

## **ANNEXURES**

**ANNEXURE-1**  
**Term of Reference (TOR)**



File No: 10/11/2025-IA.III  
Government of India  
Ministry of Environment, Forest and Climate  
Change  
IA Division  
\*\*\*



Dated 01/05/2025



To,

MANISH KUMAR  
S/o Badri Narayan Singh, near jagat press, shrikrishana nagar ahri, Aurangabad, Bihar-824101  
piumungerbihar@gmail.com

Subject: 'Construction of 4-laning of Green Field Alignment of NH-33 (Old NH-80) (Mokama to Munger) in the State of Bihar on the Hybrid annuity Mode (Total Length-82.100 Km) by M/s National Highways Authority of India'-Terms of Reference regarding.

Sir/Madam,

This is in reference to your application for Grant of Terms of Reference under the provision of the EIA Notification 2006-regarding in respect of project Construction of 4 laning of Green Field Alignment of NH -33 (Old NH-80) (Mokama to Munger) in the State of Bihar. (Total Length -82.100 Km). submitted to Ministry vide proposal number IA/BR/INFRA1/530263/2025 dated 21/03/2025.

2. The particulars of the proposal are as below :

|                                             |                                                                                                                                              |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| (i) TOR Identification No.                  | TO25A3601BR5973334N                                                                                                                          |
| (ii) File No.                               | 10/11/2025-IA.III                                                                                                                            |
| (iii) Clearance Type                        | TOR                                                                                                                                          |
| (iv) Category                               | A                                                                                                                                            |
| (v) Project/Activity Included Schedule No.  | 7(f) Road                                                                                                                                    |
| (vi) Sector                                 | INFRA-1                                                                                                                                      |
| (vii) Name of Project                       | Construction of 4 laning of Green Field Alignment of NH -33 (Old NH-80) (Mokama to Munger) in the State of Bihar. (Total Length -82.100 Km). |
| (viii) Name of Company/Organization         | MANISH KUMAR                                                                                                                                 |
| (ix) Location of Project (District, State)  | PATNA, BIHAR                                                                                                                                 |
| (x) Issuing Authority                       | MoEF&CC                                                                                                                                      |
| (xii) Applicability of General Conditions   | no                                                                                                                                           |
| (xiii) Applicability of Specific Conditions | no                                                                                                                                           |

3. The proposal is for the construction of four-laning of Mokama-Munger Section NH-33 (Old NH-80), starting near Village Mokameh Khas (NH-31) 25°22'48.71" N, 85°55'51.44" E (Ch. 0+000) and terminating near Village Safiyabad Morcha, 25°20'30.99" N, 86°29'39.52" E (Ch. 82+100) passing through Patna, Lakhisarai, Munger district in the State of Bihar (Total length 82.100 Km) on the Hybrid annuity Mode. The proposed highway starts from the Junction with Mokameh Khas near the village (District- Patna, Bihar) and terminates at Munger near Jamlpur village (District- Munger, Bihar). The highway is a greenfield alignment project throughout the stretch of 82+100 Km. Mokameh Khas, Panchmahla, Kalishan, Aunta, Auta, Murarpur, Dariyapur, Hathidah Buzurg, Hathidah, Hurd, Maranchi North, Tajpur Tola, Badpur, Rampur Dumra, Pachmahla, Nauranga, Jalalpur, Barhiya, Chak, Indupur, Hirdan, Bishanpur, Rampur, Saidpur, Mano, Kasoi, Saidpura, Jagdishpur, Nista, Adhupur, Bikrampur, Toralpur, Rampur Sangrampur, Jha Herudiyara, Maksuspur, Munger, villages in the Patna, Lakhi Sarai, Munger district of Bihar.
4. The proposed project activity is listed at schedule S.No.7(f) Highways under Category- 'A', of the schedule of the EIA Notification, 2006, due to applicability of 'General Condition', i.e., the proposed project alignment falling within 10 km from the Bhimbandh Wildlife Sanctuary. The Total Capital Cost of the project is Rs. 4,538.0 Cr.
5. The proposed Right of Way (RoW): The proposed ROW for the alignment is 60 m.
6. Land use/ Land cover of the project site: The total land requirement will be approx. 596 Ha of non-forest land, including agricultural and non-agricultural land.
7. Terrain and Topographical Features: The details will be incorporated along with the detailed EIA/EMP Report.
8. Details of water bodies, impact on drainage: A total of 5 water bodies, including Harohar Nadi, Kiul River, Tributary of Jhana Nadi, Canal-01, and other water bodies-01, are the major water bodies falling along the proposed alignment. The proposed road will have Major Bridges (2), Minor Bridges (22), ROB/RUB (4), VUP/PUP/CUP (7), SVUP (48), Flyovers (3), and Box Culverts (105), adequate structures for cross drainage works shall be constructed in order to maintain the natural hydrology of the area. The details of the impact on drainage will be submitted along with the detailed EIA/EMP Report.
9. Water requirements: The average water requirements are anticipated at 3000 KL, approx. During the construction stage, and will be extracted from suitable surface sources (river/canals) or groundwater after obtaining necessary permissions from the competent authority.
10. Diversion of forestland: The proposed project does not envisage any diversion of forestland. Bhimbandh Wildlife Sanctuary is located at the distance of 0.55km from the proposed alignment.
11. Waste Management: Solid waste will be generated from the construction camp and the dismantling of existing structures. Unproductive/wastelands shall be selected for dumping sites away from residential areas and water bodies. Domestic waste of approximately 750 kg/ day (500 grams/ head/ day) is expected to be generated from temporary construction camps and wayside amenities. The solid waste will be disposed of as per the Solid Waste Management Rules, 2016. 10000 TPA of Excavated Earth/ Muck is expected to be generated during construction, which will be disposed of as per the C&D Waste Management Rules, 2016, and 1000 TPA C&D waste (Construction material) will be utilized in the construction of the project road. 0.15 TPA Hazardous wastes, such as oil and grease generated from the DG sets and trucks, will be disposed of through approved vendors/ agencies meant for the safe collection and disposal of the oil & grease wastes. Used/ Waste oil and lubricants will be utilized in oiling shuttering, and the remaining will be sold to authorized recyclers. The storage, handling, and disposal of the same will be done as per Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2008. Wastewater: A Septic tank, soak pit would be proposed for canteen/ kitchen waste in the construction camp, and toilet waste liquids would be discharged to the septic/ soak pit. Other liquid waste will be treated at the site by using a storage and sedimentation tank. The liquid effluent/ sewage water generated in the construction camp will be treated in a septic/ sedimentation tank before diverting it to the soak pit for disposal.
12. Raw Materials: Materials requirements are approximate, Cement-664 MT, Coarse Aggregates-3515 cum, Fine Aggregates-56066 cum, Steel-9469 MT, Bitumen-15339 Ton and Bitumen Emulsion-926 Ton. Steel and Cement would be sourced from the authorized vendors. Soil, Sand, and Aggregate will be procured from operational licensed borrow areas and quarries located around nearby areas. Fly Ash will be procured from the nearest Thermal Power Stations. If any new borrow area or quarry site is required to be opened, the requisite permission will be obtained from

the concerned department before the extraction of materials.

13. Details of Tree Cutting and Green Belt Development: The proposed project envisages the clearance of around 500 trees in an area of around 2 Ha. A greenbelt of 7.5m width will be developed in an area of 2 Ha (10% of the total area), and 1500 trees of local/ native species will be planted for the same. The details will be incorporated along with the detailed EIA/EMP report.

14. The proposed project site is not located in proximity to the Critically Polluted area as identified by the CPCB.

15. Rainwater Harvesting: The details of the same will be incorporated along with the detailed EIA/EMP Report. Not proposed.

16. Employment Potential: During the construction of the road project, around 1500 persons would be employed temporarily for 3 years. However, due to the construction of toll plazas, approximately 100 persons will be employed on a permanent basis. Preference will be given to local people for employment.

17. Land acquisition and R&R issues involved: The total land requirement will be approx. 596 Ha of non-forest land, including agricultural and non-agricultural land. Approximately 100 nos. of permanent and semi-permanent buildings/ structures in the proposed ROW are going to be affected. Some buildings/ structures will be demolished. The land will be acquired as per procedure laid down in the RFCTLARR Act, 2013.

18. Benefits of the project: It will enhance economic development, provide employment opportunities to locals, strengthen tourist development, ensure road safety, and provide better transportation facilities and other facilities such as wayside amenities. Vehicle operating costs will also be reduced due to improved road quality.

19. Details of Court cases: The instant proposal does not involve any court cases/ litigation.

20. The EAC based on the information submitted and clarifications provided by the project proponent and detailed discussions held on all the issues during 397th meeting of the Expert Appraisal Committee (Infra-1) held during 04th April 2025 recommended the project for grant of Terms of Reference (ToR) with stipulated specific conditions along with other Standard ToR Conditions.

21. The Ministry of Environment, Forest and Climate Change has considered the proposal based on the recommendations of the Expert Appraisal Committee (Infrastructure, CRZ and other Miscellaneous projects) and hereby decided to grant Terms of Reference for 'Construction of 4-laning of Green Field Alignment of NH-33 (Old NH-80) (Mokama to Munger) in the State of Bihar on the Hybrid annuity Mode (Total Length-82.100 Km) by M/s National Highways Authority of India' and for preparation of EIA/EMP report with public consultations under the EIA Notification, 2006 as amended, subject to strict compliance of the following specific conditions, in addition to all standard ToR conditions applicable for such projects.

22. A detailed draft EIA/EMP report shall be prepared in terms of the above additional TOR and should be submitted to the State Pollution Control Board for Public Hearing. Public Hearing to be conducted for the project in accordance with the provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan. The Public Hearing shall be conducted based on the TOR letter issued by the Ministry and not on the basis of Minutes of the Meeting available on the website.

