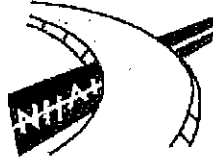


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## **NATIONAL HIGHWAYS AUTHORITY OF INDIA**

(Ministry of Road Transport & Highways, Govt. of India, New Delhi)

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**4/6-Laning of Goa Karnataka Border–Kundapur section of NH-66 (Formerly NH-17) to be executed as BOT (Toll) Project on DBFO Pattern under NHDP Phase IV.**

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**FEBRUARY 2013**



**SNC–Lavalin Infrastructure Private Limited**

A member of SNC Lavalin Group, Canada

**NOIDA**

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393/PT5  
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भारत सरकार  
पर्यावरण एवं वन मंत्रालय  
GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT & FORESTS  
पर्यावरण भवन, सी. जी. ओ. कॉम्प्लेक्स  
PARYAVARAN BHAVAN, C.G.O. COMPLEX  
लोधी रोड, नई दिल्ली-110003  
LODHI ROAD, NEW DELHI-110003

15/3

F.No.10-107/2011-IA.III

Dated: 17<sup>th</sup> February, 2012

To  
Chief General Manager (LA),  
National Highways Authority of India,  
G- 5&6, Sector-10, Dwarka,  
New Delhi - 110 075.

Jgm (Env)

Subject: Finalisation of ToR for widening and up-gradation of existing to 4/6 laning of Goa - Karnataka Border (Km 93.700) to Kundapur (Km 283300) Section of NH-17 in the State of Karnataka by M/s NHAI - Reg.

Dear Sir,

Kindly refer to your above proposal submitted to this Ministry. The proposal involves widening and up-gradation of existing to 4/6 laning of Goa - Karnataka Border (Km 93.700) to Kundapur (Km 283300) Section of NH-17 in the State of Karnataka. Proposed project is a part of NHDP programme of 4/6 laning and has total length of 189.600 km. Project road is part of National Highway No.66 (Formerly NH-17) from Goa - Karnataka border at km 93.700 and ends in Kundapur, Karnataka at km 283.300. The existing Right of way (ROW) width obtained from the National Highways department of Karnataka PWD (Honnavar) varies from 11 to 45 m on the project road. As per NHAI notification a uniform width of 60 m will be maintained throughout the project stretch for 4/6 lane carriageway along the project road. Therefore widening of the road would require additional lands to accommodate the proposed RoW width throughout the project length. The project stretch passes through 120.130 Km of plain terrain, 24.20 Km of hilly terrain and 45.67 Km of rolling and hilly terrain. Land use along the highway is predominantly built-up and agriculture. The entire stretch of the project road falls under the seismic zone III of India. Patches of Reserved forests are situated along the existing RoW. The existing RoW is not sufficient and for accommodating 60 m of RoW width, acquisition of forest area would be required thus affecting forests. Approximately 122.06 Ha of forest land is required to be acquired. Few sections of the existing highway fall under CRZ. There are about 23,491 plants/trees along the roadside which are likely to be affected due to the proposed development. The existing RoW width varies from 11m to 45m from Km 93.600 to Km 241.000 and from Km 241.000 to Km 283.300 it is 45m. The land required to be acquired all along the project road for widening of the existing 2-lane road to 4-lane is 525.16 ha in total where available ROW is less than design requirements. There are 13 major bridges, 41 minor bridges and 606 nos. of culverts along the existing road. Existing bridges and culverts

along the existing road will be upgraded or reconstructed during the proposed development. There are 2 pedestrian underpasses, 4 numbers of RUBs and 2 numbers of ROBs along the existing alignment. In the proposed development 22 underpasses (3 vehicular, 19 pedestrian and cattle), 4 new flyovers have been proposed. There are 15 major junctions along the existing alignment. Total 4 numbers of truck lays and 53 numbers of bus bays have been proposed. 3 new Toll Plazas have been proposed. 7m wide service roads of 60.742km (including both sides) are proposed on both sides at urban and rural built up stretches. Cost of Environmental Management Plan is Rs. 45.00 Crore. Total 1132 structures will be affected and total cost of R&R is Rs. 328.32 Crore. Total cost of the project is Rs. 1756.32 Crore.

The above proposal was considered in the 108<sup>th</sup> EAC meeting held on 10<sup>th</sup> - 11<sup>th</sup> January, 2012. The details as presented by the project proponents and after discussions, the following "Terms of Reference" were finalized to be suitably added to those furnished by the project proponent.

- (i) Submit HTL/LTL map prepared by an authorised agency on 1:4000 scale superimposed with project layout. Submit recommendation of SCZMA.
- (ii) 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.
- (iii) The proposal indicates the acquisition of 122.06 ha protected forest land. Necessary stage -I forestry clearance shall be obtained as per OM dated 31.03.2011 and submitted along with final EIA report.
- (iv) If is indicated that 23,491 nos. trees are proposed to be cut, the information should be provided about their species and whether it also involved any protected or endangered species. Necessary green belt shall be provided on both side of the highway with proper central verge and cost provision should be made for regular maintenance.
- (v) Submit the details of the road safety audit and plans for meeting the IRC safety requirements.
- (vi) Examine and submit a brief description of the project, project name, nature, size, its importance to the region/state and the country.
- (vii) The water tank along the project road shall not be disturbed.

