                            |
| 19  | 2031 | 2941     | 1470.4                                | 8268339                           | 17.04                            |
| 20  | 2032 | 3014     | 1507.2                                | 8898800                           | 17.89                            |
| 21  | 2033 | 3090     | 1544.9                                | 9577334                           | 18.79                            |
| 22  | 2034 | 3167     | 1583.5                                | 10307605                          | 19.73                            |
| 23  | 2035 | 3246     | 1623.1                                | 11093560                          | 20.71                            |
| 24  | 2036 | 3327     | 1663.6                                | 11939444                          | 21.75                            |
| 25  | 2037 | 3410     | 1705.2                                | 12849827                          | 22.83                            |
| 26  | 2038 | 3496     | 1747.9                                | 13829626                          | 23.98                            |
| 27  | 2039 | 3583     | 1791.6                                | 14884135                          | 25.18                            |
| 28  | 2040 | 3673     | 1836.3                                | 16019050                          | 26.43                            |
| 29  | 2041 | 3765     | 1882.3                                | 17240503                          | 27.76                            |
|     |      |          | Total                                 | 191340255                         |                                  |
|     |      |          | NPV @12%<br>interest rate             | ₹ 5,13,81,592                     |                                  |
|     |      |          | In Lakhs                              | ₹ 513.82                          |                                  |

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**Executive Engineer,**  
**R. C. D. Road Division,**  
**Manoharpur**

# Benefits of economy

| GDP BENEFITS AND FUEL SAVINGS |                 |        |            |                   |                                           |                             |                               |                   |  |
|-------------------------------|-----------------|--------|------------|-------------------|-------------------------------------------|-----------------------------|-------------------------------|-------------------|--|
|                               | Vehicle numbers |        |            | Population growth | Per capita income Rs./year West Singhbhum | Rs.30546/-                  |                               |                   |  |
|                               | 450             | 72     | 25         | 5 blocks          | GDP due to new road                       |                             |                               |                   |  |
| Year                          | BIKE            | CAR    | COMMERCIAL | Population growth | Per capita income growth @5%/annum        | GDP Due to Road improvement | Per capita income BAU @ 4.90% | Business as usual |  |
| 2021                          | 1410750         | 338580 | 70125      | 395135            | 30546                                     | 12069793710                 | 30546                         | 12069793710       |  |
| 2022                          | 1438965         | 345352 | 71528      | 403729            | 32073                                     | 12948927309                 | 32043                         | 12936594998       |  |
| 2023                          | 1467744         | 352259 | 72958      | 412510            | 33677                                     | 13892094802                 | 33613                         | 13865646270       |  |
| 2024                          | 1497099         | 359304 | 74417      | 421482            | 35361                                     | 14903960257                 | 35260                         | 14861418056       |  |
| 2025                          | 1527041         | 366490 | 75906      | 430650            | 37129                                     | 15989527463                 | 36988                         | 15928701940       |  |
| 2026                          | 1557582         | 373820 | 77424      | 440016            | 38985                                     | 17154164669                 | 38800                         | 17072633616       |  |
| 2027                          | 1588734         | 381296 | 78972      | 449587            | 40935                                     | 18403631138                 | 40701                         | 18298717604       |  |
| 2028                          | 1620508         | 388922 | 80552      | 459365            | 42981                                     | 19744105621                 | 42696                         | 19612853732       |  |
| 2029                          | 1652918         | 396700 | 82163      | 469356            | 45130                                     | 21182216915                 | 44788                         | 21021365533       |  |
| 2030                          | 1685977         | 404634 | 83806      | 479565            | 47387                                     | 22725076639                 | 46982                         | 22531030665       |  |
| 2031                          | 1719696         | 412727 | 85482      | 489995            | 49756                                     | 24380314409                 | 49284                         | 24149113530       |  |
| 2032                          | 1754090         | 420982 | 87192      | 500653            | 52244                                     | 26156115559                 | 51699                         | 25883400230       |  |
| 2033                          | 1789172         | 429401 | 88935      | 511542            | 54856                                     | 28061261627                 | 54233                         | 27742236030       |  |
| 2034                          | 1824956         | 437989 | 90714      | 522668            | 57599                                     | 30105173770                 | 56890                         | 29734565517       |  |