23. The project proponent shall submit the detailed final EIA/EMP report prepared as per TOR including issues raised during Public Hearing to the Ministry for considering the proposal for environmental clearance before expiry of validity of ToR.

24. The consultants involved in preparation of EIA/EMP report after accreditation with Quality Council of India/National Accreditation Board of Education and Training (QCI/NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other Organization(s)/Laboratories including their status of approvals etc. vide notification of the MoEF dated 19th July, 2013.

25. The prescribed TOR would be valid for a period of four years for submission of the EIA/EMP Reports.

26. This issues with the approval of Competent Authority.

### **Copy To**

1. The Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Bungalow No. A-2, Shyamali Colony, Ranchi – 834002.
2. The Member Secretary Bihar State Pollution Control Board, Parivesh Bhawan, Plot No. Ns-B/2 Paliputra Industrial Area, Patliputra, Patna (Bihar) - 800 010.
3. Parivesh Portal.
4. Guard File/ Monitoring File/ Record File.

## Specific Terms of Reference for (Road)

## 1. Specific Conditions

| S. No | Terms of Reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.1   | PP shall submit an Undertaking that no construction has been started for which EC has been obtained earlier. The earlier Environmental Clearance shall be surrendered.                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 1.2   | The proponent, with the help of Nationally reputed institute like Zoological Survey of India/WII shall carry out the impact of proposed alignment on avifauna, associated biodiversity and wetland ecology including ecological productivity of the important lakes/waterbodies situated within 10 km distance of proposed alignment and prepare a detailed Conservation Plan along with adequate mitigation measures. The plan shall be duly prepared in consultation with respective Forest/Wildlife Departments of the Governments of Bihar.                                                                             |
| 1.3   | The proponent shall carry out a detailed traffic flow study to assess inflow of traffic from adjoining areas like airport/ urban cities. The detailed traffic planning studies shall include complete design, drawings and traffic circulation plans (taking into consideration integration with proposed alignment and other state roads etc.). Wherever required adequate connectivity in terms of VUP (vehicle underpass)/ PUP (Pedestrian underpass) needs to be included.                                                                                                                                              |
| 1.4   | Provide compilation of road kill data on the wildlife on the existing roads (national and state highways) in the vicinity of the proposed project. Provide measures to avoid road kills of wildlife by the way of road kill management plan.                                                                                                                                                                                                                                                                                                                                                                                |
| 1.5   | Detailed information about the nature and species of trees (exotic/ native/ planted) and their numbers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 1.6   | The alignment of road should be such that the cutting of trees is kept at bare minimum and for this the proponent shall obtain permission from the competent authorities. Alignment also should be such that it will avoid cutting old, large and heritage trees if any. All such trees should be geo-tagged, photographed and details to be submitted in the EIA/ EMP report.                                                                                                                                                                                                                                              |
| 1.7   | The proponent shall carry out a comprehensive socio-economic assessment and also impact on biodiversity with emphasis on impact of ongoing land acquisition on the local people living around the proposed alignment. The Social Impact Assessment should have social indicators which can reflect on impact of acquisition on fertile land. The Social Impact Assessment shall take into consideration of key parameters like people's dependency on fertile agricultural land, socio-economic spectrum, impact of the project at local and regional levels.                                                               |
| 1.8   | As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent, based on the commitments made during the public hearing, shall include all the activities required to be taken to fulfil these commitments in the Environment Management Plan along with cost estimates of these activities, in addition to the activities proposed as per recommendations of EIA Studies and the same shall be submitted to the Ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent. |
| 1.9   | In pursuance of Ministry's OM stated above the project proponent shall add one annexure in the EIA Report indicating all the commitments made by the PP to the public during public hearing and                                                                                                                                                                                                                                                                                                                                                                                                                             |

| S. No | Terms of Reference                                                                                                                                                                                                                                                                                                                                            |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | submit it to the Ministry and the EAC along with the detailed EIA/ EMP Report.                                                                                                                                                                                                                                                                                |
| 1.10  | The Action Plan on the compliance of the recommendations of the CAG as per Ministry's Circular No. J-11013/71/2016-IA.I (M), dated 25th October, 2017 needs to be submitted at the time of appraisal of the project and included in the EIA/ EMP Report.                                                                                                      |
| 1.11  | The passage for animal movement has to be detailed in the EIA/ EMP Report. Animal underpasses shall be constructed at least at two places, which are closer to the WLS boundary and the ESZ boundary, to ensure free movement of the animals from the WLS to nearby forest and wildlife areas.                                                                |
| 1.12  | A comprehensive plan for plantation of three rows of native species, as per IRC guidelines, shall be provided. Such plantation alongside of forest stretch will be over and above the compensatory afforestation. Tree species shall be same as per the forest type.                                                                                          |
| 1.13  | The PP shall not use groundwater/ surface water without obtaining approval from CGWA/ SGWA, as the case may be. The project proponent shall apply to the Central Ground Water Authority (CGWA)/ State Ground Water Authority (SGWA)/ Competent Authority, as the case may be, for obtaining No Objection Certificate (NOC) for the withdrawal of groundwater. |
| 1.14  | Detailed Biodiversity assessment and conservation/ mitigation plan be developed by a reputed institute or by a team of experts of national repute.                                                                                                                                                                                                            |
| 1.15  | Rain water harvesting structures to be constructed at the either sides of the road with special precautions of oil filters and de-silting chambers.                                                                                                                                                                                                           |

#### Standard Terms of Reference for (Road)

#### 1. Project Details

| S. No | Terms of Reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.1   | Examine and submit a brief description of the project, project name, nature, size, its importance to the region/state and the country.                                                                                                                                                                                                                                                                                                                                                                     |
| 1.2   | Submit detailed alignment plan, with details such as nature of terrain (plain, rolling, hilly), land use pattern, habitation, cropping pattern, forest area, environmentally sensitive places, mangroves, notified industrial areas, sand dunes, sea, river, lake, details of villages, teshils, districts and states, latitude and longitude for important locations falling on the alignment by employing remote sensing techniques followed by ground truthing and also through secondary data sources. |
| 1.3   | Describe various alternatives considered, procedures and criteria adopted for selection of the final alternative with reasons.                                                                                                                                                                                                                                                                                                                                                                             |
| 1.4   | If the proposed route is passing through a city or town, with houses and human habitation on the either side of the road, the necessity for provision of bypasses/diversions/under passes shall be examined and submitted. The proposal should also indicate the location of wayside amenities, which should include petrol station/service centre, rest areas including public conveyance, etc. Noise reduction measures should also be indicated.                                                        |

| S. No | Terms of Reference                                                                                                                                                                                                                                                                                                                                     |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.5   | Submit details about measures taken for the pedestrian safety and construction of underpasses and foot-over bridges along with flyovers and interchanges. If any.                                                                                                                                                                                      |
| 1.6   | Assess whether there is a possibility that the proposed project will adversely affect road traffic in the surrounding areas (e.g. by causing increases in traffic congestion and traffic accidents). Specific care be also taken to ensure that by passes have a sufficient buffer to prevent unwanted obstructions defying the purpose of the by pass |
| 1.7   | If the proposed route involves cutting of earth, the details of area to be cut, depth of cut, locations, soil type, volume and quantity of earth and other materials to be removed with location of disposal/ dump site along with necessary permission.                                                                                               |
| 1.8   | If the proposed route is passing through low lying areas, details of fill materials and initial and final levels after filling above MSL, should be examined and submit.                                                                                                                                                                               |
| 1.9   | Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project.                                                                                                                                                        |
| 1.10  | Examine and submit the details of use of fly ash in the road construction, if the project road is located within the 100 km from the Thermal Power Plant.                                                                                                                                                                                              |
| 1.11  | Explore the possibilities of utilizing the debris/ waste materials available in and around the project area.                                                                                                                                                                                                                                           |

## 2. Forest

| S. No | Terms of Reference                                                                                                                                                                                                                                                                                                 |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2.1   | In case the project involves diversion of forests land, guidelines under OM dated 20.03.2013 may be followed and necessary action taken accordingly.                                                                                                                                                               |
| 2.2   | The information should be provided about the details of the trees to be cut including their species and whether it also involves any protected or endangered species. Measures taken to reduce the number of the trees to be removed should be explained in detail. Submit the details of compensatory plantation. |
| 2.3   | Necessary green belt shall be provided on both sides of the highway with proper central verge and cost provision should be made for regular maintenance                                                                                                                                                            |
| 2.4   | If there is a possibility that the construction/widening of road will cause impact such as destruction of forest, poaching, reductions in wetland areas, if so, examine the impact and submit details.                                                                                                             |

## 3. Court Matters

| S. No | Terms of Reference                                                                                                                                                                  |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3.1   | Details of any litigation(s) pending against the project and/or any directions or orders passed by any court of law/any statutory authority against the project to be detailed out. |

#### 4. Land Environment

| S. No | Terms of Reference                                                                                                                                                                                                                                                                                                                                            |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.1   | Submit Land use map of the study area to a scale of 1: 25,000 based on recent satellite imagery delineating the crop lands (both single and double crop), agricultural plantations, fallow lands, waste lands, water bodies, built-up areas, forest area and other surface features such as railway tracks, ports, airports, roads, and major industries etc. |
| 4.2   | submit a detailed ground surveyed map on 1:2000 scale showing the existing features falling within the right of way namely trees, structures including Archeological& religious, monuments etc. if any.                                                                                                                                                       |
| 4.3   | If the proposed route is passing through any hilly area, examine and submit the stability of slopes, if the proposed road is to pass through cutting or embankment / control of soil erosion from embankment. Landslide, rock fall protection measures to be indicated.                                                                                       |