- (viii) Any litigation(s) pending against the proposed project and/or any directions or orders passed by any court of law/any statutory authority against the project is to be detailed out.
- (ix) 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.
- (x) Describe various alternatives considered, procedures and criteria adopted for selection of the final alternative with reasons.
- (xi) 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. and 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.
- (xii) 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.
- (xiii) If the proposed route involves tunnelling, the details of the tunnel and locations of tunnelling 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 flood periodicity at least of last 50 years in the area should be examined.
- (xiv) The projects is passing through an Elephant Corridor 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. An underpass in Elephant corridor shall be provided.
- (xv) 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.
- (xvi) 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.

- (xvii) Submit details about measures taken for the pedestrian safety and construction of underpasses and foot-over bridges along with flyovers and interchanges.
- (xviii) 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).
- (xix) Clearly indicate/provide details regarding the location, date (along with site photographs with the background of monitoring equipments and/or sample collection in process) and protocol adopted for sampling and analysis of various environmental parameters as a part of the baseline data collection.
- (xx) Examine and submit the details of sand quarry, borrow area and rehabilitation.
- (xxi) 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.
- (xxii) The air quality monitoring should be carried out as per the new notification issued on 16th November, 2009.
- (xxiii) Identify project activities during construction and operation phases, which will affect the noise levels and the potential for increased noise resulting from this project. Discuss the effect of noise levels on near by habitation during the construction and operational phases of the proposed highway. Identify noise reduction measures and traffic management strategies to be deployed for reducing the negative impact if any. Prediction of noise levels should be done by using mathematical modelling at different representative locations.
- (xxiv) 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, 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.

- (xxv) Also examine and submit the details about the protection to existing habitations from dust, noise, odour etc. during construction stage.
- (xxvi) 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.
- (xxvii) 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.
- (xxviii) Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity and quality likely impacts on them due to the project.
- (xxix) Examine and submit details of water quantity required and source of water including water requirement during the construction stage with supporting data and also classification of ground water based on the CGWA classification.
- (xxx) 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. Provision of speed breakers, safety signals, service lanes and foot paths should be examined at appropriate locations through out the proposed road to avoid the accidents.
- (xxxii) If there will be any change in the drainage pattern after the proposed activity, details of changes shall be examined and submitted.
- (xxxiii) Rain water harvesting pit should be at least 3 - 5 m. above the highest ground water table. Provision shall be made for oil and grease removal from surface runoff.
- (xxxiv) 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.
- (xxxv) Submit the details of road safety, signage, service roads, vehicular under passes, accident prone zone and the mitigation measures.
- (xxxvi) IRC guidelines shall be followed for widening & up-gradation of road.
- (xxxvii) Submit details of social impact assessment due to the proposed construction of road.

- (xxxvii) 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.
- (xxxviii) 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.
- (xxxix) 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.
- (xl) Details of the properties, houses, businesses etc. activities likely to be effected by land acquisition and their financial loses annually.
- (xli) 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.
- (xlii) Submit details of Corporate Social Responsibility. Necessary provisions should be made in the budget.
- (xliii) Estimated cost of the project including environmental monitoring cost and funding agencies, whether governmental or on the basis of BOT etc and provide details of budget provisions (capital & recurring) for the project specific R&R Plan.
- (xliv) Submit environmental management and monitoring plan for all phases of the project viz. construction and operation.

**General Guidelines:**

- (i) The EIA document shall be printed on both sides, as for as possible.
- (ii) The status of accreditation of the EIA consultant with NABET/QCI shall be specifically mentioned. The consultant shall certify that his accreditation is for the sector for which this EIA is prepared.
- (iii) On the front page of EIA/EMP reports, the name of the consultant/consultancy firm along with their complete details including their accreditation, if any shall be indicated. The consultant while submitting the EIA/EMP report shall give an undertaking to the effect that the prescribed TORs (TOR proposed by the project proponent and additional TOR given by the MoEF)



have been complied with and the data submitted is factually correct (Refer MoEF office memorandum dated 4th August, 2009).

- (iv) While submitting the EIA/EMP reports, the name of the experts associated with/involved in the preparation of these reports and the laboratories through which the samples have been got analysed should be stated in the report. It shall clearly be indicated whether these laboratories are approved under the Environment (Protection) Act, 1986 and the rules made there under (Please refer MoEF office memorandum dated 4th August, 2009). The project leader of the EIA study shall also be mentioned.
- (v) All the TOR points as presented before the Expert Appraisal Committee (EAC) shall be covered.


Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry website "<http://moef.nic.in/Manual/Highways>".

Public hearing to be conducted for the project as per the provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan.

A detailed draft EIA/EMP report should be prepared as per the above additional TOR and should be submitted to the Ministry as per the Notification.

The prescribed ToRs would be valid for a period of two years for submission of the EIA/EMP Reports, after public consultation.

**Yours faithfully,**

  
**(Lalit Kapur)**  
**Director (IA-III)**

Copy-to:

1. The Member Secretary, Karnataka State Pollution Control Board, Bangalore.