F. No. 10-35/2018-IA.III
Government of India
Ministry of Environment, Forest and Climate Change
(IA-III Section)

Indira Paryavaran Bhawan,
Jor Bagh Road, Aliganj,
New Delhi - 110 003

Dated: 23rd January, 2019

To

General Manager (Environment-II),
M/s National Highways Authority of India,
Ministry of Road Transport and Highways,
G-5 & 6, Sector-10, Dwarka
New Delhi - 110 075

Sub: Development of Satellite Town Ring Road (STRR) Phase-III of Bengaluru (NH-948A) from Peddamadhagondapalli, Karnataka/Tamil Nadu boder (km 140.000) to Deeviripalli (km 179.969) in District Krishnagiri, Tamil Nadu by M/s National Highways Authority of India - Terms of Reference - reg.

Sir,

This has reference to your letter No. 1013/1/2k/Env./531 dated 31st May, 2018 (proposal no. IA/TN/MIS/75239/2018), submitting the above online proposal to this Ministry for seeking Terms of Reference (TOR) in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 and subsequent amendments under the Environment (Protection) Act, 1986.

2. The proposal for grant of ToR to the project 'Development of Satellite Town Ring Road (STRR) Phase-III newly declared National Highway NH-948A from Peddamadhagondapalli to Tamil Nadu/Karnataka Border (km 140.000 to km 179.969) 41.969 km in District Krishnagiri, Tamil Nadu' by M/s National Highways Authority of India was considered by the Expert Appraisal Committee (EAC) for Industrial Estate/Area, SEZ and Highways projects in its 191st meeting held on 25th June, 2018 and 195th meeting held on 30th - 31st August, 2018 in the Ministry of Environment, Forest and Climate Change, New Delhi.

3. The details of the project, as per the documents submitted by the project proponent, and also informed along with EIA Consultant M/s Louis Berger Consulting Private Limited during the above meetings, are under:

(i) The Satellite Town Ring Road (STRR) of Bangalore (Newly declared NH 948A) is proposed 6 lane highway having a total length of 179.969 Km in the states Karnataka and Tamil Nadu. The Project will be taken in 3 Phases viz,

- Phase-I (From Ch. 0+00 to Ch. 82+200) in the state of Karnataka.

- Phase-II (From Ch. 82+200 to Ch. 140+000), in the states of Karnataka and Tamil Nadu.
- Phase-III (From Ch. 140+000 to Ch. 179+969) in the state of Tamil Nadu

(ii) This proposal is for the Proposed Phase-III, which starts from Ch. 140+000 in Peddamadhagondapalli near to SH-17B (Denkannikottai road) and ends at Ch. 179+769 near Deeviripalli village of Hosur Taluk (Krishnagiri District) at TN/ Karnataka Border.

(iii) Hosur is an automobile industry town located in the vicinity of about 7 km away from Karnataka state border. This city generates huge amount of traffic and currently experiencing massive traffic congestions. The STRR Phase-III is designed for inclusion of Ring Road of Hosur town, Automobile Hub of Tamil Nadu and Connecting with the proposed KITCO alignment.

(iv) There are 16 Major Settlements along the alignment, namely Kappakollu, Payarakanahalli, S. Mudugandanahally, Golisandram, Thorapalli Agraharam, Kothur, Perandapalli, Kadirapalli, Alur, Dasapalle, Payarkuttalai, Nandimangalam, Attur, B. Mudaganahalli, Kadiriganadinna, Sampangere.

(v) The original STRR of Government of Karnataka was taken and modified by NHAI under Bharatmala Program, which was concurred by the state government vide letter No.PWD/518/CNH/2017 dated 27th October, 2017 and Government of Tamil Nadu vide letter No. 14787/HV1/2017-2 dated 24th January, 2018.

(vi) The proposed road will have 1 major bridge, 6 minor bridges, 1 ROB, 67 culverts, 18 vehicular underpasses, 4 interchanges.

(vii) Safety measures shall be provided as per NHAI Safety Manual and IRC:SP 88, IRC:SP:55 and MoRT&H guidelines in this regard.

(viii) Materials requirement are aggregate (13.88 lakh cum), bitumen (0.22 lakh tonnes.), earth (63.82 lakh cum.), sand (4.75 lakh cum), Steel (0.29 tonnes), and Cement (1.17 lakh tonnes).

(ix) Fly ash will be used in the project depending upon their availability as per existing fly as notification.