  
 R. C. D. Road Division, 21-6-21  
 Manot arpur  
 DIVISIONAL FOREST OFFICER  
 PORAHAT FOREST DIVISION

|              |                       |                    |                   |        |       |                            |       |                            |
|--------------|-----------------------|--------------------|-------------------|--------|-------|----------------------------|-------|----------------------------|
| 2035         | 1861455               | 446749             | 92528             | 534036 | 60479 | 32297959365                | 59678 | 31869975641                |
| 2036         | 1898684               | 455684             | 94379             | 545651 | 63503 | 34650461980                | 62602 | 34158741844                |
| 2037         | 1936657               | 464798             | 96267             | 557519 | 66678 | 37174315004                | 65669 | 36611877508                |
| 2038         | 1975391               | 474094             | 98192             | 569645 | 70012 | 39881999174                | 68887 | 39241186951                |
| 2039         | 2014898               | 483576             | 100156            | 582035 | 73513 | 42786904288                | 72263 | 42059322222                |
| 2040         | 2055196               | 493247             | 102159            | 594694 | 77188 | 45903395430                | 75803 | 45079843992                |
| 2041         | 2096300               | 503112             | 104202            | 607629 | 81048 | 49246883994                | 79518 | 48317286798                |
| <b>Total</b> | <b>36373815</b>       | <b>8729716</b>     | <b>1808055</b>    |        |       | <b>559658283124.24</b>     |       | <b>553046306386.66</b>     |
| <b>NPV</b>   | <b>₹ 1,21,28,366</b>  | <b>₹ 29,10,808</b> | <b>₹ 6,02,872</b> |        |       | <b>₹ 1,52,22,91,66,835</b> |       | <b>₹ 1,51,01,17,49,793</b> |
|              |                       |                    |                   |        |       |                            |       |                            |
|              | <b>Total benefits</b> | <b>₹ 12,331</b>    |                   |        |       | <b>Improvement in GDP</b>  |       |                            |
|              |                       |                    |                   |        |       | <b>₹ 1,21,74,17,043</b>    |       |                            |
|              |                       |                    |                   |        |       |                            |       |                            |
|              | <b>Total Cost</b>     | <b>351</b>         |                   |        |       |                            |       |                            |
|              | <b>Total benefits</b> | <b>₹ 13,263</b>    |                   |        |       |                            |       |                            |
|              | <b>CBR</b>            | <b>37.80</b>       |                   |        |       |                            |       |                            |

*Noted*  
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 PORAHAT FOREST DIVISION  
 CHAIBASA

*Chaudhary*  
 Er. Raghubansh Chaudhary 1.6.21  
 Executive Engineer,  
 R. C. D. Road Division,  
 Manoharpur

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CPD 21-52-1  
Executive Engineer  
R.C.D. Road Division  
Manoharpur

| DIRECTION OF TRAFFIC |  |  |  |  |  |  |  |  |  | DATE: 18-12-23 |  |
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| COUNT HOURS FROM     |  |  |  |  |  |  |  |  |  | GUDARI         |  |
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| COUNT HOURS FROM     |  |  |  |  |  |  |  |  |  | GUDARI         |  |
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| COUNT HOURS FROM     |  |  |  |  |  |  |  |  |  | GUDARI         |  |
| COUNT HOURS FROM     |  |  |  |  |  |  |  |  |  |                |  |

Er. Rajib Chaudhary  
R. C. D. Road  
Manoharpur

DIVISIONAL FOREST OFFICER  
CHABASA  
PORAHAAT FOREST DIVISION

161

113

192

DIRECTION OF TRAFFIC

DOWN FROM (Place): SONUA

COUNT HOURS FROM

0000 HRS. TO 2400 HRS

TO (Place):

