Minutes of the 246th meeting of Expert Appraisal Committee held on 20th –21st October, 2020 through Video Conferencing for the projects related to Infrastructure Development, all Ship breaking yards including ship breaking units 7(b); Industrial Estate/Parks/Complexes/Areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes 7(c); Ports, harbours, break waters, dredging 7(e) and National Highways 7(f)

The 246th Meeting of Expert Appraisal Committee (EAC) of Infra-1 (IA-III) was held through Video Conferencing at the Ministry of Environment, Forest & Climate Change (MoEF &CC), Indira Paryavaran Bhavan, New Delhi on 20th - 21st October, 2020 under the Chairmanship of Dr. Deepak Arun Apte. List of participants is annexed as **Annexure-A**.

1. OPENING REMARKS OF THE CHAIRMAN

At the outset, Dr. Deepak Arun Apte, Chairman, EAC welcomed the Members of the EAC and requested Shri Amardeep Raju, the Member Secretary of the EAC to initiate the proceedings of the meeting with a brief account of the activities undertaken by the Ministry under Infra-1 Division.

2. CONFIRMATION OF THE MINUTES OF THE LAST MEETING

The Committee confirmed the Minutes of 243rd EAC meeting held on 28th – 30th September, 2020 with a suggestion that if any typographical error is noticed by the proponent in the proceedings in due course of time, it will be corrected suitably.

3. AGENDA WISE CONSIDERATION OF PROPOSALS

Agenda wise details of proposals discussed and decided in the meeting are as under:

3.1 Creation of water front facilities (Oil Jetties 8,9,10 & 11) and development of land (1432 acres - Revised area 554 acres) for associated facilities for storage at Old Kandla, Gandhidham, Kachchh (Gujarat) by M/s Deendayal Port Trust (formerly known as Kandla Port Trust) - Further consideration for Environmental and CRZ Clearance. [*Proposal No. IA/GJ/MIS/61679/2017; File No. 10-1/2017-IA-III*]

The project proponent along with the EIA consultant M/s SV Enviro Labs & Consultants, Enviro House, made a presentation through Video Conferencing.

The proposal is for Creation of water front facilities (Oil jetties 8,9,10 & 11) and development of land for associated facilities. The capacity of each jetty is 3.5 MMTPA for handling all types of liquid cargo. Area proposed for development is 554 acres (Mangrove area including 70 m buffer etc., have been excluded from the total area). Dredging quantity for capital dredging and maintenance dredging will be 16,56.058 m^3 and 1,07,500 m^3/annum, respectively. The dredged material will be disposed at designated dumping ground (Latitude

22°51'00" & Longitude 70°10'00"). Total plot for storage will be 11 Nos.Tentative Tank Capacity will be 2.28 Million KL and number of Pipelines on each jetty will be 9(chemicals, Edible Oil, Fire fighting, water supply, air, etc).

The project falls under item 7 (e) – Ports & Harbours of Schedule to the EIA Notification, 2006 and the proposal was considered in earlier meetings of EACfor ToR during 13th-15thFebruary, 2017 and 27th-29thJune, 2017. The ToR was issued by the Ministry vide F.No: 10-1/2017-IA-III dated 04.08.2017.

The project is located at Deendayal Port Trust, Old Kandla, Gandhidham – Kutch, Gujarat with Geo-coordinates Latitude: 23.051704 To 23.069488; Longitude: 70.181017 To 70.219725. The proposal is for Creation of water front facilities (O.J. 8 to 11) and development of land for 554 acres instead of 1432 acres of land. The cost of the project is Rs. 1505.74 Crores. The Public Hearing was exempted by the EAC as per para 7 (II) of the EIA notification, 2006, as it was held earlier in November, 2014 for the same area. The proposed project is not expansion. Other activities within the DPT had obtained EC's individually, certified compliances are obtained for the same. The project is proposed in the district of Kutch and is located on the West bank of KandlaCreek, which runs into the Gulf of Kutch at a distance of 90 nautical miles from the Arabian Sea. No forest land is involved in the proposed project and hence, forest clearance is not applicable. No. of people to be employed will be 100nos (Indirect employment generation).

Land use/Land cover of project site:

S.No.	Land use/Land cover	Area (ha)	%
1	Plot 1 (Crude Oil, Motor spirit storage)	10.65	4.750435
2	Plot 2 (Lubricating oil, Kerosene storage)	10.65	4.750435
3	Plot 3 (Aviation fuel, High speed diesel, Furnace oil	10.65	4.750435
4	Plot 4 (Butane, Propane storage)	10.65	4.750435
5	Plot 5 (Naphta storage)	9.26	4.130425
6	Plot 6 (Low Sulphur heavy stock storage)	10.84	4.835184
7	Plot 7 (Edible Oil storage)	9.74	4.344529
8	Plot 8 (Edible Oil storage)	9.94	4.433739
9	Plot 9 (Admin block, Substation, Security cabin, firestation, parking)	17.05	7.605156
10	Plot 10 (Edible Oil storage)	9.94	4.433739
11	Plot 11 (Edible Oil storage)	10.65	4.750435
12	Railway sidings	20.25	9.032517
13	Roads	15.02	6.699674
14	Open area (Sea grass plantation, Desalination plantation, Parking)	68.9	30.73286
	Total	**224.19**	**100**

The terrain is flat with elevation from sea level to up to 3m MSL. Topography at the site location is generally flat with average ground level of about 6.5m CD. Topsoil appears

marshy.Gulf of Kutch at 11.65km and Sang River at 371.5m. There is no stream or nala is passing through the project site. The area (10 km area) around the project site is drained by Sakar River, Sang River and Churva River. All the rivers in study area are draining towards sea. The entire area is drainage north to south towards sea coast.

Approx. 20 m3/day of water will be required for domestic consumption; the important source of water is the 14.5million m^3 capacity reservoir of Tapar Dam, besides a number of deep tube wells. The project does not lie in Critically Polluted area**.**

There is no Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc located within 10 km of the project boundary. Further there is no Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC within 10km radius.

There would be approximately 100 persons employed in the oil jetties 8 -11 (maximum number of permanent and contract workers at any given time). Expected waste generation quantity from proposed project is approximately 75kg/day (@0.75kg/capita/day) of non-hazardous domestic waste (food waste, general solid waste and plastic waste) that will need collection and disposal. With the implementation of standard waste handling practices in line with MARPOL requirements, potential impacts resulting from the generation of non-hazardous waste is expected to be of low significance. The waste water will be treated in the existing STP of DPT.

No tree cutting is involved in this project. Mangrove plantation is being done by DPT in phased manner. Land clearance will only remove herbs and shrubs of common species. The project is employing renewable energy sources such as day lighting & passive solar panels, Using energy efficient electrical appliances, regular maintenance of all powered equipment to ensure appropriate fuel consumption rates.

A provision for storm water collection has been made for harvesting the rainwater and using it for irrigation or fire fighting purpose. The main storm water drains are proposed as trapezoidal drains of 0.95m base width and 1.3m depth to cater for 10ARI rainfall. The storm water storage proposed will also act as a buffer to cater for the risk for flooding due high intensity rainfall coincident with the high tide.

The proposed project site falls in CRZ area and has the recommendation of SCZMA.

The project involves foreshore facilities. Shoreline study conducted by Institute for Ocean Management, Anna University. Dredging requirement is 16, 56,058 m^3 (Berth basin + Patches in approach channel) and Maintenance Dredging of 1, 07,500 m^3 per annum is required. The dredged material will be disposed at designated dumping ground (Latitude 22°51’00” & Longitude 70°10’00”). Storage of permissible Liquid cargo as permitted. 3.5 MMTPA each (3.5 X 4 =14 MMTPA total Capacity) for handling all types of Liquid Cargo. No handling of dusty cargo is proposed.Oil spill contingency plan has been prepared.

The Socio-economic impacts identified include the following:

i. Local economic impact
ii. Overall community development through CSR interventions

The impact significance is expected to be low considering the fact the project will be at onshore and offshore with limited impact on socio-economic environment. However, the project will have positive impacts on socio-economic environment by increasing availability of power, creation of employment opportunities and procuring material locally. Following measures are proposed:

i. To the extent possible, efforts will be made to hire labours from the local population which would enhance the employment potential of the locality and other infrastructural works. Therefore, there would be some positive socio-economic impacts.
ii. Traffic management plan will be developed to manage road transportation; and
iii. Access to site will be strictly controlled using appropriate security provisions.

Other specialized studies carried out for the project as per the ToR areHTL-LTL Mapping for CRZ, Biodiversity assessment & environmental Management Plan, CWPRS – Mathematical model studies for Hydrodynamics and siltation along Kandla Creek due to the proposed oil jetties, Gujarat.No court cases pending against the project.

The EAC, taking into account the submission made by the project proponent had a detailed deliberation during its 246th meeting on 20th-21stOctober, 2020 and **recommended** the proposal for grant of Environmental and CRZ Clearance with the specific conditions, as mentioned below in this para, in addition to all standard conditions applicable for such projects:

(i) The Environmental and CRZ Clearance to the project is primarily under provisions of EIA Notification, 2006 and CRZ Notification, 2011. It does not tantamount to approvals/consent/permissions etc required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes as applicable to the project.

(ii) The project proponent shall abide by all the commitments and recommendations made in the Form-II, EIA and EMP reportand also that have been made during their presentation to EAC.

(iii) Construction activity shall be carried out strictly according to the provisions of the CRZ Notification, 2011. No construction works other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.

(iv) All the recommendations and conditions specified by the Gujarat Coastal Zone Management Authority (GCZMA) vide letter No. ENV-10-2018-24-T cell dated 30th July, 2020 shall be complied with.

(v) The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained. Creek water monitoring program shall be implemented during the construction phase

(vi) Dredging shall not be carried out during the fish breeding season. Dredging, etc. shall be carried out in confined manner to reduce the impacts on marine environment. Silt curtains shall be used to minimize spreading of silt plume during dredging using online monitoring system. Turbidity should be monitored during the dredging. No removal of silt curtain unless baseline values are achieved.

(vii) As proposed the dredged material can be used to provide an engineered base for marine terminal i.e., oil jetties 8-11 and construction yard.The impact of dredging on the marine environment should be monitored and necessary measures shall be taken on priority basis if any adverse impact is observed.

(viii) Marine ecological monitoring and its mitigation measures for protection of phytoplankton, zooplanktons, macrobenthos, estuaries, sea-grass, algae, sea weeds, Crustaceans, Fishes, coral reefs and mangroves and migratory birds etc. as given in the EIA-EMP Report shall be complied with in letter and spirit through a reputed university/institute with financial support as desired. Six monthly report of the studies to be provided to the regional office of MoEFCC.

(ix) Continuous online monitoring of air and water covering the total area shall be carried out and the compliance report of the same shall be submitted along with the 6 monthly compliance report to the regional office of MoEF&CC.