#### 5. Wildlife

| S. No | Terms of Reference                                                                                                                                                                                                                                                             |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5.1   | The projects is located within 10km. of the sanctuary a map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon should be furnished at the stage of EC. |
| 5.2   | Details of blasting if any, methodology/technique adopted, applicable regulations/permissions, timing of blasting, mitigation measures proposed.keeping in view mating season of wild life.                                                                                    |
| 5.3   | Explore the possibilities of relocating the existing trees. Animal and wild life crossings to be provided in areas inhabited by wild life.                                                                                                                                     |
| 5.4   | Study regarding the Animal bypasses / underpasses etc. across the habitation areas shall be carried out. Adequate cattle passes for the movement of agriculture material shall be provided at the stretches passing through habitation areas.                                  |
| 5.5   | Provide compilation of road kill data on the wildlife on the existing roads (national and state highways) in the vicinity of the proposed project. Provide measures to avoid road kills of wildlife by the way of road kill management plan.                                   |

#### 6. Soil Quality Analysis

| S. No | Terms of Reference                                                                                                                                                                                                                                                                                                                                                                       |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6.1   | Submit the details on compliance with respect to Research Track Notification of MoRTH 20) Examine and submit the details of sand quarry and borrow area as per OM no.2-30/2012-IA-III dated 18.12.2012 on 'Rationalization of procedure for Environmental Clearance for Highway Projects involving borrow areas for soil and earth as modified vide OM of even no. dated March 19, 2013. |

#### 7. Climate And Meteorology

| S. No | Terms of Reference                                                                                                                                                                                                                     |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 7.1   | Climate and meteorology (max and min temperature, relative humidity, rainfall, frequency of tropical cyclone and snow fall); the nearest IMD meteorological station from which climatological data have been obtained to be indicated. |

#### 8. Air Environment

| S. No | Terms of Reference                                                                                                                                                                                                                                                                 |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.1   | The air quality monitoring should be carried out as per the new notification issued on 16th November, 2009.                                                                                                                                                                        |
| 8.2   | Examine the impact during construction activities due to generation of fugitive dust from crusher units, air emissions from hot mix plants and vehicles used for transportation of materials and prediction of impact on ambient air quality using appropriate mathematical model. |
| 8.3   | Description of model, input requirement and reference of derivation, distribution of major pollutants and presentation in tabular form for easy interpretation shall be carried out.                                                                                               |

#### 9. Noise Environment

| S. No | Terms of Reference                                                                                                                                                          |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9.1   | Identify project activities during construction and operation phases, which will affect the noise levels and the potential for increased noise resulting from this project. |
| 9.2   | Discuss the effect of noise levels on near by habitation during the construction and operational phases of the proposed highway                                             |
| 9.3   | Identify noise reduction measures and traffic management strategies to be deployed for reducing the negative impact if any.                                                 |
| 9.4   | Prediction of noise levels should be done by using mathematical modeling at different representative locations.                                                             |
| 9.5   | Also examine and submit the details about the protection to existing habitations from dust, noise, odour etc. during construction stage.                                    |
| 9.6   | If the proposed route is passing through low lying areas, details of fill materials and initial and final levels after filling above MSL, should be examined and submit.    |

#### 10. Water Environment

| S. No | Terms of Reference                                                                                                                                                                              |
|-------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.1  | Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project. |

| S. No | Terms of Reference                                                                                                                                                                                                                |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.2  | Examine and submit details of water quantity required and source of water including water requirement during the construction stage with supporting data and also categorization of ground water based on the CGWB classification |
| 10.3  | Examine and submit the details of measures taken during constructions of bridges across river/canal/major or minor drains keeping in view the flooding of the rivers and the life span of the existing bridges.                   |
| 10.4  | In case of river/ creek crossing, details of the proposed bridges connecting on either banks, the design and traffic circulation at this junction with simulation studies.                                                        |
| 10.5  | Details to ensure free flow of water in case the alignment passes through water bodies/river/ streams etc.                                                                                                                        |

#### 11. Drainage

| S. No | Terms of Reference                                                                                                                                                                                                                                                                                                                                                          |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 11.1  | If there will be any change in the drainage pattern after the proposed activity, details of changes shall be examined and submitted.                                                                                                                                                                                                                                        |
| 11.2  | If the proposed route involves tunneling, the details of the tunnel and locations of tunneling with geological structural fraction should be provided. In case the road passes through a flood plain of the river, the details of micro drainage, flood passages and information on high levels flood periodicity at least of last 50 years in the area should be examined. |

#### 12. Rain Water Harvesting

| S. No | Terms of Reference                                                                          |
|-------|---------------------------------------------------------------------------------------------|
| 12.1  | Rain water harvesting pit should be at least 3 - 5 m. above the highest ground water table. |
| 12.2  | Provision shall be made for oil and grease removal from surface runoff                      |

#### 13. Road And Traffic

| S. No | Terms of Reference                                                                                                                                                         |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13.1  | Submit the details of road safety, signage, service roads, vehicular under passes, accident prone zone and the mitigation measures.                                        |
| 13.2  | IRC guidelines shall be followed for widening & upgradation of road.                                                                                                       |
| 13.3  | IRC guidelines to be followed for traffic safety while passing through the habitat.                                                                                        |
| 13.4  | Provision of speed breakers, safety signals, service lanes and foot paths should be examined at appropriate locations throughout the proposed road to avoid the accidents. |

| S. No | Terms of Reference                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 13.5  | In case of bye passes, the details of access control from the nearby habitation/habitation which may come up after the establishment of road.                                                                                                                                                                                                                                                                                                                                  |
| 13.6  | Submit details of social impact assessment due to the proposed construction of road.                                                                                                                                                                                                                                                                                                                                                                                           |
| 13.7  | Examine road design standards, safety equipment specifications and Management System training to ensure that design details take account of safety concerns and submit the traffic management plan.                                                                                                                                                                                                                                                                            |
| 13.8  | Accident data and geographic distribution should be reviewed and analyzed to predict and identify trends - incase of expansion of the existing highway and provide Post accident emergency assistance and medical care to accident victims.                                                                                                                                                                                                                                    |
| 13.9  | The proponent shall carry out a detailed traffic flow study to assess inflow of traffic from adjoining areas like airport/urban cities. The detailed traffic planning studies shall include complete design, drawings and traffic circulation plans (taking into consideration integration with proposed alignment and other state roads etc.). Wherever required, adequate connectivity in terms of VUP (vehicle underpass)/ PUP (Pedestrian underpass) needs to be included. |

#### 14. Land Acquisition And R&r

| S. No | Terms of Reference                                                                                                                                                                                                                                                                                                                                                                                         |
|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 14.1  | Details of the properties, houses, businesses religious and social places etc. activities likely to be effected by land acquisition and their financial losses annually.                                                                                                                                                                                                                                   |
| 14.2  | Detailed R&R plan with data on the existing socio-economic status of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternative livelihood concerns/employment and rehabilitation of the displaced people, civil and housing amenities being offered, etc and the schedule of the implementation of the project specific. |
| 14.3  | whether governmental or on the basis of BOT etc and provide details of budget provisions (capital & recurring) for the project specific R&R Plan.                                                                                                                                                                                                                                                          |
| 14.4  | Examine and submit the details of sand quarry, borrow area and rehabilitation                                                                                                                                                                                                                                                                                                                              |
| 14.5  | If the proposed project involves any land reclamation, details to be provided for which activity land to reclaim and the area of land to be reclaimed.                                                                                                                                                                                                                                                     |

#### 15. Socio-economic Environment

| S. No | Terms of Reference                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 15.1  | The proponent shall carry out a comprehensive socio-economic assessment and also impact on biodiversity with emphasis on impact of ongoing land acquisition on the local people living around the proposed alignment. The Social Impact Assessment should have social indicators which can reflect on impact of acquisition on fertile land. The Social Impact Assessment shall take into consideration of key parameters like people's de |

| S. No | Terms of Reference                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|       | pendency on fertile agricultural land, socio-economics spectrum, impact of the project at local and regional levels.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 15.2  | As per the Ministry's Office Memorandum F.No.22-65/2017-IA.III dated 30th September, 2020, the project proponent, based on the commitments made during the public hearing, shall include all the activities required to be taken to fulfil these commitments in the Environment Management Plan along with cost estimates of these activities in addition to the activities proposed as per recommendations of EIA Studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent. |

#### 16. Environmental Monitoring and Management

| S. No | Terms of Reference                                                                                                                                                                                             |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16.1  | Estimated cost of the project including environmental monitoring cost and funding agencies. Submit environmental management and monitoring plan for all phases of the project viz. construction and operation. |
| 16.2  | The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.                                                                       |
| 16.3  | Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure.                                                                           |