(x) **Land Acquisition & Proposed RoW:** The proposed land acquisition for the proposed alignment is approximately 448.78 ha and RoW is 70m.

(xi) **Land use of the site and around the site up to 10 km radius:** Proposed project is a Greenfield project. Agricultural (77%), Barren (22%) and other revenue/forest land (1%) around the site upto 10km radius. The major land use of STRR Phase-III of cultivation land and rest includes barren land.

(xii) **Whether the project is in Critically Polluted area:** Not Applicable.

(xiii) **If the project involves diversion of forest land, extend of the forest land:** No.

(xiv) **National Park/ Wild Life Sanctuary in 10 km radius area & Eco-Sensitive Zone in 10 km radius area:** The proposed road location is falling in 15 Km

from Bannerghatta National Park ESZ and Cauvery North Wildlife Sanctuary's ESZ however outside from their 10Km ESZ boundary.

(xv) **Water requirement, source, status of clearance:** Water will be required mainly during construction period. About 130 Kl/day water will be consumed during peak construction period for the project. Surface Water (Approx. 70%) and Ground Water (30%) shall be utilized for construction works. The detail of sources of water will be provided in EIA. NoC will be obtained from Ground Water Authority prior to construction.

(xvi) **Terrain, level with respect to MSL, requirement of filling if any:** Terrain is Plain / Rolling with elevation ranges from 828m to 945m amsl.

Overburden will be generated during excavation for alignment and at borrow areas. It is proposed to reuse these materials for constructions of embankment, rehabilitation of borrow areas and other allied sites and or filling of low lying/disfigured wasteland.

(xvii) **Tree cutting, types, numbers, girth size etc.:** As per initial assessment, it is anticipated that on an average about 150 to 200 trees are likely to be affected per km. The detailed assessment of actual trees to be affected (tree inventory) on the finalized alignment will be undertaken during detailed EIA Study. Common trees include Eucalyptus, Azadirachta indica, Acacia catechu, Ficus, and Tamarindus indica.

Efforts will be made to minimize the trees loss by restricting tree cutting within formation width. Avenue plantation shall be carried out as per IRC SP:21:2009 on available ROW apart from statutory requirements. Total 1,367 number of trees will be cut in this project. In order to minimize the impact of tree cutting, compensatory plantation shall be undertaken.

(xviii) **Rehabilitation involved if any:** All the temporary sites used for construction activities will be rehabilitated properly before handing over back to the land owner. The solid waste generated due to construction and allied activities will be reused for rehabilitation of borrow area / quarries sites, campsite and in temporary diversions and slopes.

(xix) **Water bodies, diversion if any if any:** Ponnaiyar River (Ch. 158+500) and 7 streams crossing the alignment.

(xx) **Court cases, if any:** No.

(xxi) **Investment/Cost of the project:** INR 1327 Crore.

(xxii) **Employment potential:** This Road projects will improve the economic and social welfare of those using the road or served by it. Ultimately it will create jobs by increasing access to markets, education and health services etc.

(xxiii) **Benefits of the project:** The proposed project aims to improve connectivity particularly on economic corridors, border areas and to remote areas with aim of rapid and safe movement of cargo to boost exports. International trade considered as a key aspect in this scheme and northeastern states have given special focus.

4. Based on the deliberations in the meeting and information provided by the proponent in support of the project, the EAC recommended for grant of TOR. As per the recommendation of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords Terms of Reference for **'Development of Satellite Town Ring Road (STRR) Phase-III newly declared National Highway NH-948A from Peddamadhagondapalli to Tamil Nadu/Karnataka Border (km 140.000 to km 179.969) 41.969 km in District Krishnagiri, Tamil Nadu'** by M/s National Highways Authority of India, and for preparation of EIA/EMP report with public consultations subject to compliance of all conditions as notified in the standard ToR applicable for highways and specific conditions, as mentioned below:

A. Project Specific Conditions: EAC recommended the following additional ToR to this project in addition to standard ToR:

(i) Cumulative Impact Assessment to be carried out along Phases I, II and III.

(ii) Water bodies along proposed alignment needs to be surveyed for their conservation and sustainability.

(iii) Each water body should be clearly identified with its size, any important and threatened species associated with it, its usage by local community along with shape file of each of water body. Impact of proposed project on these water bodies to be identified along with mitigation measures. Emphasis should be given to avoid alignment passing through/over water bodies.

(iv) Source of water availability to be ascertained for construction and domestic need. Necessary permissions to be obtained from State Authority/ CGWA if any.