(x) The actions shall be in accordance with proposed landscape planning concepts to minimise major landscape changes. The change in land use pattern shall be limited to the proposed port limits and be carried out in such a way as to ensure proper drainage by providing surface drainage systems including storm water network.

(xi) Suitable preventive measures be taken to trap spillage of fuel / engine oil and lubricants from the construction site. Measures should be taken to contain, control and recover the accidental spills of fuel during cargo handling.

(xii) All the mitigation measures submitted in the EIA report shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to the RO, MoEF&CC along with half yearly compliance report.

(xiii) The company shall draw up and implement Corporate Social Responsibility Plan as per the Company's Act of 2013.

(xiv) 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 fulfill 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 Studiesand 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.

(xv) In pursuance of Ministry's OM No 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 submit it to the Ministry and the EAC.

3.2 Development of Greenfield Non-major Port at Machilipatnam, Krishna district, Andhra Pradesh by M/s Andhra Pradesh Maritime Board - Terms of Reference[*Proposal No. IA/AP/MIS/177730/2020; File No. 10-62/2020-IA.III*].

The project proponent has not submitted required documents before the meeting. The EAC decided to defer the proposal and advised the proponent submit the document one week in advance of the meeting so that members receive the document in time and could read the document before appraisal of the proposal.

3.3 Installation of terminal facilities to handle 10 MMTPA of additional LNG atM/s Petronet LNG Limited**(PLL), Dahej, Gujarat by M/s Petronet LNG Limited - Extension of validity of Environmental and CRZ Clearance [*Proposal No. IA/GJ/IND2/165726/2020; File No. 11-63/2011-IA-III*].**

The project proponent along with the EIA consultant M/s Vimta Labs Limited, made a presentation through Video Conferencing before the EAC, and provided the following information:

The Project is being executed in phased manner. M/s Petronet LNG Limited (PLL) currently owns and operates two LNG Regasification Terminals in India, one of them is located at Dahej, state of Gujarat, having a capacity of 17.5 MMTPA and another regasification terminal at Kochi, state of Kerala, having capacity of 5 MMTPA. The project was accorded Environmental clearance for10 MMTPA (Phase-I) and 10 MMTPA to 20 MMTPA*vide* Ministry's letter No. J-17011/11/2000-IA-III dated 27.12.2000 and Letter No. 11-63/2011-IA-III, dated 26th February, 2014, respectively. Expansion from 10 to 15 MMTPA under project Phase-IIIA – comprising of addition of two LNG storage tanks (each of 180,000 cum gross capacity) and 5 MMTPA of LNG Regasification facilities and the project was completed in the year 2016.Expansion from 15 to 17.5 MMTPA under project Phase-IIIB1 – comprising of addition of 2.5 MMTPA of LNG Regasification facilities and the project was completed in the year 2019. It was also apprised that the validity of current Consent to Establish (CTE), CTE-104396, issued vide Gujarat Pollution Control Board letter no. GPCB/BRCH-B/CCA-611(4)/ID-15479/551243 dated 15/01/2020 is upto the Environment Clearance date i.e. 26/02/2021.

Details of the EC granted are as under:

1. 10 MMTPA(Phase-I): EC letter No. J-17011/11/2000-IA-III dated 27.12.2000
2. 1st Expansion from 10 MMTPA to 20 MMTPA: Letter No. 11-63/2011-IA-III, dated 26th February, 2014
   (i) Expansion from 10 to 15 MMTPA (Phase-IIIA)- Completer in year 2016
   (ii) Expansion from 15 to 17.5 MMTPA(Phase-IIIB1) – Completed in year 2019
   (iii) Expansion from 17.5 to 20 MMTPA (Phase-IIIB2) – yet to be completed

No national park/wildlife sanctuary/biosphere reserve/tiger reserve/elephant reserve etc. were reported to be located in the core and buffer zone of the project. Detailed study of ecological

aspects including the Schedule-I, flora and fauna species were carried out in the environmental baseline studies.

Total executed project cost for 2 LNG storage tanks & 5 MMTPA LNG Regasification Facilities is approx. Rs 1,950 crores for project Phase-IIIA (expansion from 10 to 15 MMTPA). The executed project cost towards addition of 2.5 MMTPA LNG Regasification Facilities under project Phase-IIIB1 (expansion from 15 to 17.5 MMTPA) is Rs. 412 crore. The proposed project cost for another 2 LNG storage tanks and 2.5 MMTPA LNG Regas Facilities under Phase-IIIB2 (expansion from 17.5 to 20 MMTPA) is approx. Rs. 1700 crores. Proposed employment generation from expansion in Phase-IIIB2 is 2500 employments during construction phase and 30 employments during operation phase. All utilities were designed & constructed for 20 MMTPA capacities during Ph-IIIA project. There is no court case or violation under EIA Notification to the project or related activity.

The proponent vide letter No. PLL/DAHEJ/MOEF/2020 dated 22nd May, 2020 requested to extend the validity of Environmental Clearance grated by the Ministry vide letter No. 11-63/2011-IA-III, dated 26th February, 2014 for further period of 40 Months (3 years 4 months)

The EAC, taking into account the submission made by the project proponent for the current proposal for "Installation of terminal facilities to handle 10 MMTPA of additional LNG at PLL, Dahej, Gujarat by M/s Petronet LNG Limited" had a detailed deliberation during its 246th meeting on 20th-21st October, 2020 and **recommended** the proposal for extension of validity of the Environmental and CRZ Clearance granted by the Ministry vide letter No. 11-63/2011-IA-III, dated 26th February, 2014 for a period of three years, i.e. up to 25th February, 2024with conditions as specified in the same Environmental Clearance letter and following additional condition.

i. Marine ecological monitoring and its mitigation measures for protection of phytoplankton, zooplanktons, macrobenthos, estuaries, sea-grass, algae, sea weeds, crustaceans, fishes mangroves and migratory birds etc. shall be undertaken through a reputed university/institute with financial support as desired. Six monthly report of the studies to be provided to the regional office of MoEFCC

3.4 Development of Port Simar at Chhara Village, Gir-Somnath District, Gujarat by M/s Simar Port Private Limited - Extension of validity of Environmental and CRZ Clearance [*Proposal No. IA/GJ/MIS/174378/2020; File No. 11-73/2009-IA.III*].

The project proponent along with the EIA consultant M/s Kadam Environmental Consultants made a presentation through Video Conferencing before the EAC and requested for extension of validity of Environmental Clearance for the period of three years as per MoEF&CC Notification dated 14th September, 2016. Environmental and CRZ Clearance for the aforementioned project was granted vide letter no. File No. 11-73/2009-IA.III dated 6th January, 2014 which is valid up to 6th January, 2021. The PP has given following reasons for extension of the validity period of EC/CRZ clearance

i. **Pre-Construction Activities till Financial Closure:** Post receipt of EC in Jan 2014, SPPL carried out various site related studies for Engineering and construction planning. Post completion of these activities, SPPL approached Lenders for Debt Tie-ups in June 2016 and Financial Closure for the project took place in April 2017. Post financial closure SPPL approached GMB for construction permission which was received in Oct'2019.

ii. **Cyclone Vayu and Cyclone Maha:** Project site was hit by Cyclone Vayu in June 2019 and Cyclone Maha in October 2019. This resulted in damage to temporary load-out jetty which further affected Project schedule. The temporary load-out jetty has since been restored.

iii. **Delay in Government Land Acquisition:** Gujarat Maritime Board ("GMB") vide its letter number GMB/N/PVT/819(10)/533/918 dated 1st February 2014 had requested Collector Gir-Somnath for leasing of 27 acres of Government Land to GMB for leasing to SPPL. SPPL is yet to receive the possession of this Government Land and this has delayed the construction activity as this land is critical for Development of Bulk Berth and Approach Trestle.

iv. **Approach Road**: As per the Clause 6.7 of the Concession Agreement, in case SPPL is not able to obtain Transport infrastructure Linkages (road/rail), scheduled Construction Period can be extended till the time such Transport Infrastructure Linkages are obtained up to a maximum of 2 Years. The scheduled Construction Period approved by GMB was from October 2017 to October 2020. However, due to GMB's inability to provide the Approach road, SPPL had to buy the land and construct the Approach road. The approach road got operational only in January 2019 hence, construction of Approach Road had a significant delay on the Project schedule.

v. **Financial Issues at ShapoorjiPallonji:** Revenues of ShapoorjiPallonji Group areseverely impacted due to ongoing pandemic of COVID-19. This has put short term strain on SP Group for funding the Project. This has resulted in delays in Equity infusion in the Project which has affected Land Acquisition and construction activities.

vi. **Delay in Construction due to COVID-19 (Corona Virus):** The ongoing Force majeure event of Coronavirus is impacting the Project progress. The exact impact of the same is yet to be assessed. However, with slow resumption of activities SPPL anticipates that revised timelines can be achieved.

Tentative schedule for development of Port was proposed as below-

SN	Package Description	Construction Start Date	Planned Schedule	Revised Completion Schedule
1	Breakwater	July'18	Oct'20	Dec'23
2	Bulk Berth & Approach Trestle	Sep'18	Sep'20	Jul'23
3	Onshore Infrastructure & Buildings	Nov'18	Sep'20	Jul'23
4	Material Handling System	Oct'18	Sep'20	Aug'23
5	Equipment Supply &	April'19	Oct'20	Sep'23

SN	Package Description	Construction Start Date	Planned Schedule	Revised Completion Schedule
	Installation			
6	Port Crafts & Navigational Aids	-	-	Aug'23
7	Dredging	Feb'19	Oct'20	Jun'23
8	External Connectivity, Shore Protection & Green Belt Development	-	-	Dec'23
9	Commencement of Port Operations	Oct'20	-	Dec'23

The EAC, taking into account the submission made by the project proponent for the current proposal for "Development of Port Simar at Chhara Village, Gir-Somnath District, Gujarat by M/s Simar Port Private Limited" had a detailed deliberation during its 246th meeting on 20th-21st October, 2020 and **recommended** for extension of the Environmental and CRZ Clearance granted by the Ministry vide File No. 11-73/2009-IA.III dated 6th January, 2014 for three years i.e., up to 5th January, 2024 to for three years with specific conditions and general conditions, as mentioned in the same EC letter and following additional condition.

i. Marine ecological monitoring and its mitigation measures for protection of phytoplankton, zooplanktons, macrobenthos, estuaries, sea-grass, algae, sea weeds, crustaceans, fishes mangroves and migratory birds etc. shall be undertaken through a reputed university/institute with financial support as desired. Six monthly report of the studies to be provided to the regional office of MoEFCC.