#### 17. Alignment, Esz & Crz

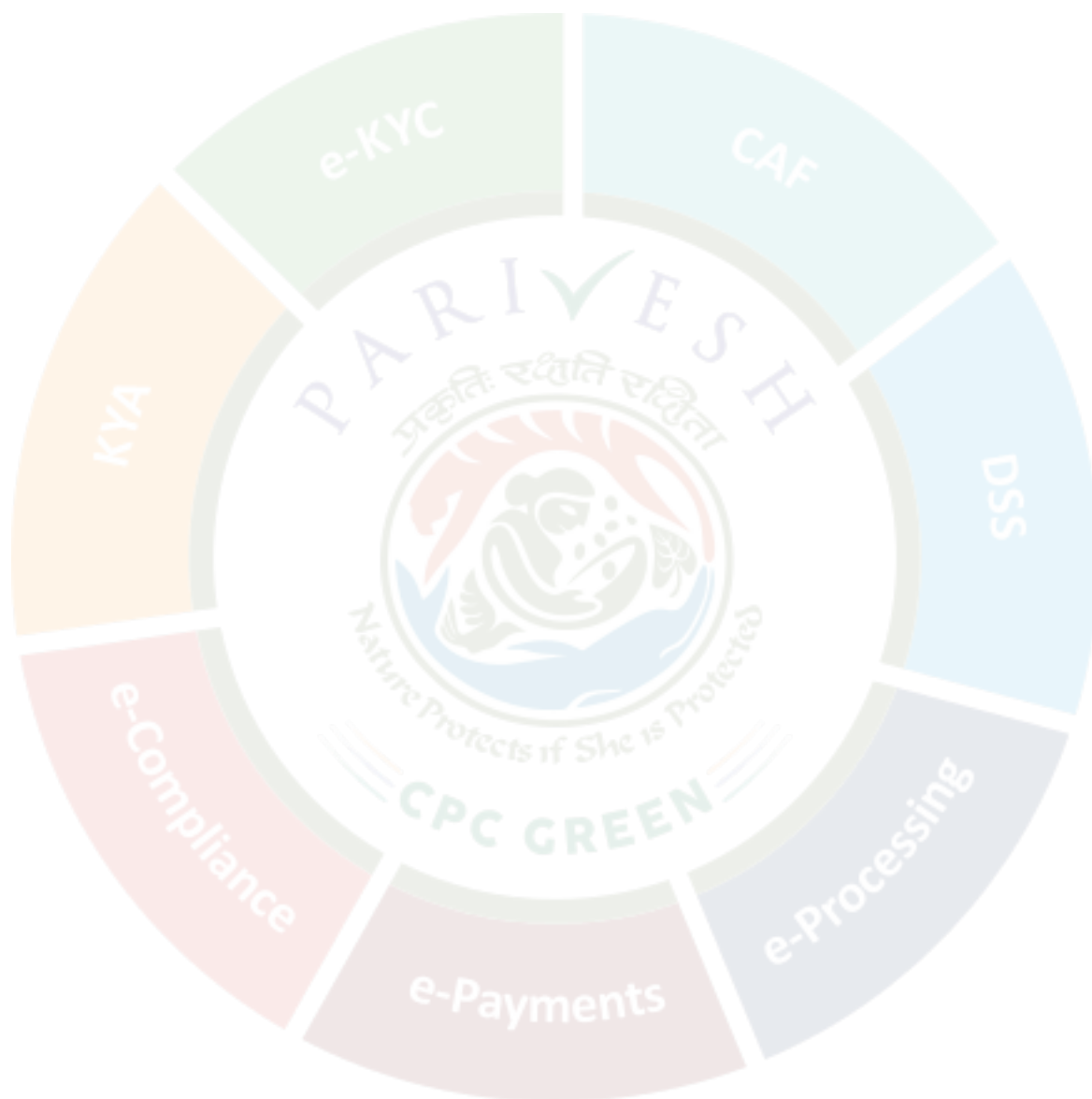
| S. No | Terms of Reference                                                                                                                                |
|-------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| 17.1  | In case of alignment passing through coastal zones                                                                                                |
| 17.2  | HTL/LTL map prepared by authorized agencies superimposed with alignment and recommendation of Coastal Zone Management Authority                   |
| 17.3  | Details of CRZ-I areas, mangroves required to be removed for the project along with the compensatory afforestation, area and location with budget |
| 17.4  | Details of road on stilt in CRZ-I areas, design details to ensure free tidal flow                                                                 |

#### 18. Employment

| S. No | Terms of Reference                           |
|-------|----------------------------------------------|
| 18.1  | Details of Labour camps, machinery location. |

#### 19. Miscellaneous

| S. No | Terms of Reference                                                                                                                                                                                                                                       |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 19.1  | The Action Plan on the compliance of the recommendations of the CAG as per Ministry's Circular No. J-11013/71/2016-IA. I (M), dated 25th October, 2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report. |



**ANNEXURE-2**  
**UNDERTAKING**



**भारतीय राष्ट्रीय राजमार्ग प्राधिकरण**  
(सड़क परिवहन एवं राजमार्ग मंत्रालय, भारत सरकार)  
**National Highways Authority of India**  
(Ministry of Road Transport and Highways, Govt. of India)  
परियोजना कार्यान्वयन इकाई (पकाई)- भागलपुर  
Project Implementation Unit (PIU)- Bhagalpur



शिव भवन कॉलोनी, गुम्टी नं०-३, निकट कचहरी चौक, आर.बी.एस.एस. सहाय रोड, भागलपुर - 812001 (बिहार)  
Shiv Bhawan Colony, Gumti No-3, Near Kachahari Chowk, RBSS Sahay Road, Bhagalpur - 812001 (Bihar)

☎ 0641-2420083/84 ☎ Mob. No.: 8130006228 ✉ piubhagalpur@nhai.org, bhagalpurpiu@gmail.com 🌐 www.nhai.gov.in

**Project Name: - "Construction of 4 lane Greenfield Section of NH-33 from Mokama (Design Ch. 0+000) to Munger (Design Ch. 82+100) in the State of Bihar on Hybrid Annuity Mode."**

**UNDERTAKING**

This is to certify that NHAI has neither submitted nor obtained Environment Clearance as per EIA Notification 14<sup>th</sup> September 2006 for the proposed project "Construction of 4 lane Greenfield Section of NH-33 from Mokama (Design Ch. 0+000) to Munger (Design Ch. 82+100) in the State of Bihar on Hybrid Annuity Mode."

 **Project Director**  
**NHAI, PIU - Bhagalpur**

Seal & Sign of Project Director

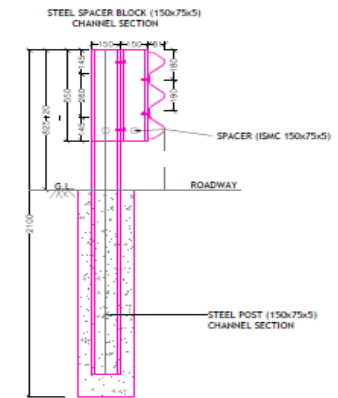
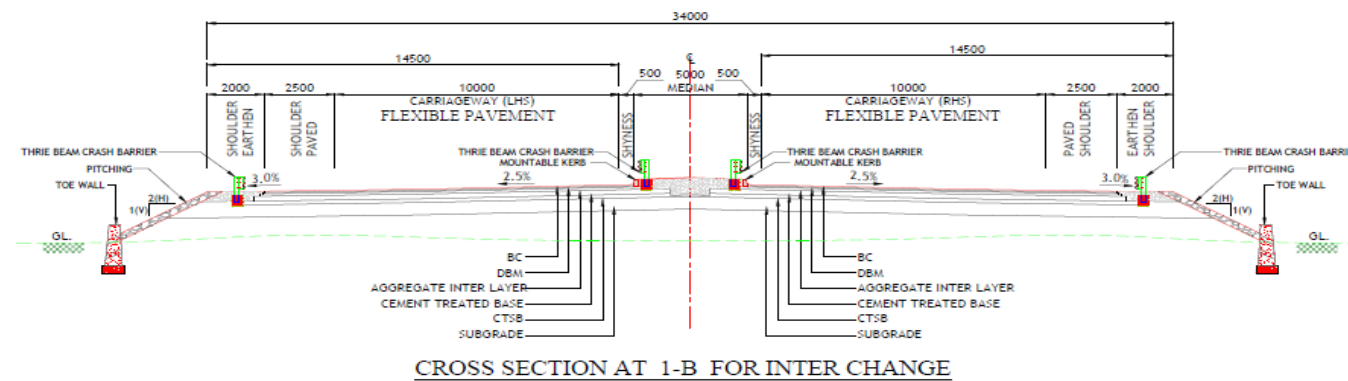
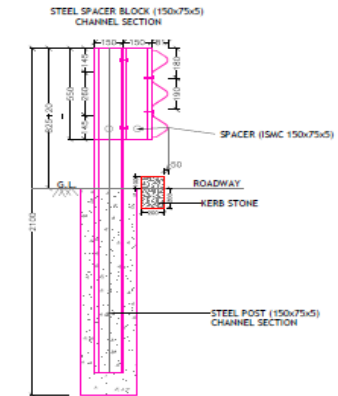
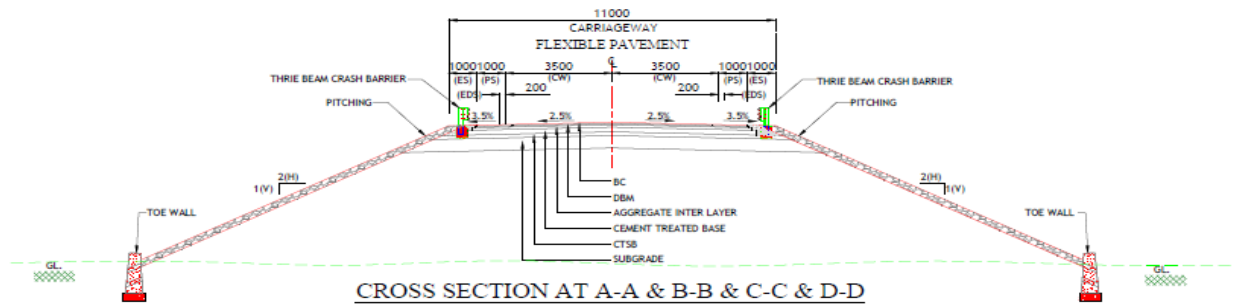
Place: Bhagalpur  
Date: 07.02.2026

**ANNEXURE-3**  
**Typical Cross Section**



**CONSTRUCTION OF FOUR LANING OF MOKAMA-MUNGER SECTION NH-33 STARTING NEAR VILLAGE MOKAMEH KHAS (NH-31) (0+000) AND TERMINATING NEAR VILLAGE SAFIYABAD MORCHA, (82+400) IN THE STATE OF BIHAR ON EPC MODE.**