(v) Provide compilation of road kill data on existing roads (national and state highways) in the vicinity of the proposed project.

(vi) The proposed alignment 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.

B. General Conditions

(i) A brief description of the project, project name, nature, size, its importance to the region/state and the country shall be submitted.

(ii) In case the project involves diversion of forests land, guidelines under OM dated 20.03.2013 shall be followed and necessary action be taken accordingly.

(iii) 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.

(iv) Detailed alignment plan, with details such as nature of terrain (plain, rolling, hilly), land use pattern, habitation, cropping pattern, forest area, environmentally sensitive areas, mangroves, notified industrial areas, sand dunes, sea, rivers, lakes, details of villages, teshils, districts and states, latitude and longitude for important locations falling on the alignment by employing remote sensing

RHC

techniques followed by "ground truthing" and also through secondary data sources shall be submitted.

(v) Describe various alternatives considered, procedures and criteria adopted for selection of the final alternative with reasons.

(vi) 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. alongwith detailed ground survey map on 1:2000 scale showing the existing features falling within the right of way namely trees, structures including archaeological & religious, monuments etc. if any, shall be submitted.

(vii) If the proposed route is passing through any hilly area, the measures for ensuring stability of slopes and proposed measures to control soil erosion from embankment shall be examined and submitted.

(viii) 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 a river, the details of micro-drainage, flood passages and information on flood periodicity at least of the last 50 years in the area shall be examined and submitted.

(ix) If the project is passing through/located within the notified ecologically sensitive zone (ESZ) around a notified National Park/Wildlife Sanctuary or in the absence of notified ESZ, within 10 km from the boundary of notified National Park/Wildlife Sanctuary, the project proponent may simultaneously apply for the clearance for the standing committee of NBWL. The EC for such project would be subject to obtaining the clearance from the standing committee of NBWL.

(x) 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. Underpasses shall be provided for the movement of Wild animals.

(xi) Study regarding in line with the recent guidelines prepared by Wildlife Institute of India for linear infrastructure with strong emphasis on animal movement and identifying crossing areas and mitigation measures to avoid wildlife mortality.

(xii) The information shall 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. The details of compensatory plantation shall be submitted. The possibilities of relocating the existing trees shall be explored.

(xiii) 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.

(xiv) If the proposed route is passing through a city or town, with houses and human habitation on 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 stations/service centres, rest areas including public conveyance, etc.

(xv) Details about measures taken for the pedestrian safety and construction of underpasses and foot-over bridges along with flyovers and interchanges shall be submitted.

(xvi) The 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) shall be addressed.

(xvii) 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 shall be examined and submitted.

(xviii) The possibilities of utilizing debris/waste materials available in and around the project area shall be explored.

(xix) The details on compliance with respect to Research Track Notification of Ministry of Road, Transport and Highways shall be submitted.

(xx) 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, shall be examined and submitted.

(xxi) Climate and meteorology (max and min temperature, relative humidity, rainfall, frequency of tropical cyclones and snow fall); the nearest IMD meteorological station from which climatological data have been obtained to be indicated.

(xxii) The air quality monitoring shall be carried out as per the notification issued on 16th November, 2009. Input data used for Noise and Air quality modelling shall be clearly delineated.

(xxiii) The project activities during construction and operation phases, which will affect the noise levels and the potential for increased noise resulting from this project shall be identified. Discuss the effect of noise levels on nearby habitations 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 shall be done by using mathematical modelling at different representative locations.

(xxiv) 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 examined and carried out.

(xxv) The details about the protection to existing habitations from dust, noise, odour etc. during construction stage shall be examined and submitted.

(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 sites along with necessary permission.

(xxvii) If the proposed route is passing through low lying areas, details of filling materials and initial and final levels after filling above MSL, shall be examined and submitted.

(xxviii) The water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality and likely impacts on them due to the project along with the mitigation measures, shall be examined and submitted.

(xxix) The 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, shall be examined and submitted.

(xxx) The details of measures taken during constructions of bridges across rivers/ canals/major or minor drains keeping in view the flooding of the rivers and the life span of the existing bridges shall be examined and submitted. Provision of speed breakers, safety signals, service lanes and foot paths shall be examined at appropriate locations throughout the proposed road to avoid accidents.

(xxxi) If there will be any change in the drainage pattern after the proposed activity, details of changes shall be examined and submitted.

(xxxii) Rain water harvesting pit shall be at least 3 - 5 m above the highest ground water table. Provisions shall be made for oil and grease removal from surface runoff.