3.5 Expansion of JSW Port (for construction of LNG Import, Re-gasification and send-out facility) at Jaigarh, Ratnagiri, Maharashtra by M/s JSW Jaigarh Port Ltd.- Extension of validity of Environmental and CRZ Clearance [Proposal No. *IA/MH/MIS/177910/2020; File No. 10-17/2006-IA-III*]

The project proponent along with the EIA consultant M/s Western Concessions Private Ltd made a presentation through Video Conferencing before the EAC and requested for extension of EC for the period of three years as per MoEF&CC Notification dated 14th September, 2016.Environmental and CRZ Clearance for the aforementioned project was granted videFile No. 10-17/2006-IA-IIIdated 19thDecember, 2013 which is valid up to 18thDecember, 2021.

The PP has given following reasons/justification for extension of the validity period of EC/CRZ clearance –

i. The early production facility in the 1st phase is being developed as a Floating Storage and Regasification Unit (FSRU) based LNG project. The Jetty was developed in 2018

to moor the FSRU. Jetty topside facilities and Onshore Receiving Facility (ORF) are being readied for evacuation of gas from the FSRU.

ii. For the transportation of re-gassified LNG from Jaigarh, a tie-in natural gas pipeline of approximate length of 60 kms, authorized by Petroleum and Natural Gas Regulatory Board (PNGRB), vide letter dated 18th May 2015, is being laid from Jaigarh to Dabhol. The pipeline construction activity is reaching completion stage.

iii. Phase-1 of the project is in advanced stage of mechanical completion and commercial operations are targeted to commence in the 4th quarter of 2020.

iv. Work on Phase-II facilities as per Environmental and CRZ Clearance dated 19.12.2013 are to be paced for completion.

v. Work on Phase-II component of the LNG Terminal based project is to be completed.

The EAC, taking into account the submission made by the project proponent for the current proposal for "Expansion of JSW Port (for construction of LNG Import, Re-gasification and send-out facility) at Jaigarh, Ratnagiri, Maharashtra by M/s JSW Jaigarh Port Ltd" had a detailed deliberation during its 246th meeting on 20th-21st October, 2020 and **recommended** for extension of the validity of Environmental and CRZ Clearance granted by the Ministry videFile No. 10-17/2006-IA-III dated 19th December, 2013for further period of three years i.e., up to 18th December, 2023 with the specific conditions and general conditions as mentioned in the same EC letter and following additional condition.

i. Marine ecological monitoring and its mitigation measures for protection of phytoplankton, zooplanktons, macrobenthos, estuaries, sea-grass, algae, sea weeds, crustaceans, fishes mangroves and migratory birds etc. shall be undertaken through a reputed university/institute with financial support as desired. Six monthly report of the studies to be provided to the regional office of MoEFCC.

3.5 Development of Vizhinjam International Deepwater Multipurpose Seaport at Vizhinjam in Thiruvananthapuram district, Kerala by M/s Vizhinjam International Seaport Ltd. - Extension of validity of Environmental and CRZ Clearance [Proposal No. *IA/KL/MIS/178082/2020 ; File No. 11-122/2011-IA.III*]

The project proponent along with the EIA consultant M/s L&T Infrastructure Engineering Limited, Hyderabad made a presentation through Video Conferencing before the EAC and requested for extension of EC for the period of three years as per MoEF&CC Notification dated 14th September, 2016. Environmental and CRZ Clearance for the aforementioned project was granted vide letter No.11-122/2011-IA.III dated03rdJanuary, 2014 which is valid up to 19th December, 2021.

The PP has given following reasons/justification for extension of the validity period of EC/CRZ clearance –

i. Initial time consumed (about two years) for the global bid process in selecting a concessionaire for this government project under PPP model after the issuance of EC.

ii. Delay in construction of breakwater due to difficulties reported by the concessionaire in sourcing rock
iii. Work of dredging and reclamation, berth, container yard can only be completed with the advancement of breakwater.
iv. Outbreak of COVID 19 pandemic and its impacts.

The EAC, taking into account the submission made by the project proponent for the current proposal for "Development of Vizhinjam International Deepwater Multipurpose Seaport at Vizhinjam in Thiruvananthapuram district, Kerala by M/s Vizhinjam International Seaport Ltd." had a detailed deliberation during its 246th meeting on 20th-21st October, 2020 noted that the Hon'ble NGT is perusing the progress of the project. *Tribunal vide judgement dated 02/09/2016 had found the project to be of vital importance however it cautioned that the project should be executed consistent with environmental norms. Accordingly, for close monitoring of conditions of Environment Clearance and ensuring compliance of environmental norms, an Expert Committee was constituted.*

Further, it was noted by the EAC that there are several deliberationstook place by the Expert Committeeof the (NGT) with respect to the progress made by the project and issued several directions.

In view of the forgoing the EAC has recommended to **defer** the proposal and requested the PP to submit the directions issued by the Expert Committee of the NGT and the compliance report submitted byPP. The proposal shall be further considered once the requisite documents are submitted to the Ministry.

3.7 Construction of 8-lane of Bangalore-Chennai Expressway Phase-I' from Bangalore at km 0.000 and ends at km 71.000 near Village N.G.Hulkur,Taluk Bangarpet, District Kolar(Karnataka)(Length of 73.050 including Spur Alignment of 2.05km) by M/s National Highways Authority of India - Environmental Clearance [Proposal No. *IA/KA/MIS/73474/2018; File No. 10-15/2018-IA.III*]

The project proponent along with the EIA consultant M/s Egis India Consulting Engineers Pvt. Ltd. made a presentation through Video Conferencing.

The proposed project is a new Expressway connecting Bangalore to Chennai. The proposed Phase-I of Bangalore Chennai Expressway starts from east of Bangalore at Km 301.200 of NH-4 and ends at Km 71.000 near N.G. Hulkur Village, Bangarpet Taluka, Kolar District, Karnataka. The total length of proposed Bangalore Chennai Expressway (Phase-I) is 73.050 Km including spur alignment of length Km 2.05.For facilitating the construction, the 8-laning will be carried out in phased manner. In first phase construction of 4-lane dual carriageway configuration with 21m depressed median will be taken up. It will facilitate future expansion on median side. This intern requires no additional land on later date. Hence the proposal of 90m ROW has been undertaken. As per the traffic projection, the expressway will be requiring 6-lanes in the years 2030 and require 8-lanes configuration in the years 2041.

The Entire project stretch is located in Karnataka state. The proposed road passes through Bangalore Rural and Kolar districts in the state of Karnataka. The project section is stretched in Hoskote Tahshil under Bangalore Rural district and Malur and Bangarpet Tehsil under Kolar district. It crosses 72 nos. of villages.

The Geo-coordinates of project site lies between13°5'3.38" N and 77°49'20.59" E longitude in Kolathuru village and 13°00'28.49" N latitude and 78°25'34.00" E longitude near N.G. Hulkurvillage. The length of the expressway is 73.05 Km (Main Alignment: 71.00 Km; Spur Alignment: 2.05 Km).The project section starts from east of Bangalore at proposed Km 301.200 of existing NH-4. The nearest railway station is Bangarpet which is located around 5 km away from the starting point of the project stretch. The nearest Airport is Bangalore airport which is located at a distance of 18 km from the project stretch. The Investment/Cost of the project is Rs. 267685 lakhs.

The project falls under item 7 (e) – Ports & Harbours of Schedule to the EIA Notification, 2006. The ToR for the proposal was issued by the Ministry vide its letter No. 10-15/2018-IA.III dated 14th May 2018. The proposed project is a Greenfield project. Landuse is dominated by agricultural land followed by barren and wasteland.

Land use/ Land cover around 10 km radius of project site (1 km in case of Highway projects):

S. No.	Land Use Class	Area (ha.)	Bangalore Rural (%)	Area (ha)	Kolar (%)
1	Forest	30.87	6.0	50.62	2.6
2	Industrial	11.67	2.3	41.95	2.2
3	Lake/Pond	9.54	1.9	15.56	0.8
4	Plantation	204.4	39.7	339.01	17.6
5	River	0.32	0.1	3.03	0.2
6	Sub-Urban	13.11	2.5	34.32	1.8
7	Urban	3.04	0.6	28.28	1.5
8	Waste Land	2.62	0.5	103.38	5.4
9	Agriculture	204.1	39.6	1108	57.6
10	Reservoir	22.86	4.4	107.16	5.6
11	Fallow-Land	12.79	2.5	93.22	4.8
Total		**515.32**	**100**	**1924.53**	**100**

The project road is in plain and rolling terrain.The project alignment passing through 1 no. of seasonal river and 14 irrigation tanks. The bridges are designed to cross all the tanks.

The Water requirements during construction phase is 15000 KLD. The main source of water for construction and other related activities will be a mixture of surface water source and ground water source. The water for the construction will be used after taking prior permission from Competent Authority and comply with all the requirements of State Ground Water Authority/ Irrigation Department. The Contractor will take all the measures in order to minimize wastage of water during the construction. The Contractor will take permission /

NOC from the Competent Authority prior to abstraction of any water.

The Public consultation was held on 28th February 2019 and 7th March 2019 at Bengaluru Rural District and Kolar District under supervision of Additional Deputy Commissioner and Deputy Commissioner, respectively. Some issues raised during the PH is summarizedbelow-

S. No	Issue raised by Public	Responses by Proponent
1.	Hospital facility to the Kolathur Village	The project will help industrial development in the area through which job opportunities will be created to local people.
2.	Compensation for the land acquired	The rate for acquisition of land is decided by SLAO. Office of the SLAO may be contracted for further clarification. Land acquisition is being done as per provision of NH Act 1956.
3.	Delay dispersal of compensation	The compensation will be fixed based on the present guidance value. Action will be taken for speedy dispersal of compensation to land losers.
4.	Pollution being caused during the construction phase of the road works.	The Concessionaire will take every precaution to control dust nuisance at all the construction zones and allied sites where works are under progress.

The project does not involves diversion of forest land and status of application. Further, the project is not located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves, Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC.

The sewage sludge will be generated from temporary labour camps till construction period, construction sites. Provisional septic tanks with soak pits will be provided in labour camps.The waste generated from Camp site will be disposed to Municipal / Panchayat disposal site with payment.

A total of 20748 nos. of trees of varying girth are located within the corridor of impact and are likely to be felled due to the project. Avenue plantation shall be carried out as per IRC SP: 21:2009 on available ROW apart from statutory requirements.

Solar energy will be providing at Toll Plazas and Wayside amenities.In bridges and truck laybyes, LED light will be provided.A total of 30% energy will save in the project. For the rain water harvesting 286 nos. of recharge pits will be provided.

Total 1720 persons are affected due to acquisition of houses and other assets of which (51.28 %) and (48.72%) each constitute Male and female. There were households belonging to three religions viz Hindus (78.94 %), Christians (6.10%) and Muslims (15.41%). Social group-wise most of the affected people represents the backward caste (19.48 %) and of the remaining general castes constitute (53.78%) and Scheduled Castes comprises around 21.80 percent. The incidence of Scheduled Tribes is only (4.94 %) along the greenfield expressway project road. Observed across the family pattern majority (60.17 %) of the affected households are nuclear families and of the remaining 37.21 percent of the affected households live as joint families and 2.62% are Individual families.