CHABASHA

DISTRICT: CHABASHA

STATE: JHARKHAND

| Count Hours | Cars/Jeeps/Taxis/Vans |     | Auto Rickshaws |     | Two Wheelers/Motorcycles/ Scooters (etc) |   | LCV/Commercial Vehicle/Truck |   | Mini Bus |    | Truck/Tractor | District |     | State |      |
|-------------|-----------------------|-----|----------------|-----|------------------------------------------|---|------------------------------|---|----------|----|---------------|----------|-----|-------|------|
|             | U                     | D   | U              | D   | U                                        | D | U                            | D | U        | D  |               | U        | D   | U     | D    |
| 0000-0100   | 0                     | 0   | 0              | 0   | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 0        | 0   | 0     | 0    |
| 0100-0200   | 0                     | 0   | 0              | 0   | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 0        | 0   | 0     | 0    |
| 0200-0300   | 0                     | 0   | 0              | 0   | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 0        | 0   | 0     | 0    |
| 0300-0400   | 0                     | 0   | 0              | 0   | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 0        | 0   | 0     | 0    |
| 0400-0500   | 1                     | 0   | 0              | 0   | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 11       | 15  | 0     | 0    |
| 0500-0600   | 1                     | 1   | 11             | 7   | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 7        | 14  | 2     | 0    |
| 0600-0700   | 3                     | 2   | 14             | 12  | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 10       | 18  | 0     | 0    |
| 0700-0800   | 2                     | 3   | 18             | 15  | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 6        | 23  | 2     | 1    |
| 0800-0900   | 2                     | 6   | 20             | 18  | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 7        | 20  | 1     | 0    |
| 0900-1000   | 3                     | 2   | 15             | 20  | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 1        | 23  | 2     | 1    |
| 1000-1100   | 2                     | 3   | 15             | 16  | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 11       | 16  | 2     | 2    |
| 1100-1200   | 1                     | 5   | 11             | 14  | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 7        | 24  | 1     | 0    |
| 1200-1300   | 0                     | 2   | 12             | 10  | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 15       | 27  | 2     | 0    |
| 1300-1400   | 3                     | 1   | 16             | 23  | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 1        | 7   | 10    | 1    |
| 1400-1500   | 5                     | 0   | 20             | 20  | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 23       | 11  | 0     | 0    |
| 1500-1600   | 6                     | 2   | 23             | 18  | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 27       | 15  | 0     | 0    |
| 1600-1700   | 3                     | 1   | 31             | 11  | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 24       | 14  | 0     | 0    |
| 1700-1800   | 7                     | 0   | 19             | 6   | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 15       | 11  | 0     | 0    |
| 1800-1900   | 2                     | 2   | 20             | 7   | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 3        | 31  | 12    | 0    |
| 1900-2000   | 1                     | 0   | 23             | 10  | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 15       | 14  | 1     | 0    |
| 2000-2100   | 1                     | 1   | 0              | 11  | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 16       | 15  | 1     | 0    |
| 2100-2200   | 0                     | 1   | 0              | 12  | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 0        | 0   | 0     | 0    |
| 2200-2300   | 0                     | 2   | 0              | 15  | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 0        | 0   | 0     | 0    |
| 2300-2400   | 1                     | 1   | 0              | 0   | 0                                        | 0 | 0                            | 0 | 0        | 0  | 0             | 2        | 0   | 0     | 0    |
| Total       | 44                    | 35  | 280            | 251 | 0                                        | 0 | 0                            | 0 | 2        | 2  | 10            | 11       | 14  | 0     | 0    |
| Total(U&D)  | 79                    | 531 | 0              | 0   | 0                                        | 0 | 0                            | 4 | 21       | 31 | 0             | 0        | 236 | 259   | 13   |
|             |                       |     |                |     |                                          |   |                              |   |          |    |               |          | 495 | 23    | 0    |
|             |                       |     |                |     |                                          |   |                              |   |          |    |               |          |     |       | 1184 |

Er. Raghubansh Chaudhary, 21/6/24  
Executive Engineer,  
R. C. D. Road Division,  
Manoharpur

Page  
DIVISIONAL FOREST OFFICER  
FORAHAT FOREST DIVISION  
CHABASHA



| DIRECTION        | UP   |
|------------------|------|
| DIST             | DOWN |
| COUNT HOURS FROM | DOWN |

STATE

[illegible]

Executive Engineer 21.6.21  
 R. C. D. Road Division,  
 Manoharpur

Page

Page \_\_\_\_\_

CHAIKABA  
DIVISIONAL FOREST OFFICER  
PORAHAT FOREST DIVISION

*Handwritten signature*

194

(51)

195

191

Page 27 PAGE OF COUNT SHEET  
PAGE OF COUNT SHEET +900

TO (Place):  
TO (Place):

DOWN FROM (Place): SONUA  
0000 HRS TO 2400 HRS.