(xxxiii) If there is a possibility that the construction/widening of road may cause an impact such as destruction of forest, poaching or reduction in wetland areas, examine the impact and submit details.

(xxxiv) The details of road safety, signage, service roads, vehicular under passes, accident prone zones and the mitigation measures, shall be submitted.

(xxxv) IRC guidelines shall be followed for widening & upgradation of roads.

(xxxvi) The details of social impact assessment due to the proposed construction of the road, shall be submitted.

(xxxvii) Examine the 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 shall be reviewed and analyzed to predict and identify trends - in case 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 shall be provided of the activity for which land is to be reclaimed and the area of land to be reclaimed.

(xl) Details of the properties, houses, business activities etc likely to be effected by land acquisition and an estimation of their financial losses, shall be submitted.

IRC

(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 specific project, shall be submitted.

(xlii) The environment management and monitoring plan for construction and operation phases of the project shall be submitted. A copy of your corporate policy on environment management and sustainable development, shall also be submitted.

(xliii) Estimated cost of the project including that of environment management plan (both capital and recurring) and source of funding. Also, the mode of execution of the project, viz, EPC, BOT, etc, shall be submitted.

(xliv) A copy of your CSR policy and plan for meeting the expenditure to address the issues raised during Public Hearing, shall be submitted.

(xlv) Details of blasting if any, methodology/technique adopted, applicable regulations/permissions, timing of blasting, mitigation measures proposed keeping in view mating season of wildlife.

(xlvi) 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.

(xlvii) Details to ensure free flow of water in case the alignment passes through water bodies/river/streams etc.

(xlviii) In case of bye passes, the details of access control from the nearby habitation/habitation which may come up after the establishment of road.

(xlix) Bridge design in eco sensitive area /mountains be examined keeping in view the rock classification hydrology etc.

(l) Details of litigation pending against the project, if any, with direction/order passed by any Court of Law against the Project should be given.

(li) The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.

(lii) In case of alignment passing through coastal zones

a. HTL/LTL map prepared by authorized agencies superimposed with alignment and recommendation of Coastal Zone Management Authority

b. Details of CRZ-I (I) areas, mangroves required to be removed for the project along with the compensatory afforestation, area and location with budget

c. Details of road on stilt in CRZ-I areas, design details to ensure free tidal flow

d. Details of Labour camps, machinery location

(liii) 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".

5. Following general guidelines shall be strictly adhered:

(i) The EIA document shall be printed on both sides, as for as possible.

(ii) All documents should be properly indexed, page numbered.

(iii) Period/date of data collection should be clearly indicated.

(iv) Authenticated English translation of all material provided in Regional languages.

(v) The letter/application for EC should quote the MoEF&CC File No. and also attach a copy of the letter prescribing the TOR.

(vi) The copy of the letter received from the Ministry on the TOR prescribed for the project should be attached as an annexure to the final EIA-EMP Report.

(vii) The final EIA-EMP report submitted to the Ministry must incorporate the issues in TOR and that raised in Public Hearing. The index of the final EIA-EMP report, must indicate the specific chapter and page no. of the EIA-EMP Report where the specific TOR prescribed by Ministry and the issue raised in the P.H. have been incorporated. Questionnaire related to the project (posted on MoEF&CC website) with all sections duly filled in shall also be submitted at the time of applying for EC.

(viii) Grant of TOR does not mean grant of EC.

(ix) Grant of TOR/EC to the present project does not mean grant of approvals in other regulations such as the Forest (Conservation) Act 1980 or the Wildlife (Protection) Act, 1972.

(x) Grant of EC is also subject to Circulars and Office Memorandum issued under the EIA Notification 2006 and subsequent amendments, which are available on the MoEF&CC website: www.envfor.nic.in.

(xi) 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.

(xii) 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 TOR (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).

(xiii) 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 Coordinator of the EIA study shall also be mentioned.

RK

(xiv) All the TOR points as presented before EAC shall be covered.

6. 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.

7. 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 within 3 years as per the MoEF&CC OM No J-11013/41/2006-IA-II(I) (Part) dated 29th August, 2017.

8. 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.

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

Reena 23/01/2019

(Raghu Kumar Kodali)
Director/Scientist F

Copy to: The Member Secretary, Tamil Nadu Pollution Control Board, No.76, Mount Salai, Guindy, Chennai – 600 032.

Reena 23/01/2019

(Raghu Kumar Kodali)
Director/Scientist F