Most of the households are staying within proposed green field expressway ROW from a long time where in nearly 55.23% of them are living since more than 10 years. About 23% of them are found to have settled in the last 2-6 years. Details are presented in table below. Analysis on literacy level of the affected PAPs shows that, around 3.60 percent of them are literates. SIA Report attached.

Total land requirement for the project is 764.08 Ha. 1720 nos. persons will be affected. The estimation of compensation for affected persons and assets has been finalized by the CALA by following NHAI's R & R Policy, NPRR 2007 and LARR Act 2013. The total estimated amount is INR 2125.85 Crores, which has been already deposited by NHAI. 98% distribution of Compensation has been completed.

Number of people to be employed during construction phase will be 450 nos. of workers of 1347000 Man days. During operation phase 100 nos. Will be employed. All the workers will be engaged through contractor at different stages.

Following are the benefits of the project:

i. **Financial**: Provide better connectivity between Bangalore to Chennai and will act as a link between major commercial, industrialand corporate centres of Karnataka, Andhra Pradesh and Tamil Nadu and rest of the South through connectivity.

ii. ***Environmental***:The proposed BCE project will ensure the smooth flow of traffic, which reduces the emissions and noise level. Apartfrom these, plantation will be done throughout the project road, which will increase the aesthetic of the project road.

iii. ***Social***:Expressway project requires large number of local people during construction stage from nearby village. Thus there will be increase in employment opportunity for the project area directly and indirectly.

The EAC, taking into account the submission made by the project proponent for the current proposal for "Construction of '8-lane of Bangalore-Chennai Expressway Phase-I' from Bangalore at km 0.000 and ends at km 71.000 near Village N. G. Hulkur, Taluk Bangarpet, District Kolar (Karnataka) (Length of 73.050 including Spur Alignment of 2.05km) by M/s National Highways Authority of India." had a detailed deliberation during its 246th meeting on 20th-21st October, 2020 and recommended to **defer** the proposal with the following observations:

i. The reply submitted by the PP for the Public Hearing (PH) proceeding was not found appropriate.
ii. EAC has suggested the proponent to submit the revised PH proceeding with point wise reply to all issues raised during the PH with documentary proof. Subsequently, the PP would have to submit the revised/amended EIA/EMP report with detailed financial provisions.

3.8 Development of access-controlled Ludhiana-Bathinda Greenfield Highway, starting from Delhi-Katra Expressway (chainage 251+800 of NE-5) near Ludhiana

(village Ballowal) and terminating at (proposed chainage 94+500) Amritsar-Bhatinda Greenfield highway at Bhatinda near Rampura Phul as a part of Ludhiana-Ajmer Economic Corridor in the State of Punjab under BharatmalaPariyojana by M/s National Highways Authority of India (Total Length 78 Km) - Terms of Reference [Proposal No. *IA/PB/NCP/177976/2020; File No. 10-63/2020-IA.III*]

The project proponent along with the EIA consultant M/s Amaltas Enviro Industrial Consultants LLP made a presentation through Video Conferencing

The project is related to development of access-controlled Ludhiana-Bathinda Greenfield Highway, starting from Delhi-Katra Expressway (chainage 251+800 of NE-5) near Ludhiana (village Ballowal) and terminating at (proposed chainage 94+500) Amritsar-Bhatinda Greenfield highway at Bhatinda near Rampura Phul as a part of Ludhiana-Ajmer Economic Corridor in the State of Punjab under BharatmalaPariyojana by M/s National Highways Authority of India (Total Length 78 Km). The project is part of interlinked project which is detailed below:

i. ***Ludhiana – Bathinda – 80 km*** (Proposal No IA/PB/NCP/177976/2020 and File No 10-63/2020-IA.III)
ii. ***Ludhiana – Rupnagar – 110 km*** (Proposal No IA/PB/NCP/178014/2020 and File No 10-64/2020-IA.III)

The project passes through 3 district that is Ludhiana through Tehsil - Ludhiana, Rajkot, Barnala through Tehsil – Barnala,, Tapa and Bathinda district through Tehsil - Rampura Phul. The proposed ROW is 60m and it traverses through revenue area of 37 Villages. The proposed Right of Way is 60 meters. The list of district with their respective Tehsil and Villages-

S. No.	Districts	Tehesil	Village	Total Number of Village
1	Ludhiana	Raikot	Gagewal, Dhurkot, ChakBhaika, Nathowal, Shajhanpur, RamgarhSibian, Bassian, Jaladiwal, Raikot, Ruppa Patti, Burj Hari Singh, Nurpur, Halwara, RajoanaKhurd, Rattowal, Abuwal, and Akkalgarh	21
		Ludhiana (West)	Sahuli, Ballowal, Chamiuda, and Dhaipai	
2	Barnala	Tapa	Baloke, Mauran (Nabha), Sehna, Chung, Badhata, Bhotna, Talewal, Bhila, and Gehal,	10
		Barnala	Moom	
3	Bhatinda	RampuraPhul	Dhapali, RaiyaurfHardaspura, Phul, Harnam Sigh Wala, Sadhana, and Patti SandliMehraj	6
			Total	**37**

The Geo-coordinates of project site start at junction of Ludhiana Ring Road (RR) & at Km

252 of NE-5 of Delhi-Katra Expressway. Geo-coordinates: 30°46'.25"N / 75°45'15"E and endat Km 94+500 of Amritsar-Bathinda Greenfield Highway near Rampura Phul. Geo-coordinate: 30° 20' 15.5"N/ 75°10'18"E

The total land requirement is 463 Ha (463 Ha. Agricultural land) and (10 Ha. Protected Forest Land- along irrigation canal, railways line, roads, bunds etc).The proposed construction site is well connected with National Highways, State Highways, Major District Road, Other district Roads and Village Roads. The connectivity with National Highways is NH-1, NH-95, Ludhiana Ring Road, NE-5 of Delhi-Katra Expressway, NH-71, Amritsar-Bathinda Greenfield Highway Expressway.

The Investment/Cost of the project is Rs. 1816.9 Crore (18169 Lakhs) as civil cost.

Land use/Landover of project site:

S .No.	Land use/ Land cover	Area (Ha)	%
1	Crop land	15290.831	95.81%
2	Built-up land	667.969	4.19%
3	Govt land	81.66	0.51%
4	Forest Area	9	0.06%
	Remarks: 95.813% of the PROW is under Crop Land Cover (Agricultural).		

Land use/Landover around 10 km radius of project site (1 km in case of Highway projects):

Land use/Landover within 5 km			
S. No	**LULC Type**	**Area Ha**	**% LULC**
1	Crop land	81669.13	94.99%
2	Built-up land	4309.87	5.01%
3	Govt land	407.94	0.47%
4	Forest Area	9	0.01%
	Total	**85979**	**100.000**
Remarks: The predominant land use within 5 km radius is Crop Land (Agricultural) i.e 94.99% is under Cultivation.			

Terrain of the proposed alignment is plain (flat) land and is predominantly an agricultural land. The Contour Map prepared based on LISS-III and ARC Gis Software, the contour of project site varies between 210 m to 220 m above Mean Sea Level.

Details of water bodies, impact on drainage:

Proposed Options	Rivers/Nala's	Irrigation Canals	Ponds
Option-1	1/1	12	4
Option-2	1/1	10	3
Option-3	1/1	8	7

The water requirement for Construction works will be about 895,000KLD (Canal water/Surface water). The water requirement for the camp site will be about 75.6 KLD (The

source of water will be met through private water takers augmented with ground water extraction- approvals from SGWB). In the operation phase the water requirement will be about 4.5 KLD.No ground water will be obstructed. However, these quantities likely to be taken from ground water after taking permission from appropriate Authority only.

Tree cutting details for proposed three options as given below:

Proposed Options	**Forest**		**Non-Forest**	
	Fruits	**Non-fruits**	**Fruits**	**Non-fruits**
Option-1	10	2077	22	180
Option-2	35	2195	90	280
Option-3	45	2184	180	375

The proposed project will involve diversion of approximately 10 Ha. of protected forest land declared under The Punjab Land Preservation (Chos) Act, 1900.The project is not located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves, Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC.

The proposed Project Highway shall provide connectivity to proposed Ludhiana International Airport at Halwara, present connectivity of which is congested. Therefore, to cater the present & predicted traffic and to enhance economic development in Ludhiana and Punjab, greenfield highway is the only solution from socio-economic and ecological point of view.

About 463 ha land acquisition will be required for project implementation as per Land Acquisition Act, 2013, which is the amendment of Land Acquisition Act 1956.An employment will be generated for 400 people during construction phase and about 100 peoples during operation phase at toll plaza and for road surveillance and maintenance work. The other benefits of the projectinclude the following:

i. The project will have multiple benefits. It will improve efficiency of freight movement to Delhi, Haryana, Rajasthan and Punjab.
ii. Development and improvement in transportation infrastructure facility will connect villages with the nearby cities. Better approach to Medical & Educational services and quick transportation of perishable goods like fruits, vegetables and dairy products. Development of tourism and pilgrimage. Transporting, processing and marketing of agricultural products. Fast and safe connectivity resulting in savings in fuel, travel time and total transportation cost to the society. Reduction in pollution due to reduction in congestion. Indirect and direct employment opportunity to people from all skilled, semiskilled and unskilled streams will act as social benefits. It is assumed that the overall Bharatmala project will boost socio-economic development in the entire central region of Delhi, Haryana, Rajasthan & Punjab. It will also save fuel consumption decreasing pollutant emission in environment.

The EAC, taking into account the submission made by the project proponent for the proposal for "Development of access-controlled Ludhiana-Bathinda Greenfield Highway, starting from Delhi-Katra Expressway (chainage 251+800 of NE-5) near Ludhiana (village Ballowal) and terminating at (proposed chainage 94+500) Amritsar-Bhatinda Greenfield highway at Bhatinda near RampuraPhul as a part of Ludhiana-Ajmer Economic Corridor in the State of Punjab under BharatmalaPariyojana by M/s National Highways Authority of India (Total Length 78 Km)" had a detailed deliberation during its 246th meeting on 20th-21st October, 2020 and **recommended** the proposal for grant of Terms of References (TORs) with the specific ToRs, as mentioned below in this Para, in addition to all standard ToRs applicable for such projects:

i. A buffer of 40 m from the edge of the ROW of Canal shall be maintained wherever the alignment is coming in proximity of the canal.
ii. The number of canal crossings shall be reduced so as to avoid the forest land.
iii. The proponent, with the help of an independent institution/expert of national repute, 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 Punjab and J&K.
iv. The proponent, with the help of an independent institution/expert of national repute, 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.
v. The proponent, with the help of an independent institute/expert of national repute, shall carry out a detailed traffic 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.
vi. Road safety audit (along with accident/black spots analysis) by any third-party competent organization at all stages namely at detailed design stage, construction stage and pre-opening stage to ensure that the project road has been constructed considering all the elements of road safety.
vii. Cumulative impact assessment study to be carried out along the entire stretch including the other packages in the same stretch.
viii. Rain water harvesting structures to be constructed at the either sides of the road with special precaution of oil filters and de-silting chambers.

ix. Provide compilation of road kill data on 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.

x. 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.

xi. 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 should be same as per the forest type.

xii. 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 fulfill 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 Studiesand 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.

xiii. In pursuance of Ministry's OM No 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 submit it to the Ministry and the EAC.

xiv. 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 withdrawal of ground water.

xv. 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.