COUNT HOURS

| Count Hours | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |  |
|-------------|---|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|--|
| 0100-0200   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0  | 0   | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |  |

C. D. D. Road Division  
Executive Engineer  
21/6/24  
Manoharpur

Page  
PRINCE OF FOREST DIVISION  
CHABASA  
FORHAT FOREST DIVISION

DIRECTOR

DIRECTION OF TRAVEL

COUNT HOURS FROM

0000 HRS. TO 2400 HRS

ON

CULINARY

ALUMETERAGE OF COUNT STATION: 8+000

PLACE OF COUNT STATION: JHUMPURA

DISTRICT: JHARKHAND

STATE: JHARKHAND

DATE: 21.6.21

TIME: 10:00 AM

WIND: S.W.

TEMP: 28°C

HUMIDITY: 65%

SEA LEVEL: 100m

NO. OF CARS

NO. OF BUSES

NO. OF TRUCKS

NO. OF AUTOS

NO. OF Cycles

NO. OF Rickshaws

NO. OF Motorbikes

NO. OF Others

NO. OF Pedestrians

NO. OF Animals

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

NO. OF Others

176

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Er. Raghubansh Chaudhary  
Executive Engineer  
R.C.D. Road Division  
Manoharpur

Page

DIVISIONAL FOREST OFFICER  
PORAHAT FOREST DIVISION  
CHABASA

21.6.21

DIRECTION OF TRAFFIC  
DIRECTION OF TRAFFIC  
COUNT HOURS FROM

UP  
DOWN  
FROM (Place)  
TO (Place)

Name of road: SONUA-PANSUAL-LOOHAL-GUDARI ROAD

DATE: 11-1-2011

| DATE                               | HOUR  | DATE   | HOUR  | CARS/JEeps/TAXI/ESKAV<br>WHEELERS(AUTO<br>S/THREE<br>WHEELERS) | TWO<br>WHEELERS(MOTOR<br>E/SCOOTER | LCV(Light Commer<br>Vehicles e.g. Mini | BUS | TWO AXLE<br>TRUCK/TANKER | MULTI AXLE TRUCK<br>/TRUCK TRAILER/TAN | AGRICULTURAL TRACT<br>WITH TRAILER | CYCLE/CYCLE<br>RICKSHAW/OTHER<br>HUMAN POWERED<br>VEHICLES | BULLOCK CARTS/HORS<br>CARTS/OTHER ANIMAL<br>POWERED | OTHERS (Specify) | REMARKS |
|------------------------------------|-------|--------|-------|----------------------------------------------------------------|------------------------------------|----------------------------------------|-----|--------------------------|----------------------------------------|------------------------------------|------------------------------------------------------------|-----------------------------------------------------|------------------|---------|
| 03-Jan                             | 07:00 | 04-Jan | 07:00 | 74                                                             | 425                                | 0                                      | 4   | 21                       | 0                                      | 31                                 | 396                                                        | 23                                                  | 0                |         |
| 04-Jan                             | 07:00 | 05-Jan | 07:00 | 82                                                             | 372                                | 0                                      | 4   | 41                       | 0                                      | 25                                 | 400                                                        | 18                                                  | 0                |         |
| 05-Jan                             | 07:00 | 06-Jan | 07:00 | 79                                                             | 531                                | 0                                      | 4   | 21                       | 0                                      | 31                                 | 495                                                        | 23                                                  | 0                |         |
| 06-Jan                             | 07:00 | 07-Jan | 07:00 | 88                                                             | 464                                | 0                                      | 4   | 42                       | 0                                      | 25                                 | 500                                                        | 18                                                  | 0                |         |
| 07-Jan                             | 07:00 | 08-Jan | 07:00 | 67                                                             | 531                                | 0                                      | 4   | 41                       | 0                                      | 18                                 | 483                                                        | 12                                                  | 0                |         |
| 08-Jan                             | 07:00 | 09-Jan | 07:00 | 82                                                             | 333                                | 0                                      | 0   | 2                        | 0                                      | 25                                 | 357                                                        | 18                                                  | 0                |         |
| 09-Jan                             | 07:00 | 10-Jan | 07:00 | 46                                                             | 496                                | 0                                      | 20  | 172                      | 0                                      | 10                                 | 460                                                        | 6                                                   | 0                |         |
| 10-Jan                             | 07:00 |        |       | 518                                                            | 3152                               | 0                                      | 0   | 25                       | 0                                      | 165                                | 3101                                                       | 118                                                 | 0                |         |
| TOTAL FOR THE WEEK                 |       |        |       | 74                                                             | 450                                | 0                                      | 0   | 25                       | 0                                      | 24                                 | 443                                                        | 17                                                  | 0                |         |
| AVERAGE DAILY TRAFFIC FOR THE WEEK |       |        |       |                                                                |                                    |                                        |     |                          |                                        |                                    |                                                            |                                                     |                  |         |