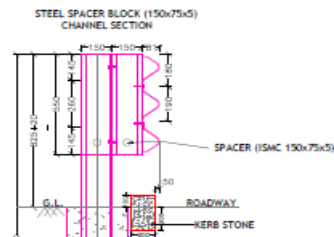
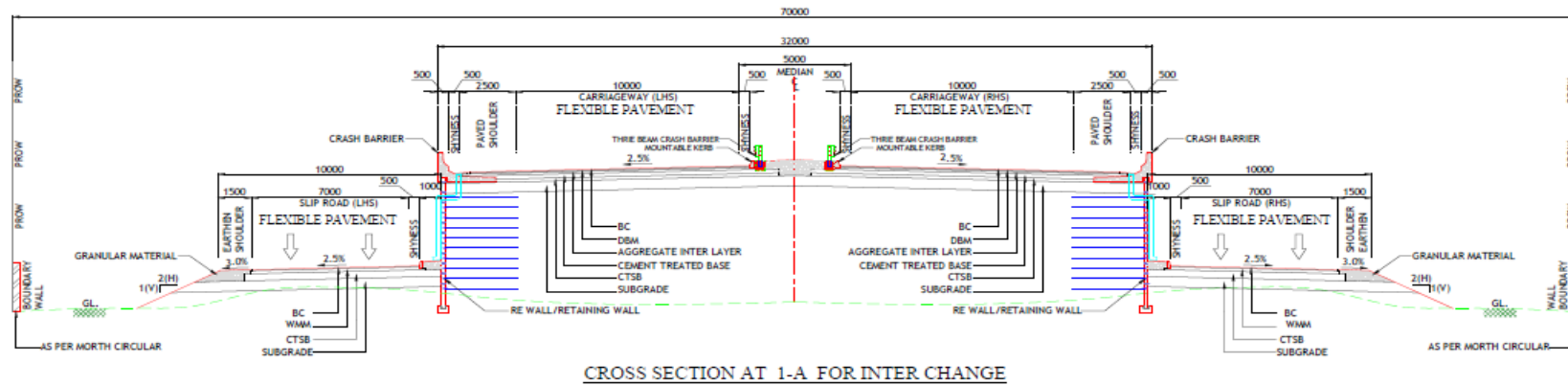
Main Report



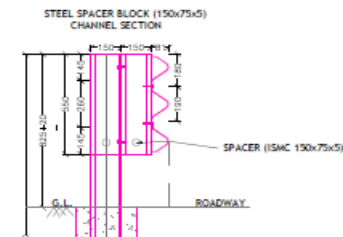
**NOTES:**  
1. ALL DIMENSION ARE IN MM UNLESS OTHERWISE MENTIONED.



**CONSTRUCTION OF FOUR LANING OF MOKAMA-MUNGER SECTION NH-33 STARTING Mian Report  
NEAR VILLAGE MOKAMEH KHAS (NH-31) (0+000) AND TERMINATING NEAR VILLAGE  
SAFIYABAD MORCHA, (82+400) IN THE STATE OF BIHAR ON EPC MODE.**



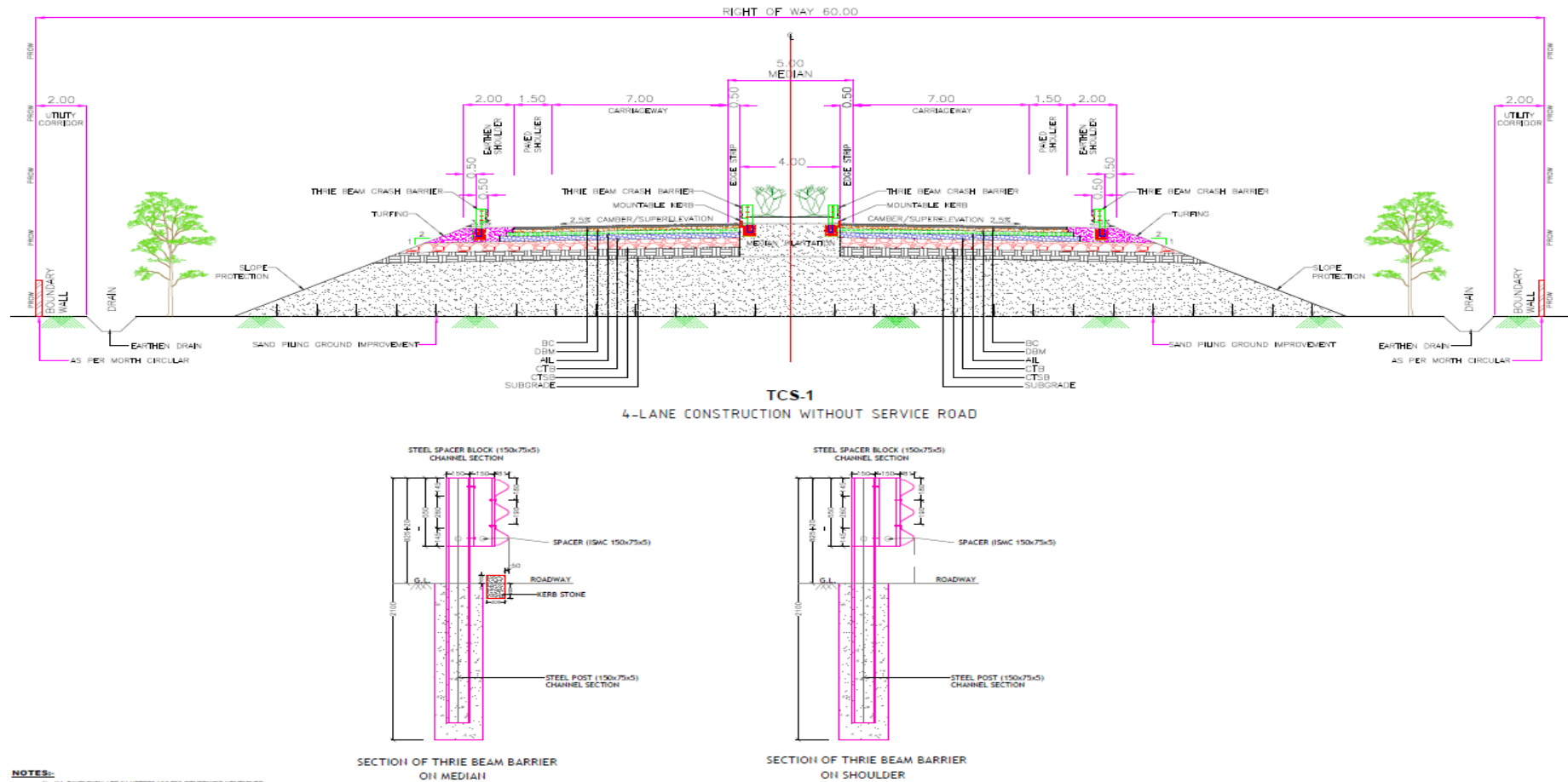
**SECTION OF THRIE BEAM BARRIER  
ON MEDIAN**