3.9 Development of access-controlled Ludhiana-Rupnagar Greenfield Highway, starting from Delhi-Katra Expressway (NE-5) near village Manewal and terminating on NH-205 at Rupnagar near village Bheora including development of its spur (starting near village Pippal Majra and terminate at Kharar) in the State of Punjab under BharatmalaPariyojana by M/s National Highways Authority of India (Total Length 110 Km) - Terms of Reference [Proposal No. *IA/PB/NCP/178014/2020; File No. 10-64/2020-IA.III*]

The project proponent along with the EIA consultant M/s Enviro Infra Solutions Pvt. Ltd., made a presentation through Video Conferencing.

The proposed project is for the development of access controlled Ludhiana – Rupnagar Greenfield highway starting from Delhi – Katra Expressway (NE-5) near village Manewal and terminating on NH-205 at Rupnagar near village Bheora including development of its spur (starting near village Pippal Majra and terminate at Kharar) in the state of Punjab under

BharatmalaPariyojana. The total length of the proposed project highway is approx. 110 km.This part of highway starts from Delhi – Katra Expressway (NE-5) near village Manewal and terminating on NH-205 at Rupnagar near village Bheora including development of its spur (starting near village Pippal Majra and terminate at Kharar) in the state of Punjab.

The Geo Coordinates of project sitestart at location: 30° 57' 57.29" N 75° 38' 25.36" E and end at location: 30° 55' 55.17" N, 76° 32' 23.88" E

Site alternatives under consideration:

Sl. No.	Parameters/Issues	Option 1 (Proposed final alignment) (Red)	Option 2 (Green)	Option 3 (Blue)
1	**Length (km)**	110	103	113.6
2.	**Total land acquired (ha)**	793	766	832
	Govt. land (ha)	52.4	49.4	58
	Pvt. Land (ha)	737	710	762
	Forest land (ha)*	3.6 ha.	6.6 ha.	12 ha
3.	**Area under protected/ important or sensitive species of flora or fauna/Wildlife Sanctuary**	The alignment does not pass through any wild life sanctuary, protected area and its eco sensitive zone.	The alignment does not pass through any wild life sanctuary, protected area and its eco sensitive zone.	The alignment does not pass through any wild life sanctuary, protected area and its eco sensitive zone.
4.	**No. of trees**	15721	18248	22247
5.	**Area under water bodies (ha)***	7.41	8.62	9.84
6.	**No. of structure to be impacted due to proposed alignment**	25	29	54
7.	**No. of families**	125	145	270
8.	**No. of structure to be constructed**	i. ROBs (02) ii. Major Bridges (06) iii. Minor Bridges (05) iv. Vehicular underpass (06) v. Pedestrian overpass (40)	i. ROBs (02) ii. Major Bridges (07) iii. Minor Bridges (05) iv. Vehicular underpass (07) v. Pedestrian	i. ROBs (02) ii. Major Bridges (07) iii. Minor Bridges (08) iv. Vehicular underpass (10) v. Pedestrian overpass (44) vi. LVUP (19) vii. SVUP (48)

Sl. No.	Parameters/Issues	Option 1 (Proposed final alignment) (Red)	Option 2 (Green)	Option 3 (Blue)
		vi. LVUP (14) vii. SVUP (42) viii. Interchanges (8) ix. Box Culverts (330)	overpass (42) vi. LVUP (16) vii. SVUP (44) viii. Interchanges (9) ix. Box Culverts (338)	viii. Interchanges (12) ix. Box Culverts (364)
9.	**Connectivity**	(Delhi Katra Expressway to Ludhiana, Jalandhar, Rupnagar, Chandigarh, Panchkula and Shimla and Vice versa.)	(Delhi Katra Expressway to Ludhiana, Jalandhar, Rupnagar, Kurali and Vice versa.)	(Delhi Katra Expressway to Ludhiana, Jalandhar, Rupnagar, Chandigarh, Panchkula And Shimla and Vice versa.)
10.	**Project cost (cr.)**	2792	2834	3018

Based on the above study the following conclusion has been drawn:

1. Option 2 & Option 3 leads to major impact on flora as more number of trees are falling under the alignment.

2. Option 2 & Option 3 leads to more impact on structure and families as number affected families are high as compared to option 1.

If alignment option 2 or Option 3 are followed then it will leads to more impacts on Environment & Social components, hence Option 1 is followed.

The length (km) of the proposed road project is 110 Km. The starts point of the proposed highway starts from Delhi – Katra Expressway (NE-5) near village Manewal and terminating on NH-205 at Rupnagar near village Bheora including development of its spur (starting near village Pippal Majra and terminate at Kharar) in the state of Punjab. The proposed alignment is connected with Ludhiana (10 km away), Phillaur (4 km away), Machhiwara (2 km away), Chamkaur Sahib (2.5 km away), Rupnagar (4 km away), Samrala (9 km away), Shamaspur (3km away), Salempur (3 km away), Kainaur (1.5 km away), Aurnauli (2.5 km away), Dhangrali (1 km), Gharuan (1.5 km away), Kurali (6 km away) and Kharar (6 km away). The total investment/cost of the project Rs. 279200 Lakhs. The RoW of the project is 60m

Land use/ Land cover of the project site:

S. No.	Landuse / Landcover	Area (ha)	Percentage %	Remarks if any
1.	Private land	737	92.93	Agriculture Land
2.	Government land	52.4	6.62	Agriculture Land
3.	Forest land	3.6	0.45	
	Total	**793**	**100**	-

This is a Greenfield project. The alignment is mainly passing through agriculture land.The terrain of the alignment is basically flat to undulating in nature.

There are 02 nos. of rivers, 02 Nos of Canals, 04 Nos. of Ponds, 08 Nos. of Nalahs falling along the alignment. There shall be no major impact on the drainage system as sufficient numbers of structures (such as culverts, minor bridges and major bridges) will be constructed.

Approx. 9000 KLD Water will be extracted from suitable surface sources (river/canals) or ground water after obtaining necessary permissions from the competent authority.Ground water proposed to be used only for camp site for transient period after obtaining the permissions from appropriate authority.

The alignment will require cutting of approximately 15721 nos. of trees. Most of the trees falling along the alignment are the part of agro forestry i.e. “Popular” and the actual no. of trees proposed to be felled will be submitted in Final EIA after joint enumeration with appropriate authorities of State Government.No forest area is involved in the project.

The Project requires approx. 793 ha. approx. land. Approx. 25 nos. of structures are coming in the proposed RoW. The land will be acquired as per procedure laid down in RFCT LARR Act, 2013.

During the construction of the road project around 1000 persons would be employed temporarily for a period of 2 years. However due to construction of toll plazas approx. 500 persons will be employed on permanent basis. The total manpower requirement for the project is 1500. Preference will be given to local people for employment.

The benefits of the project include the following:

This part of highway starts from Delhi – Katra Expressway (NE-5) near village Manewal and terminating on NH-205 at Rupnagar near village Bheora including development of its spur (starting near village Pippal Majra and terminate at Kharar) in the state of Punjab under BharatmalaPariyojanaby the Government of India. The proposed access controlled project with new alignment has been envisaged through an area which shall have the advantage of simultaneous development as well as shall result in a shorter distance to travel. The junctions with existing road will be planned in the form of interchanges and flyover to ensure uninterrupted flow of traffic.

The proposed road would act as the prime artery for the economic flow to this region. 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 way side amenities. Vehicle operating cost will also be reduced due to improved road quality. The compensatory plantation and road side plantation shall further improve the air quality of the region.

The EAC, taking into account the submission made by the project proponent for the current proposal for "Development of access-controlled Ludhiana-Rupnagar Greenfield Highway, starting from Delhi-Katra Expressway (NE-5) near village Manewal and terminating on NH-205 at Rupnagar near village Bheora including development of its spur (starting near village Pippal Majra and terminate at Kharar) in the State of Punjab under BharatmalaPariyojana by M/s National Highways Authority of India (Total Length 110 Km)" had a detailed deliberation during its 246th meeting on 20th-21st October, 2020 and **recommended** the proposal for grant of Terms of References (TORs) with the specific ToRs, as mentioned below in this Para, in addition to all standard ToRs applicable for such projects:

i. The proponent, with the help of an independent institution/expert of national repute, 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.
ii. The proponent, with the help of an independent institute/expert of national repute, shall carry out a detailed traffic 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.
iii. Road safety audit (along with accident/black spots analysis) by any third-party competent organization at all stages namely at detailed design stage, construction stage and pre-opening stage to ensure that the project road has been constructed considering all the elements of road safety.
iv. Cumulative impact assessment study to be carried out along the entire stretch including the other packages in the same stretch.
v. Rain water harvesting structures to be constructed at the either sides of the road with special precaution of oil filters and de-silting chambers.
vi. Provide compilation of road kill data on 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.
vii. 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.
viii. 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 should be same as per the forest type.

ix. 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 fulfill 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 Studiesand 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.

x. In pursuance of Ministry's OM No 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 submit it to the Ministry and the EAC.

xi. 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 withdrawal of ground water.

xii. 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.

3.10 Construction of 2/4 laning road with paved shoulder and NH configuration under BharatmalaPariyojana for Tangi - Bhramagiri - Puri - Konark - Astarang - Naugaon - Paradip Port - Ratnapur in the State of Odisha by M/s National Highways Authority of India - Terms of Reference [Proposal No. *IA/OR/NCP/154293/2020; File No. 10-16/2020-IA.III*]

The project proponent along with the EIA consultant M/s Enviro Infra Solutions Pvt. Ltd., made a presentation through Video Conferencing.

The proposal was considered by EAC in its 206nd meeting held on 24th – 25thJanuary, 2019and 232nd meeting dated 27th February, 2020. EAC observed the following points and returned the proposal in its present form.

(i) The proposed alignment involves CRZ area.

(ii) The length of the proposed alignment has been reduced by 71.475 km (240.122 km - 168.647 km) as compared to alignment proposed earlier, which was rejected by the EAC during its 206th meeting held on 25th January, 2019 due to presence of various protected areas and ecologically sensitive sites.

(iii) Part of the proposed alignment is brownfield and part of it after Konark is greenfield. Earlier the starting point was Gopalpur, but now it is changed to Satpada. In this case, the proposed alignment ends abruptly that may not serve the intended purpose.