DIVISIONAL FOREST OFFICER  
CHAIKASA  
PORAHAT FOREST DIVISION

*Chaudhary*  
Er. Raghubansh Chaudhary  
Executive Engineer,  
R. C. D. Road Division,  
Manoharpur

197

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**DIVISIONAL FOREST OFFICER**  
**PORAHAT FOREST DIVISION**  
**CHAIBASA**

| TYPE                                                           | 25  | 25 | 3   | 75  |
|----------------------------------------------------------------|-----|----|-----|-----|
| (e) TWO AXLE TRUCK/TANKER                                      |     |    |     |     |
| (f) MULTI AXLE TRUCK / TRUCK TRAILER                           |     |    |     |     |
| (g) AGRICULTURAL TRACTOR WITH TRAILER                          |     |    |     |     |
| (B)                                                            | 24  | 24 | 4.5 | 108 |
| (a) CYCLE                                                      |     |    |     | 0   |
| (b) BULLOCK CART/HORSE DRAWN CART/ OTHER ANIMAL DRAWN VEHICLES | 443 |    | 0.5 | 222 |
| (C) OTHERS VEHICLES IF ANY, PLEASE SPECIFY                     | 17  |    | 8   | 136 |
| <b>TOTAL</b>                                                   |     | 52 |     | 849 |

Present PCU = 849  
 Construction period = 1 years  
 Design life = 15 years (12 months)  
 Projected PCU =  $849 \times (1 + 5/100)^{(2.0 \times 15)} =$

1944.778, So it is qualified for intermediate lane.

*Handwritten:*  
 Er. Raghubansh Chandra  
 Executive Engineer,  
 R. C. D. Road Division,  
 Manoharpur

Query No. 4 – Large area of Reserved Forest is proposed for diversion a proper justification along with the volume of the traffic survey for the requirement of 16 m ROW for the purpose of reconstruction of the proposed road.

– इस कार्य के निमित्त वर्ष 2012-13 में Seven day Traffic Census कराया गया था (Traffic Census Report संलग्न)। यातायात गणना के अनुसार पथ पर कुल PCU – 849 थीं। Traffic growth rate  $r = 5\%$  एवं पथ का Design Life – 15 साल लेने के पश्चात् पथ के Design के Life के अन्त में  $Traffic = 849 (1+0.05)^n$

Project Completion Year – 2022-23

$$n = 10 + 15 = 25 \text{ Year}$$

$$= 849 (1+5/100)^{25}$$

$$= 2875 > 1500 \text{ PCU}$$

Hence, it qualifies for Intermediate Lane Construction.