**SECTION OF THRIE BEAM BARRIER  
ON SHOULDER**

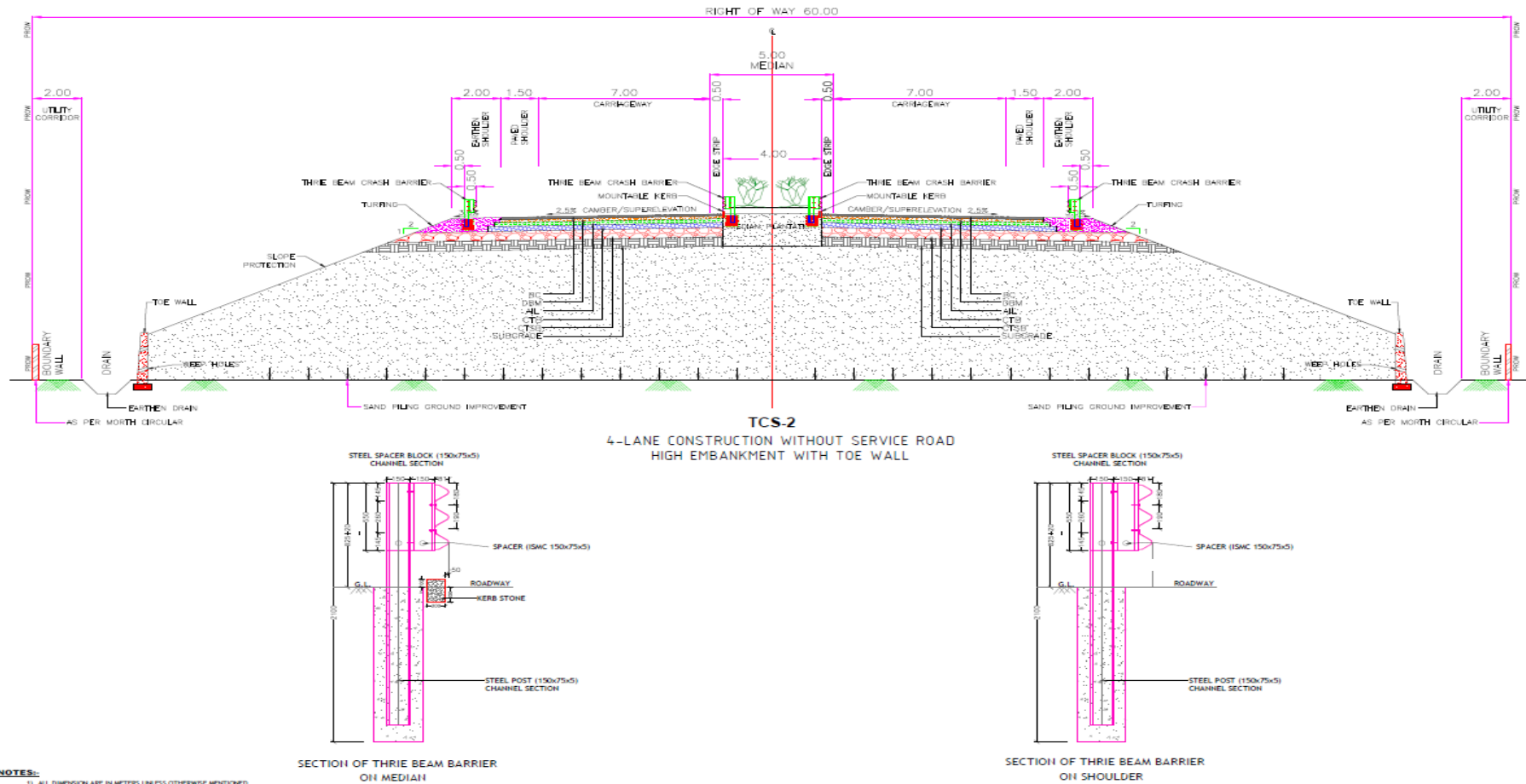


**CONSTRUCTION OF FOUR LANING OF MOKAMA-MUNGER SECTION NH-33 STARTING Mian Report  
NEAR VILLAGE MOKAMEH KHAS (NH-31) (0+000) AND TERMINATING NEAR VILLAGE  
SAFIYABAD MORCHA, (82+400) IN THE STATE OF BIHAR ON EPC MODE.**



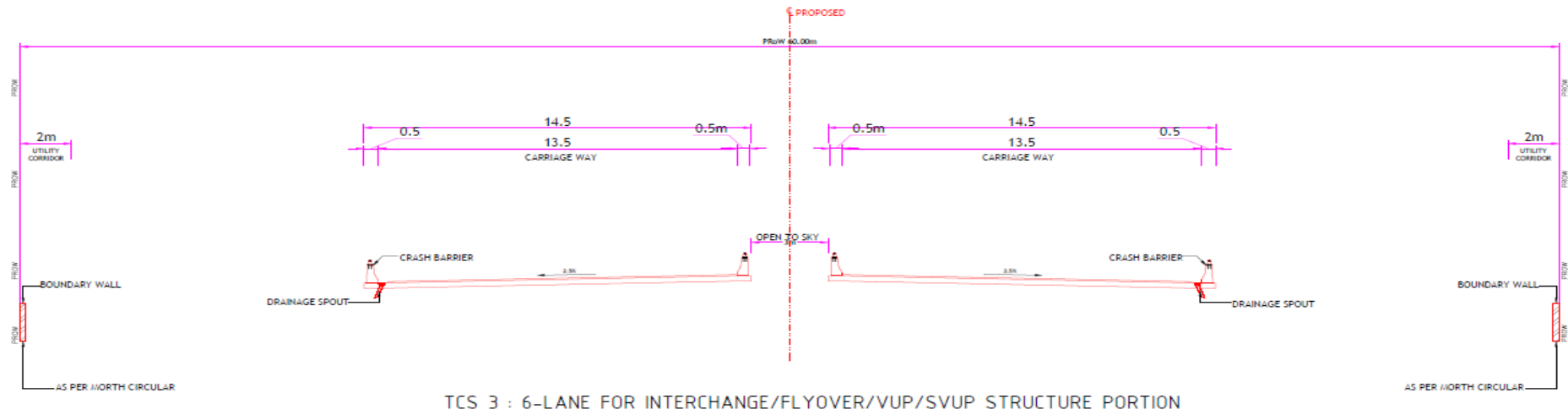


**CONSTRUCTION OF FOUR LANING OF MOKAMA-MUNGER SECTION NH-33 STARTING Mian Report  
NEAR VILLAGE MOKAMEH KHAS (NH-31) (0+000) AND TERMINATING NEAR VILLAGE  
SAFIYABAD MORCHA, (82+400) IN THE STATE OF BIHAR ON EPC MODE.**



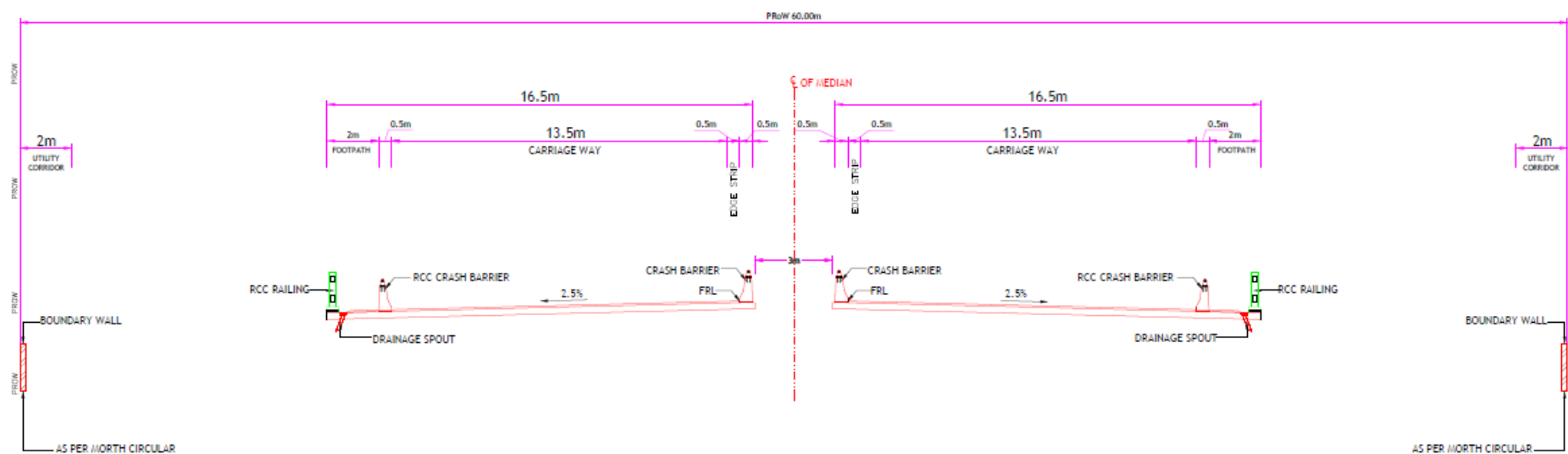


CONSTRUCTION OF FOUR LANING OF MOKAMA-MUNGER SECTION NH-33 STARTING Mian Report  
NEAR VILLAGE MOKAMEH KHAS (NH-31) (0+000) AND TERMINATING NEAR VILLAGE  
SAFIYABAD MORCHA, (82+400) IN THE STATE OF BIHAR ON EPC MODE.

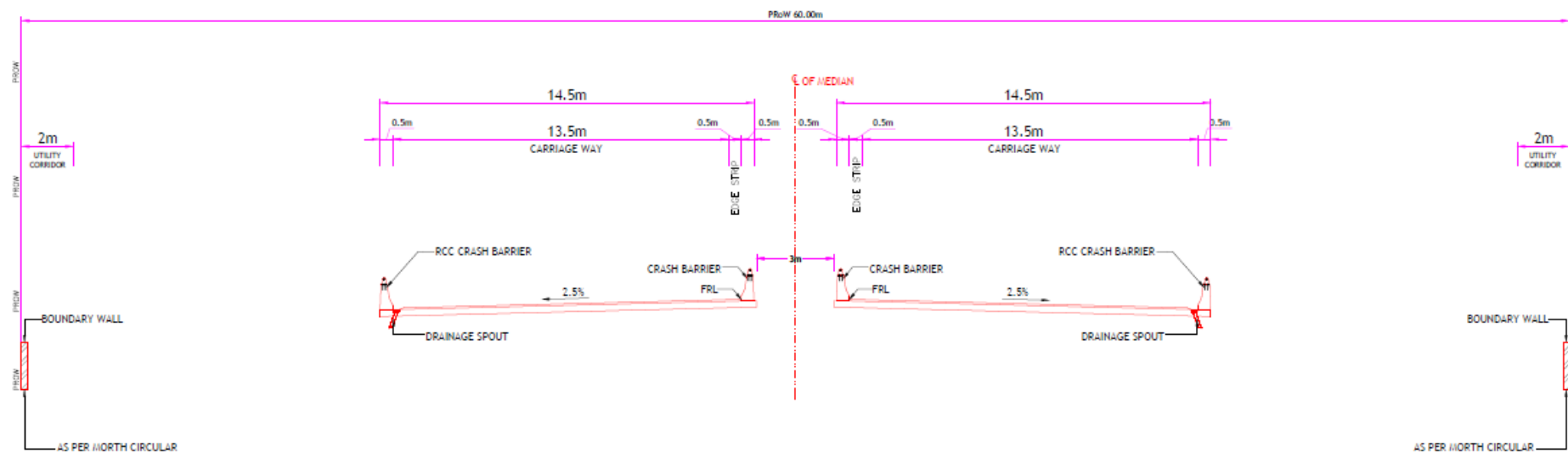
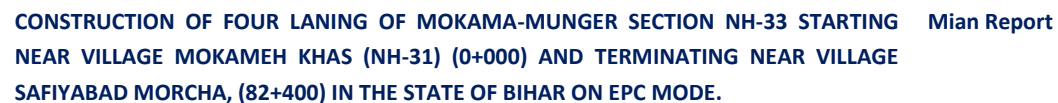




CONSTRUCTION OF FOUR LANING OF MOKAMA-MUNGER SECTION NH-33 STARTING Mian Report  
NEAR VILLAGE MOKAMEH KHAS (NH-31) (0+000) AND TERMINATING NEAR VILLAGE  
SAFIYABAD MORCHA, (82+400) IN THE STATE OF BIHAR ON EPC MODE.