(iv) Proposal is passing through 11 rivers. Also, pillars will be constructed into riverbed. The proponent should avoid construction of pillars in the riverbeds including Devi River and Mahanadi river.

(v) All the water bodies and drainage systems are to be protected.

(vi) A large number of trees (17278 no.) are proposed to be cut and total 21.42 ha of forest land to be diverted for the proposed project.

(vii) Proposed alignment is passing through Balukhanda Konark Wildlife Sanctuary, and some of the important olive ridley turtle nesting sites in India. Proponent is required to re-design the alignment so as to avoid disturbance to coastal biodiversity including the aforementioned nesting sites. Proponent is required to change the alignment accordingly.

(viii) The proposed alignment falls/passes through some of the ecologically most sensitive sites and requires utmost care in design and aliment selection. The Committee suggested some alignment changes and requested project proponent to approach Ministry with revised alignment proposal. The suggested alignment by the Committee will help reduce distance by at least 60 km and avoid most of the ecologically sensitive areas.

Based on the above observations of the EAC the PP has revised the alignment and submitted the documents. The revised details submitted by the PP are as under:

The project road starts from Tangi in Khorda district and terminates at Ratanpur in the State of Odisha. The project road starts from NH-16 near Tangi, the new highway 316-A starts with NH-316 near Konark connecting Ratanpur, Satabhaya, Dhamra, Basudevpur, Talapada, Chandipur, Chandaneswar in state of Odisha and terminating at Digha in the State of West Bengal. The present project stretch starts at Tangi in Khorda district and passes through Puri, Konark, Astarang, Naugaon, Paradip Port and ends at Ratanpur. The length of the proposed alignment is approx. 177.119 km. The proposed alignment is a part of Coastal highway starting from Tangi (NH-16) and ending at Digha in West Bengal.The terrain of the alignment is basically flat to undulating in nature and some low lying areas.

The starting point of the proposed highway is approachable by NH-16 near Tangi and the end point of the alignment is approachable by road by NH – 53 near Paradip in Orissa state. The revised Geo Coordinates of project site are starting at 20° 00'00.78"N 85°28'55.49"E and end Location at 20°29'23.79"N 86°37'23.02"E. Right of Way (RoW) is 45m. The cost of the project is Rs. 276581.9 Lakhs.

Site alternatives under consideration:

S.No	Parameters/Issues	Alignment-1	Alignment-2	Alignment-3
1	**Status**	Rejected in 206th EAC meeting	Rejected in 232nd EAC meeting	Current Proposal
2	**Length (km)**	240.122	168.647	177.119
	Total land required (ha)	1080.549	758.9115	797.036
	Govt. land (ha)	366.232	221.347	254.963*

3	**Pvt. Land (ha)**	680.717	516.144	542.073*
	Forest land (ha)*	33.600	21.42	0.000
4	**Area under protected/ important or sensitive species of floraor fauna/Wildlife Sanctuary**	128.1	86.98	0.000
5	**No. of trees**	24596	17275	7833
6	**Impact on flora and fauna and Eco- sensitive zones**	Proposed alignment is passing through BalukhandaKonark Wildlife Sanctuary in Puri district. Also the proposed alignment is at a distance of 6.0 km from Draft ESZ boundary of Chilika wildlife sanctuary and 7.0 km form boundary of Chilika wildlife sanctuary.	Proposed alignment is passing through BalukhandaKonark Wildlife Sanctuary in Puri district.	Not passing through any Wildlife sanctuary, RF or Eco- sensitive zone
7	**Area under water bodies (ha)***	139.475	97.959	36.044
8	**No. of structure**	1410	1003	150
9	**No. of families**	1762	1204	488
10	**No. of structure to be constructed**	Major bridge – 40 nos.(L=12.42 km)	Major bridge – 30 nos.(L=5.945 km)	Major bridge – 20 nos.(L=5.010 km)
		Minor Bridge- 19 nos.(L=0.652 km)	Minor Bridge- 18 nos.(L=0.631 km)	Minor Bridge- 69 nos.(L=1.492 km)
		ROBs- 4 nos.	ROBs- 3 nos.	ROBs- 4 nos.
		VUP- 5 nos.	VUP- 5 nos.	VUP- 5 nos.
		LVUP- 6 nos.	LVUP- 3 nos.	LVUP- 5 nos.
		Flyover- 1 nos.	Flyover- 1 nos.	Flyover- 2 nos.

		Culverts- 428 nos.	Culverts- 337 nos.	Culverts- 354 nos.
11	**Connectivity**	Connectivity to Gopalpur, NH- 316, Puri, Konark, Paradip Port, Astarang	Connectivity of NH-316, Puri, Konark, Astrang, Paradip Port	Connectivity to Gopalpur(via NH- 16), NH-316, Puri, Konark, Astarang, Paradip Port,
12	**Tentative Project cost (cr.)**	3802.8 Cr.	2567.44 Cr.	2765.819

*Tentative

Land use/ Land cover of the project site in tabular form:

S.No.	Land use / Land cover	Area (ha)	Percentage %	Remarks if any
1.	Private land	542.073	68.01	
2.	Government land	254.963	31.98	
3.	Forest land	0.000	0	
	Total	**797.036**	**100.0**	

Land use/Land cover around 10 km radius of project site (1 km in case of Highway projects):

S.No.	Land use / Land cover	Area (ha)	Percentage %	Remarks if any
1.	Private land	12740.0	71.97	
2.	Government land	4948.0	27.95	
3.	Forest land	12.0	0.07	
	Total	**17700**	**100.0**	

There are 16 rivers/tributaries/rivulets crossing the proposed alignment. There shall be no major impact on the drainage system as sufficient numbers of structures (such as culverts, Major and minor bridges etc.) will be constructed.

Total requirement of water for the construction is estimated 8500 KLD which will be met through surface water sources and ground water proposed to be used only for camp site for transient period after obtaining the necessary from permissions from competent authority. Ground water proposed to be used only for campsite for transient period after obtaining the permissions from appropriate authority.

About 7833 trees are likely to be affected due to proposed RoW of 45 m. No forest area is involved, however if any area is identified during detailed survey, clearance from competent authority would be taken.

The proposed alignment may cross through CRZ I, II, III and CRZ IV areas at some chainages as will be identified through CRZ maps prepared by ORSAC Bhubaneswar.

Brief description of Socio-economic condition of local people:

i. The project Corridor Area falls under Odisha State & four districts namely Khorda, Puri, Kendrapada and Jagatsinghpur.
ii. The entire Corridor population residing around 162 villages/ Hamlets/ Urban Municipal Wards.
iii. Majority of the population belongs to OC + BC Caste (18%).
iv. ST Population forms around 2% of the population.
v. Average Literacy Rate of the district population (84%)

The Project requires approx. 797.036 ha. land. Total 150 nos. of structures are coming in the proposed RoW. The land will be acquired as per procedure laid down in RFCT LARR Act, 2013.

During the construction of the road project around 500 persons would be employed temporarily for a period of 2.5 years. However due to construction of toll plazas approx. 60 persons will be employed on permanent basis. Preference will be given to local people for employment.

The proposed highway with new alignment has been envisaged through an area which shall have the advantage of simultaneous development as well as shall result in a shorter distance to travel. The junctions with existing road will be planned in the form of interchanges and flyover to ensure uninterrupted flow of traffic.

The proposed road would act as the prime artery for the economic flow to this region. 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 way side amenities. Vehicle operating cost will also be reduced due to improved road quality. The road will also provide port connectivity to ports. The compensatory plantation and road side plantation shall further improve the air quality of the region.

The EAC, taking into account the submission made by the project proponent for the current proposal for "Construction of 2/4 laning road with paved shoulder and NH configuration under BharatmalaPariyojana for Tangi - Bhramagiri - Puri - Konark - Astarang - Naugaon - Paradip Port - Ratnapur in the State of Odisha by M/s National Highways Authority of India" had a detailed deliberation during its 246th meeting on 20th-21st October, 2020 and **recommended** the proposal for grant of Terms of Reference (TORs) with the specific conditions, as mentioned below in this Para, in addition to all standard conditions applicable for such projects:

i. Freshwater prawns in the rice field as a part multitier farming is common in the coastal part of Odisha. An assessment of this aspect be carried out and submitted alongwith the EIA document. The alignment of the road may avoid such farm lands.

ii. The proponent, with the help of an independent institution/expert of national repute, shall carry out the impact of proposed alignment on avifauna, migratory avifauna, other 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 and endorsement ofChief Wildlife Warden of Odisha with requisite financial provisions.

iii. The proponent, with the help of an independent institution/expert of national repute, shall carry out a comprehensive socio-economic assessment 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.

iv. A comprehensive assessment of water catchment, hydrology and drainage pattern within 10km of the alignment, impacts of project on the same and its mitigation with requisite financial allocation.

v. The proponent, with the help of an independent institute/expert of national repute, shall carry out a detailed traffic 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.

vi. Road safety audit (along with accident/black spots analysis) by any third-party competent organization at all stages namely at detailed design stage, construction stage and pre-opening stage to ensure that the project road has been constructed considering all the elements of road safety.

vii. Cumulative impact assessment study to be carried out along the entire stretch including the other packages in the same stretch.

viii. Rain water harvesting structures to be constructed at the either sides of the road with special precaution of oil filters and de-silting chambers.

ix. Provide compilation of road kill data on 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.

x. 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.

xi. 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 should be same as per the forest type.

xii. 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 fulfill 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 Studiesand 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.

xiii. In pursuance of Ministry's OM No 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 submit it to the Ministry and the EAC.

xiv. 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 withdrawal of ground water.

xv. 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.

3.11 Development of Haraluru Industrial area, near PalyaNaganayakanahalli, Muddenahalli, Haralur&Polanahlli villages, Devanahalli Taluk, Bengalurur Rural District, Karnataka by M/s Karnataka Industrial Areas Development Board (KIADB) - Terms of Reference [Proposal No. *IA/KA/NCP/177572/2020; File No. 21-68/2020-IA.III*]

The project proponent along with the EIA consultant M/s Ramky Enviro Services Pvt. Ltd. made a presentation through Video Conferencing

Karnataka Industrial Areas Development Board (KIADB), proposes to develop "Haraluru Industrial Area near Palya, Naganayakanahalli, Muddenahalli, Haraluru &Polanahalii Villages, Devanahalli Taluk, Bengaluru Rural District and Karnataka State" in an area of 490 ha. Proposed project falls under Project Activity 7(c) – Industrial estates/ Parks/ Complexes/ Areas, Export Processing Zones (EPZs), Special Economic Zones (SEZs), Biotech parks, Leather complexes - Category 'B' (Industrial estates housing at least one Category B industry in the area). Proposed project proposes to develop all amenities required for environmental friendly operations of units which can be occupied by industrialists without any administrative hassles associated with setting up of industries. It is proposed to provide space to set up small and medium scale multi sector industries and commercial establishments.