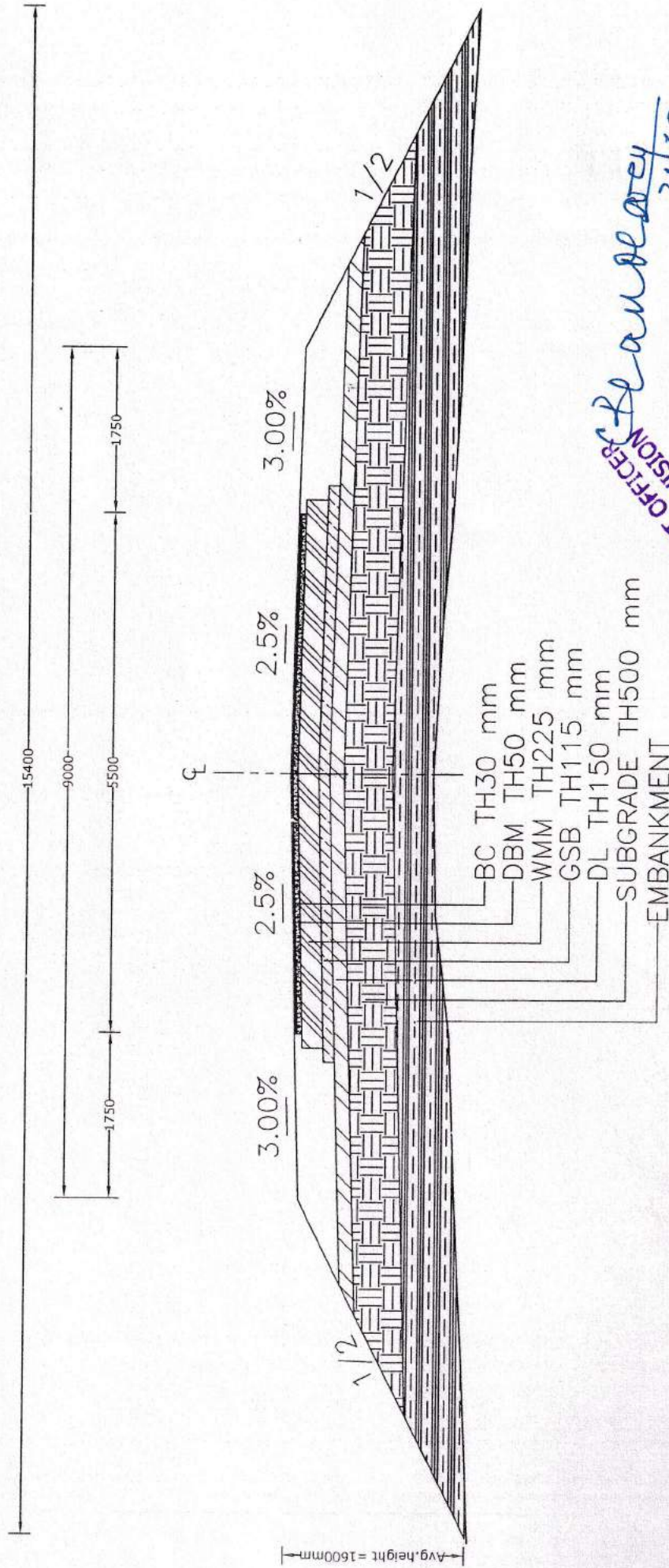
Intermediate lane construction के लिए Road way width 9.00 meter एवं Carriageway width 5.5 m है। पथ निर्माण में Ordinary Guard Level से कम से कम 1.00 मीटर ऊँचाई पथ का Structural Component GSB Lay करने का प्रावधान है, जिसे Typical Cross-Section के माध्यम से दर्शाया गया है Embankment के Stability के लिए Natural Slope 1:2 रखा गया है (Typical Cross-Section संलग्न)। जिससे पथ में Intermediate lane में भी पुल-पुलिया का न्यूनतम चौड़ाई 12.00 मी० रखना है, जिसका निर्माण 16.00 मीटर से कम चौड़ाई Right of way में करना असम्भव है। इसके अतिरिक्त पुल-पुलिया निर्माण के दौरान Diversion का भी निर्माण करना पड़ता है (Typical Cross-Section TC-02 attached)।