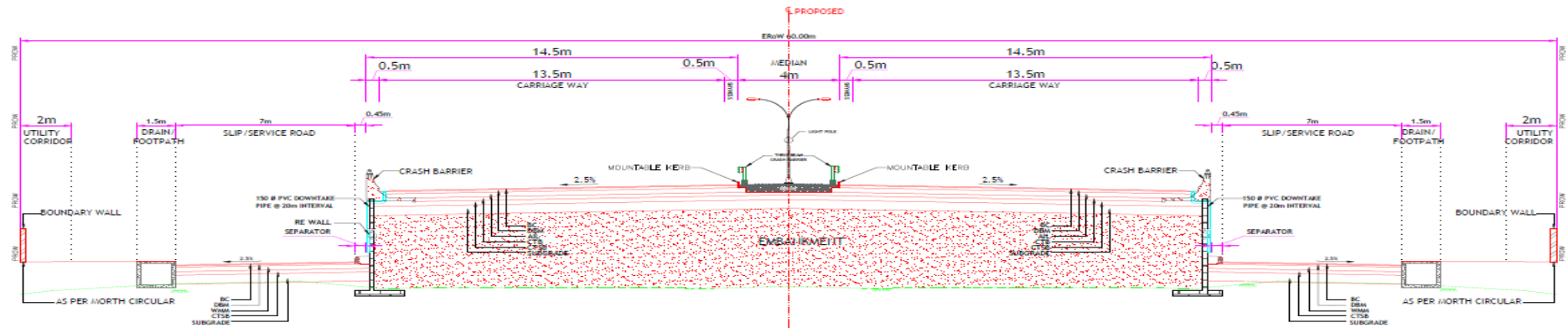


TCS 4 : TYPICAL CROSS SECTION OF ROB/MINOR/MAJOR BRIDGE WITH FOOTPATH

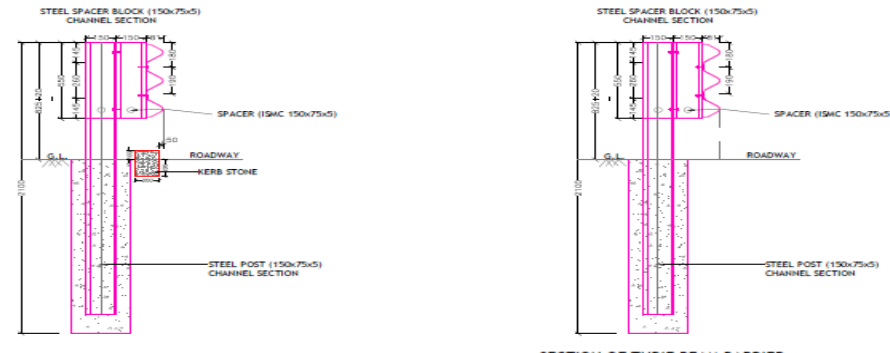


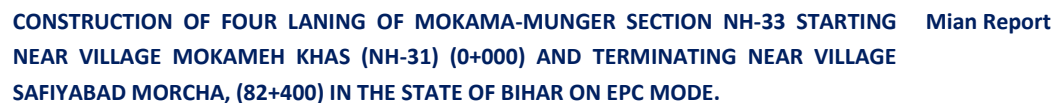


**CONSTRUCTION OF FOUR LANING OF MOKAMA-MUNGER SECTION NH-33 STARTING Mian Report  
NEAR VILLAGE MOKAMEH KHAS (NH-31) (0+000) AND TERMINATING NEAR VILLAGE  
SAFIYABAD MORCHA, (82+400) IN THE STATE OF BIHAR ON EPC MODE.**



**TCS 5 : 6 LANE PROPOSED FLYOVER/VUP/SVUP APPROACH SECTION WITH FLUSH MEDIAN  
WITH BOTH SIDES SLIP/SERVICE ROADS**



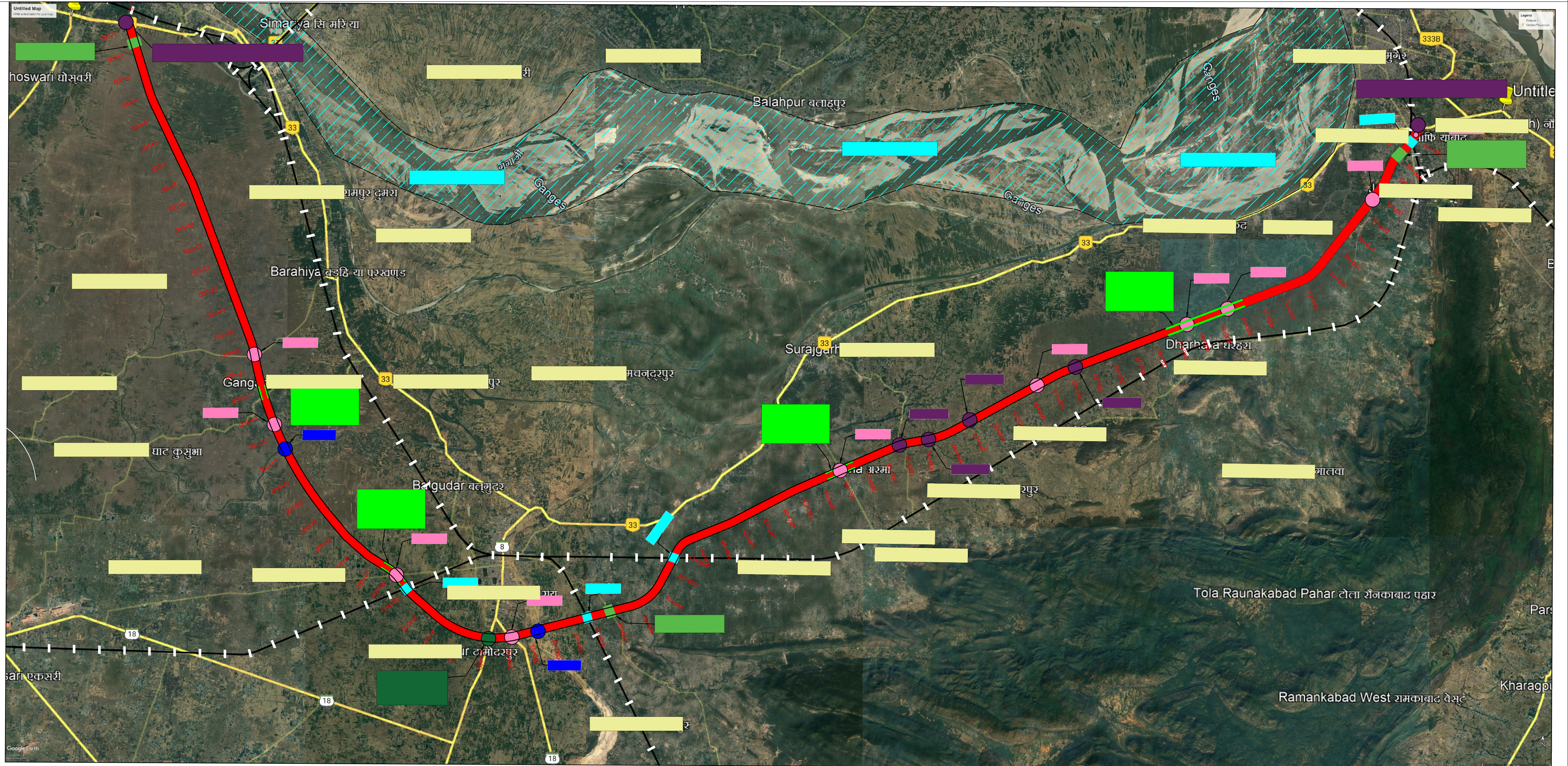


## **ANNEXURE-4**

### **Alingment Plan**



Construction of four laning/Eight lane of Mokama-Munger section NH-33 Starting near village Mokameh khas (NH-31) 0+000 & Terminating near village Safiyabad Morcha 82+100 in the state of Bihar on Hybrid annuity Mode



|                                                                                                                                                                             |                      |                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                     |                                                                           |                                                                             |                         |                            |                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------|-------------------------|----------------------------|--------------------------------|
| CLIENT:-<br> National Highways Authority of India<br>G-5&6, Sector 10, Dwaraka, New Delhi | SCALE:-<br><br>N.T.S | DESIGN CONSULTANTS :-<br> Bloom Companies LLC<br> In Association With<br>Avaloz Consultant India Pvt. Ltd. | PROJECT :<br>Construction of four laning/Eight lane of Mokama-Munger section NH-33 Starting near village Mokameh khas (NH-31) 0+000 & Terminating near village safiyabad morcha 82+100 in the state of Bihar on Hybrid annuity Mode | TITLE : GOOGLE EARTH PLAN<br>PROPOSED GREEN FIELD ALIGNMENT               | DRAWING NO. :- NHAI/BLOOM-ACIPI/NH-31/GEP/ 01 /R0<br>DATE :- October - 2024 |                         |                            |                                |
|                                                                                                                                                                             |                      |                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                     | DETAIL : Alignment Plan<br>Mokama - Munger Section<br>CH: 0+000 To 82+100 | Prepared by<br>Md. Aslam                                                    | Designed by<br>N.Sheikh | Checked by<br>Yaqub sheikh | Approved by<br>D.K. Srivastava |