The proposed project is an independent project and is not partly or completely linked to any other project.The project is aimed at development of industrial area named Haraluru

Industrial Area, near Palya, Naganayakanahalli, Muddenahalli, Haralur&Polanahlli Villages, Devanahalli Taluk, Bengaluru Rural District, Karnataka State by KIADB. The details of plot numbers have been provided in PFR.

The Geo-coordinates of projectsite are 13° 13' 11.0" N 77° 45' 09.4" E; 13° 13' 26.2" N 77° 47' 20.5" E; 13° 14' 05.9" N 77° 47' 24.7" E; 13° 13' 44.0" N 77° 45' 44.3" E. No alternative sites were considered for the proposed project as the land has been identified and developed by KIADB. However, the site qualifies major requirements complying with the guidelines set for development of industries.KIADB is in possession of land to an extent of **490 ha** at Bengaluru Rural (D), Karnataka**.**Capital cost of proposed project is estimated at around Rs. 240 Crores. The Budget allocated for EMP is around Rs. 20 Crores, with recurring cost of around 2 Crores.

The project site is well connected with all the transportation facilities from nearby places. National Highway NH-207 is adjacent to the site on south west side. Devanahalli Railway Station is about 5.9 Km (WNW). The nearest airport is Bengaluru Airport International Airport about 3.5 Km (S).

The proposed falls under 7(c) Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather complexes. Further, the project does not fall under the General/Specific Conditions as per EIA Notification,2006.Though the proposed project falls under Category B for consideration at SEIAA, presently Karnataka SEAC/SEIA does not exist due to the completion of the term of earlier existing SEAC/SEIAA. In this regard, the proposal is being submitted for consideration by the EAC.

The tentative land breakup details of proposed project site are given below:

S. No	Type of Area	Area in Hectares (approx.)
1	Industrial	294
3	Commercial/Amenities/Utility	34
6	Park / Green Buffer	68
7	Parking	26
8	Road	66
9	NH-207 Area	2
	Total	**490**

The land use/land cover details within 10 km radius of proposed project site are given below-

L1			L2		
Class	**Area (ha.)**	**% of area**	**Class**	**Area (ha)**	**% of area**
Builtup	3428	8	Urban	1841	4.2

			Rural	1587	3.6
Agriculture	33607	77	Crop land	20699	47.3
			Plantation	11728	26.8
			Fallow	1180	2.7
Forest	3250	8	Forest Plantation	2485	5.7
			Scrub Forest	330	0.8
			Deciduous	435	1.0
Water bodies	3040	6	River / Stream / Canals	47	0.0
			Water bodies	2993	6.2
Wasteland	427	1	Salt affected land	5	0.0
			Scrub land	289	0.7
			Barren rocky	133	0.3
*Note: This area breakup is tentative and approximate only and prepares from coarse resolution satellite data. Area statement may varies while analysis of high resolution of satellite data with different date of satellite imagery.					

Tentative list of proposed industries that may be established in the proposed project

Category	Type of Industry
Red	Apparel/ textile industries
Orange	Processing and preserving of fruits, vegetables & aqua food related processing (fish and prawns etc.) including meat trimming & packing. Manufacture prepared meals & dishes, other food products like macaroni, noodles, couscous and similar farinaceous products. Manufacturing of electrical line materials and industrial engineering works Engineering: Other industrial machinery Manufacturing of steel doors, window frames, furniture, grill gates, steel bench, hooks etc. with painting. Printing press &/or Screen Printing.
White	Making of maize flakes & grit, manufacturing atta chakkies, chilly & masala powder & powdering of spices. Manufacturing of steel doors, window frames, furniture, grill gates, steel bench, hooks etc. without painting operations. Industrial fabrication and Automobile body building (dry process without heat treatment / metal surface finishing operations / painting). All other White category industries categorization as per CPCB /SPCB.
Green	Spice grinding and packaging. Garment stitching/ Stitching of shoe uppers / Cotton knitting including Socks, Shoe lace / Readymade leather garments. Storage of raw materials and goods.

	Facility of handling, storage and transportation of food grains / product in bulk. Corrugated boxes & Wooden boxes. Mineral water plant (packaged drinking water) . Bio briquettes All other Green category industries categorization as per CPCB /SPCB.

The project site is mostly undulating plain terrain land, and the topographic elevation is ranging from 876 to 907 m above mean sea level (reference: elevation data of SRTM [Shuttle Radar Topography Mission]). The topographical map of the study area (10 km radius around the site) is prepared using TOPO sheet No D43R11 (2009), D43R12 (2011), D43R15 (2009) & D43R16 (2011) (1:50000 scale) from Survey of India shown in Topographical map of study area – 10 km radius.

Wastewater generated from the individual industries shall be treated in their respective Effluent Treatment Plants (ETPs) and treated water shall be reused within project site by adopting "Zero Liquid Discharge" (ZLD) concept. So, there would not be any impact due to wastewater from proposed industries. Moreover, local natural drainage shall be taken into consideration while planning, designing and construction. Storm water drainage system will be implemented and maintained during construction and development phases. All preventive measures and mitigation will be implemented as required. Accordingly no change to existing water bodies or no diversion of streams is envisaged and no drainage courses and water bodies will be affected. Sufficient green belt and development zone will be provided all along the natural streams. Details of water bodies - Bettakote Amani Kere 1.5 km SW, Banda Kere 6.0 Km NE, Chikka Sanne Kere 7.2 Km W, Bandhikodigenahalli Amani kere 7.7 Km SW, Hoskote Tank 8.2 Km S are present.

Around 7401 KLD (7.4 MLD) of water is required for the proposed project out of which around 4.0 MLD being fresh water while the remaining will be met through treated water requirement. Water for proposed project will be sourced from Devanahalli IA (Tertiary Treated water), transported through the proposed pipeline system. Bore well water is proposed to meet drinking water requirement.The drinking water requirement for project is proposed to be met from bore wells/ground water.NOC/Clearance from CGWA/State ground Water Department permission as applicable shall be taken during the later stages of project after obtaining ToR.

The project area is barren land with a few bushes. The project site is also covered by Eucalyptus plantation, part of the area is under single crop cultivation. The land is acquired by KIADB for developing industrial park. Most of the trees will be retained as block plantations and road plantation and in case the trees are cut, compensatory plantation of three trees will be done for every one tree that is cut. However, shrubs, thorny bushes and weeds shall be removed as required during the development of the project facilities. Sufficient green belt will be provided all along the periphery of the industrial area and will be developed of green belt in the project site by KIADB and individual industrial sectors.

No forest land is involved and hence diversion is not anticipated for the proposed project. There are no Protected Areas (PA) like National Parks, Sanctuaries and Tiger Reserves

etc., existing within 10 km radius of the proposed project area.The proposed project is not located within any protected areas like national parks, sanctuaries and tiger reserves etc. as notified by the MoEF&CC. Details of eco sensitive areas have been given in the Pre-feasibility report.The project does not fall under coastal areas and hence CRZ is not envisaged (Bay of Bengal-230 km- E & Arabian Sea-320 Km -W)**.**

Total water requirement of project is estimated to be around 7401 KLD (7.4 MLD) and the wastewater generated from the industries is expected to be around 4744 KLD, which shall be treated in their respective Effluent Treatment Plants (ETPs) on the bases of zero discharge concepts by the individual industries. The treated water is reused by the industries for boilers, cleaning equipment's etc.At initial stages (partial occupational stage of industries), waste water conveyance will be met through tankers. During full occupation of plots/ operational stage of industries, the waste water conveyance will be met through pipe network.

Wastewater generated by industrial workers, commercial units, amenities and facilities will be treated in Common Sewage Treatment Plant (CSTP). CSTP sludge shall be used as manure for gardening;during operation phase sewage generated will be treated in the CSTP planned in 15.32 acres. The treated water shall be reused in flushing, gardening etc.

The proposed project site is surrounded by villages, majorly inhabited by a mix of social structure. The main occupation of the people in this area is agriculture and other allied activities. Some work as daily wage labourers in some nearby industries, as agriculture labourers in local farms, and vegetable vendors at the local markets. Very few are employed in government and private sectors. Requisite physical and social infrastructure facilities are definite means of social development expected from the project.

The proposed project does not involve any villages or habitation within the project site and hence does not envisage any disturbance to local community or the village. Since the land is acquired and fully owned by the KIADB, there is no requirement of R&R implementation in this project.

Proposed project would provide employment opportunity for youth from nearby habitations. Adequate workforce is available around the area to work for the proposed project. The employment potential break up during construction and operation phase of the project is given in table.

Details of Manpower Requirement

S. No	Description	Manpower	Remarks
1	Construction phase	500	Preference will be given to employ from nearby villages
2	**Operation phase**		
	Industrial	14800	Approx. 50 persons/Ha of industrial & KSSIDC area
	Commercial	280	Approx. 25 persons/Ha
	Amenity	120	Approx. 10 persons/Ha
	Total	**15200**	
Source: KIADB; Numbers rounded off to nearest value			

Benefits of theproject:

Employment: The proposed project is expected to create employment opportunities in the region. The proposed industries, trade pavilion, exhibition facilities, shopping, dispensary, etc. would create robust market linkages resulting in regional economic development.

Connectivity: The proposed external infrastructure linkages are expected to provide excellent connectivity of the region with the urban centres and other economic growth centres. Overall, the proposed project is expected to enhance the economic development in the region.

Social development: Requisite physical and social infrastructure facilities are definite means of social development expected from the project.

Regional development: The goods and products manufactured from the industries of proposed project would fill the demand-supply gap and hence improve the domestic markets.

No litigations are observed against the proposed project as on date

The EAC, taking into account the submission made by the project proponent for the current proposal for "Development of Haraluru Industrial area, near PalyaNaganayakanahalli, Muddenahalli, Haralur&Polanahlli villages, Devanahalli Taluk, Bengalurur Rural District, Karnataka by M/s Karnataka Industrial Areas Development Board (KIADB)" had a detailed deliberation during its 246th meeting on 20th-21st October, 2020 and **recommended** the proposal for grant of Terms of Reference (TORs) with the specific conditions, as mentioned below in this Para, in addition to all standard conditions applicable for such projects:

i. Proper water drainage system should be intended to set aside the impervious roads, lined drains, routing surface drainage to settlement tanks/pits etc.
ii. No textile manufacturing industry should be established in the proposed industrial area.
iii. Water treatment plant of effluent, recycle/ reuse and disposal should be well planned.
iv. In the project area adjacent to villages boundaries width of the green belt should be minimum 50 meters
v. The project area should not encircle the villages completely. To ensure this the land of the project area falling within geo coordinate points number 20, 21, 22 ,23 and 24(as mentioned in slide no 7 of the presentation) shall be excluded from project area. If felt necessary PP may consider adding any other area in lieu of this exclusion. A revised outlay with revised area be submitted
vi. The planning of Industrial Estate should be based on the criteria mentioned in this Ministry's Technical EIA Guidance Manual for Industrial Estate (2009) as well as CPCB's Zoning Atlas Guidelines for siting industries.
vii. No ground water shall be used in any case. Proponent is required to obtain permission from competent authority to use water from river or other surface water sources. Consent to Operate shall not be issued without obtaining permission competent authority for use of surface water.
viii. Provide detailed water balance statement a scheme to achieve ZLD by each industrial unit as well as for utilization of treated sewage.

ix. Since, natural drainage pattern is seen in/around the proposed project site, it is important to have a detailed hydrogeological study on the catchment area of the drainage system within core zone of the project area.

x. Detailed biodiversity study of the project area.

xi. 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

xii. 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 fulfill 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 Studiesand 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.

xiii. In pursuance of Ministry's OM No 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 submit it to the Ministry and the EAC.