सोनुवा-पनसुवा-लोढ़ाई-गुदड़ी पथ Left Wing Extremism (LWE) क्षेत्र में पड़ता है। Both directions में निर्वाध Traffic आवागमन के लिए न्यूनतम 5.50 मीटर Carriageway की आवश्यकता है। इसके अतिरिक्त सारी Utilities Service Lines यथा- Telephone Cables/ Mobile Cables, High Tension Cables, Water Supply Pipe Lines इत्यादि पथ निर्माण की भूमि से गुजरती है। इसलिए 16.00 मी० Right of way इस पथ के निर्माण के लिए न्यूनतम भूमि की आवश्यकता है।

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— CHAIBASA

*Chaudhary*  
Er. Raghubansh Chaudhary  
Executive Engineer,  
R. C. D. Road Division,  
Manoharpur  
21.6.21

# TYPICAL CROSS SECTION 01 (For Road Works)



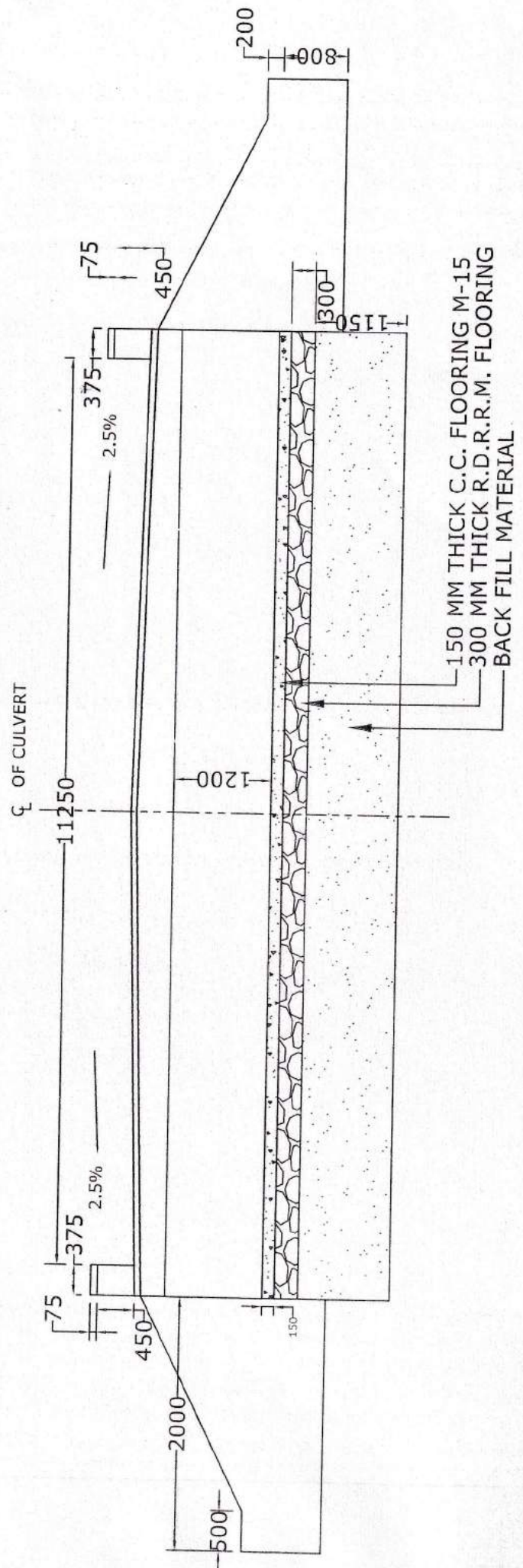
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# TYPICAL CROSS SECTION 02 (For Culvert Works)



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21.06.21

CHALBASA

DIVISIONAL FOREST DIVISION

PORAHAT FOREST DIVISION

(23)

Query No. 5 – As per submitted KML, forest land proposed for diversion is calculated as 15.585319 ha instead of 18.28 ha. Correct KML file of the forest land proposed for diversion is required.

—पथ निर्माण कार्य के लिए वास्तविक हस्तांतरण की आवश्यकता 18.28 हे० है, तदनुसार KML फाइल में आवश्यक सुधार कर दिया गया है। संशोधित KML की सॉफ्ट कॉपी संलग्न किया जा रहा है।

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