## **ANNEXURE-5**

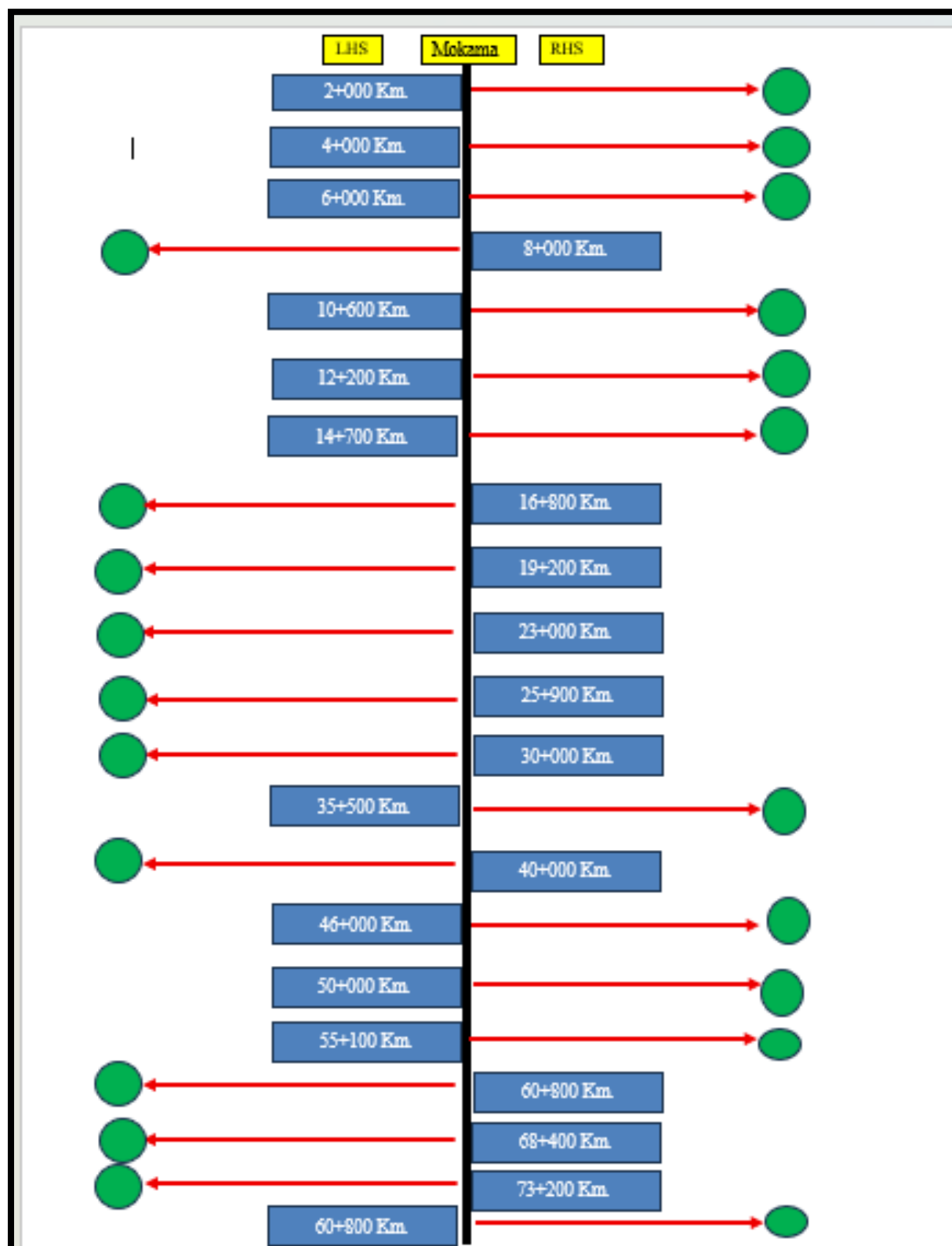
### **Borrow area and quarry area details**

### **Borrow Areas**

The soils to be used, as sub-grade, select sub-grade and shoulder materials need to be hauled from designated borrow areas. The borrow area along the project section with relevant consent/NOC from individual land owner will be obtained before operation of borrow area during construction stage. Location Chart from showing Borrow Areas between Km 00+000 to Km 82+100 is given in below

**Details of borrow areas**

| <b>BA No.</b> | <b>CHAINAGE</b> | <b>SIDE</b> | <b>LEAD(KM)</b> | <b>VILLAGE</b> |
|---------------|-----------------|-------------|-----------------|----------------|
| 1             | 2+000           | RHS         | 1.50            | Tall Area      |
| 2             | 4+000           | RHS         | 1.00            | Tall Area      |
| 3             | 6+000           | RHS         | 1.50            | Tall Area      |
| 4             | 8+000           | LHS         | 1.50            | Tall Area      |
| 5             | 10+600          | RHS         | 1.60            | Tall Area      |
| 6             | 12+200          | RHS         | 1.25            | Tall Area      |
| 7             | 14+700          | RHS         | 1.94            | Tall Area      |
| 8             | 16+800          | LHS         | 1.35            | Tall Area      |
| 9             | 19+200          | LHS         | 1.50            | Birupur        |
| 10            | 23+000          | LHS         | 1.35            | Alapur         |
| 11            | 25+900          | LHS         | 1.25            | Babhanganwan   |
| 12            | 30+000          | LHS         | 1.20            | Kandarpa       |
| 13            | 35+500          | RHS         | 1.50            | Ghosi Kundi    |
| 14            | 40+000          | LHS         | 1.60            | Sahur          |
| 15            | 46+000          | RHS         | 1.20            | Belthua        |
| 16            | 50+000          | RHS         | 1.68            | Saraia         |
| 17            | 55+100          | RHS         | 1.32            | Amwari         |
| 18            | 60+800          | LHS         | 1.50            | Bishunpur      |
| 19            | 68+400          | LHS         | 1.20            | Chaurdigar     |
| 20            | 73+200          | LHS         | 1.20            | Jagatpur       |
| 21            | 76+900          | RHS         | 1.20            | Indrukh        |



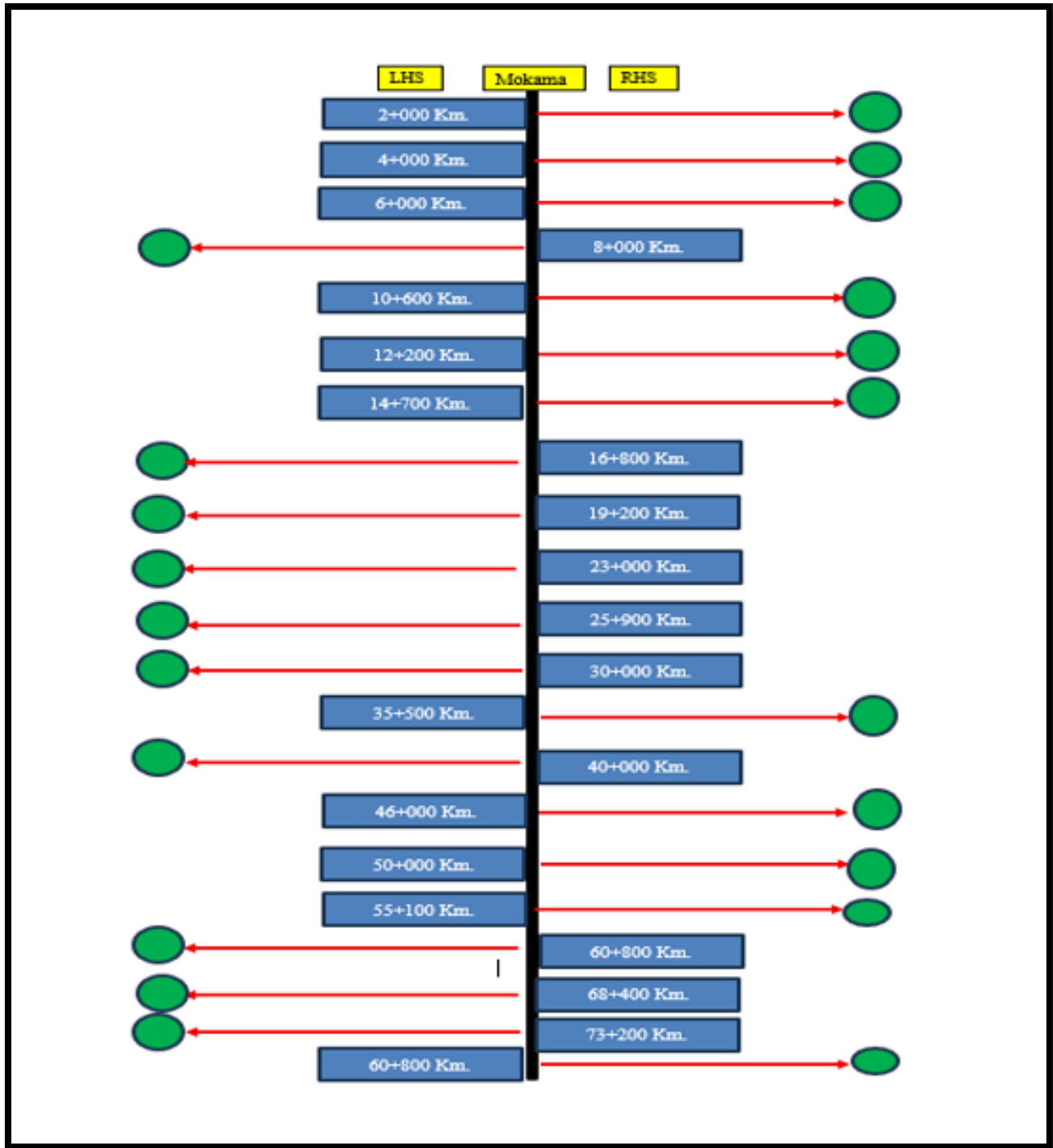


Figure 4-1: Quarry & Borrow area location chart