3.12 Development of access-controlled Amritsar - Bhatinda Greenfield Highway Starting from Delhi - Amritsar Expressway near Sultanpur Lodhi (Village Tiba) and terminate at Bahtinda (Near Sangat - Kalan) as a part of Amritsar - Jamnagar Economic Corridor Under BharatmalaPariyojana. This project was considered for Terms of Reference (ToR).

The National Highways Authority of India (NHAI) has proposed development of Amritsar – Bathinda Green Field Highway Projects of length 155 km. The proposed green field Highway start at km 00.00 which is Delhi – Amritsar Expressway near Sultanpur Lodhi (Village Tiba) and end at km 155+00 km at athinda (Near Sangat – Kalan) as a part of Amritsar – Jamnagar Economic Corridor Under BharatmalaPariyojana.

The alignment pass through district off Bathinda, Moga, Jalandhar, Kapurthala in the State of Punjab. Total length of is approx 155 Km. The Project is part of interlinked project which is detailed below:

1. Ludhiana – Bathinda – 80 km (Proposal No IA/PB/NCP/177976/2020 and File No 10-63/2020-IA.III)
2. Ludhiana – Rupnagar – 110 km (Proposal No IA/PB/NCP/178014/2020 and File No 10-64/2020-IA.III)

The Amritsar – Bathinda Green field highway has been selected by National Highway Authority of India to be developed under BharatmalaPariyojana to 6 lane with earthen shoulder with having PROW of Length 70meters. The total length of the project is 155 Km from Km (Chainage 000+000) to Km 155.00 (Fig. ES.1). The project road passing through the 4 districts with 97 Nos villages viz.

The Geo-coordinates of the project starts from Sultanpur Lodhi (Village Tiba) at Km 00.000(31°18'15.05"N / 75°12'17.95"E) and terminate at Bathinda (Near Sangat – Kalan); Km 155.000 (30° 4'30.74"N/ 74°52'7.17"E). The Proposed project will involve diversion of approximately 15 Ha. of Protected forest land declared under The Punjab Land Preservation (Chos) Act, 1900.

The carriageway width of the present road is generally 10.5 m to 10.5m wide. The area of direct influence of 500 meters on either side has been considered. The project road runs mainly through plain terrain. Project Stretch has 9 major bridges and 20 minor bridges. Project stretch has 310 culverts. The project road crosses railway lines at 6 locations.

The analysis of alternative sites has been made on the basis of "Long term Scenario with projects and Long term Scenario without project" in terms of potential environmental impacts.

The project road runs mainly through plain terrain. The rocks exposed in the project area are Sedimentary rocks comprise sand, gravels, silt, clay and pebbles.The districts area is occupied by Indo-Gangetic alluvium. The soil along the project road is mostly sandy loam to clayey.

Land use/ Landover of the Project Site

S.No	Land use/ Land cover	Area Ha	%
1	Deciduous Broadleaf Forest	0.014	0.001
2	Crop land	1066.308	98.303
3	Built-up Land	7.418	0.684
4	Water bodies	10.98	1.012
5		**1084.72**	**100.000**

Remarks: 98.303% of the PROW is under Crop Land Cover (Agricultural).

Land use/Landover within 1 km

S.No	LULC Type	Area Ha	% LULC
1	Deciduous Broadleaf Forest	44.931	0.144
2	Crop land	30170.156	96.410
3	Built-up Land	692.392	2.213
4	Wasteland	7.634	0.024
5	Water bodies	359.253	1.148
6	Plantation	19.193	0.061
	Total	**31293.559**	**100.000**

Remarks: The predominant land use within 1 km radius is Crop Land (Agricultural) i.e 96.41% is under Cultivation.

Tree cutting details for proposed three options as given below:

Proposed Options	Forest	Non-Forest

	Fruits	Non-fruits	Fruits	Non-fruits
Option-1	12	1765	37	485
Option-2	55	2161	101	587
Option-3	75	5406	203	889

There is a meteorological observatory in the district at Amritsar and Bathinda, the records of this observatory may be taken as representative of the meteorological conditions prevailing in the district in general.
The district is occupied by Indo-Gangetic alluvial plain of Quaternary age. The area has both unconfined and confined aquifers. In alluvium thin granular zones exist down to a depth of 450m. The top aquifer ranges from 40 to 56 m.During the Pre-monsoon the depth to water level in the district varies from 20.39 m bgl (western and southern part) to 16.50 m.bgl. During the Post-monsoon, the depth to water level is in the same pattern as in pre-monsoon. The water level varies from 2.24 to 20.76 m.bgl.

The ground water of the districts is alkaline in nature with pH values ranging from 7.54 to 8.0. Well waters in the area are generally medium to highly saline. However, pockets of fresh water are also found. EC of waters show wide variations, it ranges from 288 S/cm to 3490 S/cm at 25°C. The ground water is moderately hard in nature with total hardness expressed as CaCO3 ranging from 40 to 1451 mg/l. Among cations, the concentration of calcium ranges from 11 mg/l to 216 mg/l whereas magnesium concentration ranges between 3.8 mg/ and 228 mg/l. Calcium content is within the permissible limit of 200 mg/l (BIS). Likewise, magnesium, in most of the waters, is below 100mg/l. Sodium concentration varies widely from 12 mg/l to 570 mg/l, whereas potassium concentration ranges from 3.2 mg/l to 325 mg/l. In majority of the samples, the potassium content is less than 100 mg/l. Source: CGWB Report.

The ambient air of the State is being monitored regularly at 24 monitoring stations including one at Dera Baba Nanak (Male Declaration to study the likely trans-boundary effects) under National Ambient Air Quality Monitoring Programme (NAMP) set up in 11 cities. These stations have been set up for monitoring Respirable Suspended Particulate Matter (RSPM), Sulphur dioxide (SO2) and Oxides of Nitrogen (NOx) for 24 hours thrice a week. The 11 cities include highly polluting cities like Amritsar, Jalandhar, Ludhiana and Mandi Gobindgarh, which have large number of air polluting units. Source: State Pollution Control Board.

The project is mostly dominant by Agrarian Ecosystem. The proposed project involve diversion of 15 Ha of forest area, which are declared protected under PLPA-1900. These protected forest are mostly located along irrigation Canal, railway crossing, PWD Roads, etc. No wildlife sanctuary, National Park etc are located within 10 km radius.

Along the project corridor many plant species were observed viz. Palas (*Buteamonosperma*), Shisham (*Dalbergiasissoo*), Aam (*Mengifera indica*), Pipal (*Ficus religiosa*), Tendu (*Diospyrosmelanoxylon*), Saja (*Terminaliatomentosa*), Harra (*Terminaliachebula*), Kalasiras (*Albizzialebbeck*), Neem (*Azadirachita indica*), Bija (*Pterocarpus marsupium*), Khair,

Kardhai, Euclyptus, Kikar, Dhow, Salaj, Mahua, Karch, Karey, Koha, Jamun,. DhamanKaim, Semal, Tinach and Amaltas etc.

Following benefits from the project are envisaged:

- It will reduce travel time from Delhi to Rupnagar and will further improve connectivity with Himachal Pradesh.
- It will improve connectivity to proposed eight Industrial clusters in Ludhiana, nine in Jalandhar, and existing Industrial cluster in Amritsar and Rupnagar.
- Punjab has emerged as the leading hub for textile-based industries such as apparel, manufacturing, spinning and hosiery exports. This corridor will facilitate investments in the mega project in year to come.
- will reduce the traffic load on NH- , mitigate the safety issues and reduce pollution load in the surrounding area
- will support the local businesses and economy along the project corridor
- will provide employment opportunity during construction and operation stage of the project
- About 400 labours will be engaged for construction work.

The EAC, taking into account the submission made by the project proponent for the current proposal for **"**Development of access-controlled Amritsar - Bhatinda Greenfield Highway Starting from Delhi - Amritsar Expressway near Sultanpur Lodhi (Village Tiba) and terminate at Bahtinda (Near Sangat - Kalan) as a part of Amritsar - Jamnagar Economic Corridor Under Bharatmala Pariyojana" had a detailed deliberation during its 246th meeting on 20th-21st October, 2020 and **recommended** the proposal for grant of Terms of Reference (TORs) with the specific conditions, as mentioned below in this Para, in addition to all standard conditions applicable for such projects:

i. The proponent, with the help of an independent institution/expert of national repute, 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.

ii. The proponent, with the help of an independent institute/expert of national repute, shall carry out a detailed traffic 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.

iii. Road safety audit (along with accident/black spots analysis) by any third-party competent organization at all stages namely at detailed design stage, construction stage and pre-opening stage to ensure that the project road has been constructed considering all the elements of road safety.

iv. Cumulative impact assessment study to be carried out along the entire stretch including the other packages in the same stretch.

v. Rain water harvesting structures to be constructed at the either sides of the road with special precaution of oil filters and de-silting chambers.

vi. Provide compilation of road kill data on 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.

vii. 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.

viii. 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 should be same as per the forest type.

ix. 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 fulfill 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 Studiesand 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.

x. In pursuance of Ministry's OM No 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 submit it to the Ministry and the EAC.

xi. 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 withdrawal of ground water.

xii. 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-A

Following members were present during the 246thEAC(Infra-1) meeting held on 20th – 21st October, 2020:

S. No.	Name	Designation
1.	Dr. Deepak ArunApte	Chairman
2.	Shri S. Jeyakrishnan	Member
3.	Shri Manmohan Singh Negi	Member
4.	Shri Sham Wagh	Member
5.	Dr. Ashok Kumar Pachauri	Member
6.	Dr. Manoranjan Hota	Member
7.	Dr. V.K Jain	Member
8.	Dr. MukeshKhare- Member	**Absent**
9.	Dr. Ramana Murthy – Member	Member
10.	Shri Amardeep Raju	Member Secretary
11.	Dr. Rajesh P Rastogi	Deputy Director, MoEF&CC

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