

IN THE HON’BLE NATIONAL GREEN TRIBUNAL, SOUTHERN ZONE,
CHENNAI BENCH

IN
ORIGINAL APPLICATION NO. 262 OF 2024

IN THE MATTER OF:

Tejah Balantrapu & Ors.

Vs.

...Applicants

Union of India & Anr.

...Respondents

INDEX

S. No.	Particulars	Pg. No.
1.	Counter Affidavit on Behalf of the Ministry of Environment, Forest and Climate Change (Respondent No.1)	01-09
2.	Annexure I- True copy of the Judgment dated 06.11.2023 of NGT (SZ) in OA No. 242/2021	10- 38
3.	Annexure II- True copy of the Minutes of the 353rd EAC meeting dated 01.02.2024	39 - 146
4.	Annexure III- True copy of the Terms of Reference dated 17.02.2024	147- 158
5.	Annexure IV- True copy of the Minutes of the 363 rd EAC meeting dated 17.05.2024	159-410
6.	Annexure V- True copy of the Minutes of the 368 th EAC meeting dated 23.07.2024	411 - 476
7.	Annexure VI- Site inspection Report of the Sub-committee	477 - 483

Place:

Date:

Ms .Y. KAVITHA

Standing Counsel for MoEFCC

**IN THE HON'BLE NATIONAL GREEN TRIBUNAL, SOUTHERN ZONE,
CHENNAI BENCH**

IN

ORIGINAL APPLICATION NO. 262 OF 2024

IN THE MATTER OF:

Tejah Balantrapu & Ors.

...Applicants

Vs.

Union of India & Anr.

...Respondents

**Counter Affidavit On Behalf of Ministry of Environment, Forest
and Climate Change (Respondent No.1)**

IT IS MOST RESPECTFULLY SHOWETH:

I, Sh. Tarun Kumar S/o Shyamala Rao, aged about 46 years, resident of Hyderabad, do hereby solemnly affirm and state as under :-

1. That I am working as Director/Scientist "F"
2. That I am fully conversant with the facts and circumstances of the case from records maintained in the office. I have read and understood the contents of the Application thereof and as such authorized and competent to swear the present affidavit.
3. I submit that I deny all the allegations/averments mentioned in the present Application filed by the Applicant except those that are specifically admitted in the Counter Affidavit filed.
4. That the Applicants herein have alleged that the answering Respondent has failed to appraise the impact of the proposed project of NHAI for four-laning of NH-163 from Hyderabad to Manneguda in Telangana for a length of 45.5 km by exempting public hearing and proceeding with appraisal of the project in violation of the EIA Notification, 2006.
5. The Applicants, among other contentions, also mentioned that the exemption to the public hearing granted is ultra-vires the EIA Notification,



Tarun Kathula
Director/Scientist 'F'
Integrated Regional Office
Ministry of Environment Forest And Climate Change
Aranya Bhavan, Hyderabad. Telangana-500 004.

2006 and the powers of the Expert Appraisal Committee. It was further alleged that the EIA Report is not available on the portal of PARIVESH, and recommendations of the EAC are vitiated and unmindful of the consequences of the destruction of this prestigious heritage.

6. That in this regard, the answering Respondent respectfully submits that under clause (v) of sub-section (2) of Section 3 of the Environment (Protection) Act, 1986 (hereinafter referred to as the "1986 Act"), the Central Government has the power to make rules for carrying out the purposes of the said Act. While exercising the powers conferred by the 1986 Act, the answering Respondent had issued the Environment Impact Assessment (EIA) Notification vide S.O.60 (E) dated 27th January, 1994 mandating 32 categories of projects listed in Schedule- I to obtain prior Environmental Clearance based on the investment criteria (originally it was Rs 50 crores, which was enhanced to Rs 100 crores). It is further submitted that the Environmental Impact Assessment (EIA) was made a statutory requirement for certain category of construction and development activities through amendment dated 07.07.2004 in the EIA Notification, 1994.
7. It is humbly submitted that under the 1986 Act read with Environment (Protection) Rules, 1986, the answering Respondent has issued a Notification No. S.O. 1533(E) dated 14.09.2006 (hereinafter referred to as the "EIA Notification, 2006"), in suppression of the Notification No. S.O.60(E) dated 27th January, 1994.
8. It is further submitted that under the provisions of the EIA Notification, 2006, all new projects or activities listed in the Schedule to the EIA Notification, 2006 or the expansion/ modernization of existing projects/activities listed in the said Schedule with addition of capacity beyond the limits specified for the concerned sector, i.e., projects or activities which cross the threshold limits given in the Schedule, after



Tarun Kathula
Director/Scientist 'F'
Integrated Regional Office
Ministry of Environment Forest And Climate Change
Aranya Bhavan, Hyderabad. Telangana-500 004.

expansion or modernization or any change in product –mix in an existing manufacturing unit included in Schedule beyond the specified range, shall be undertaken in any part of India, as applicable, only after receipt of the prior Environmental Clearance from the Central Government or by the State Level Environment Impact Assessment Authority (“SEIAA”), as the case may be. It is submitted that the Central Government under sub-section (3) of Section 3 of the 1986 Act in accordance with the procedure specified in the EIA Notification, 2006, duly constitutes SEIAA in the States.

9. It is respectfully submitted that under the Schedule to the EIA Notification, 2006 relating to the list of activities requiring prior Environmental Clearance, Highways are covered under entry 7(f) of Clause (7) of the said Schedule, the relevant portion of which is reproduced below:-

	Project or Activity	Category with threshold limit		Conditions if any
		A	B	
(1)	(2)	(3)	(4)	(5)
7		Physical Infrastructure including Environmental Services		
7(f)	Highways	i. New National Highways; and ii. Expansion of National Highways greater than 100 km involving additional right of way or land acquisition greater than 40m on existing alignment and 60 m on re-alignment or by-passes	i. All New State Highways projects; ii. State Highway expansion projects in hilly terrain (above 1000 m AMSL) and/or ecologically sensitive areas	General Condition shall apply <u>Note:</u> Highways include Expressways

10. The answering Respondent humbly submits that earlier, the OA No. 242 of 2021 was filed by the Applicant before this Hon’ble Tribunal alleging that the stretch of NH-163 between Hyderabad and Manneguda is not an



expansion project and therefore, not exempted under entry 7(f) of the Schedule to the EIA Notification, 2006.

11. It is humbly submitted that this Hon'ble Tribunal passed the Final Order dated 06.11.2023 in OA No. 242/2021 and issued directions to the Respondents, as mentioned below:-

"63. Accordingly,

- i. *The NHAI (Respondent No.2) is directed to undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.*
- ii. *The MoEF&CC (Respondent No.1) is directed to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months time."*

True copy of the Judgment dated 06.11.2023 of this Hon'ble NGT in OA No. 242/2021 is herewith attached and marked as **Annexure- I**.

12. It is humbly submitted that in compliance of the above-stated directions of the Tribunal, the Respondent no. 2 (hereinafter referred to as "NHAI") submitted an online application for the proposed project of four-laning of NH-163 from Hyderabad to Manneguda in the State of Telangana under NH(O) on Hybrid Annuity Mode vide application dated 02/01/2024 on PARIVESH Portal. The proposal was examined by the answering Respondent and placed in the 353rd meeting of the EAC held on 10th & 12th January, 2024, under entry 7 (f), Category 'A' under the Schedule to the EIA Notification, 2006.

13. That during the 353rd meeting, the NHAI submitted that 42.74 Ha of forest land is required for the project, for which Stage-II approval under Section 2 of the Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980 has already been obtained from the answering Respondent vide letter no. 4-TSB132/2018-CHN/93 dated 20.10.2021.



Tarun Kathula
Director/Scientist 'F'
Integrated Regional Office
Ministry of Environment Forest And Climate Change
Aranya Bhavan, Hyderabad. Telangana-500 004.

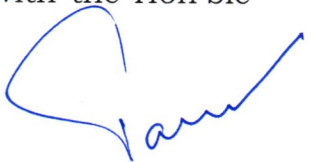
14. It is humbly submitted that during the meeting, the NHAI mentioned that about 759 numbers of Banyan trees are in non forest area and 156 numbers exist in the forest area on either side of the road and it was decided to align the road in such a manner so as to save maximum number of trees. The NHAI further informed that realigning of the road has resulted in the saving of 209 number of trees.
15. It is humbly submitted that the alignment proposed by the NHAI and the saving of the banyan trees proposed by the NHAI has been examined by the EAC in detail and the EAC was of the opinion that prima facie, there is some more scope for saving the trees, especially the banyan trees. The Committee also desired to know the complete alignment and understand the issue comprehensively since expansion of existing road(s) will be influencing cutting of large number of trees as well as passing of the road through the forest area.
16. It is humbly submitted that considering the sensitive nature of the alignment, the EAC decided to constitute a Sub-committee to undertake a site visit before the finalization of the EIA/EMP report and to decide upon the finalization of the alignment after submission of the report of the site visit .
17. It is humbly submitted that the Project was then recommended for grant of Terms of Reference to the NHAI with the condition that the Sub-committee of the EAC shall make the site visit to find out possible changes in the alignment and road design and submit a report and recommendations so as to enable the EAC to issue an additional TOR, if required. True copy of the Minutes of the 353rd EAC meeting is herewith attached and marked as **Annexure- II**.
18. It is humbly submitted that in furtherance of the deliberations held during the 353rd EAC meeting and recommendations of the EAC, the answering Respondent issued the Terms of Reference dated 17.02.2024 for



Tarun Kathula
Director/Scientist 'F'
Integrated Regional Office
Ministry of Environment Forest And Climate Change
Aranya Bhavan, Hyderabad. Telangana-500 004.

compliance of stipulated specific and other standard conditions by the NHAI (Project Proponent) and for preparation of the EIA/EMP Report as well as conducting public hearing as stipulated under the EIA Notification, 2006. True copy of the Terms of Reference dated 17.02.2024 is herewith attached and marked as **Annexure- III**.

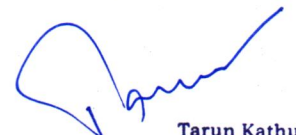
19. It is humbly submitted that the project was again taken up in the 363rd EAC meeting held on 25th-26th April, 2024, following the representation dated 22.04.2024 received from the NHAI in which the NHAI stated that the project does not fall under the ambit of EIA Notification, 2006 and there is no additional acquisition of land envisaged for the project and the project shall be completed within the same Right of Way. Further, the Hon'ble NGT vide its Judgment dated 06.11.2023 has directed the NHAI to undertake only the EIA Study. Therefore, the NHAI made a request from the answering Respondent to exempt the conduct of public hearing in this matter.
20. The answering Respondent humbly submits that the NHAI has further mentioned that the present proposal, as such, does not fall under the ambit of EIA Notification, 2006; however, it is because of the directions of NGT that the application has been made requesting the answering Respondent to grant ToR specific to undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.
21. It is humbly submitted that the requirement of obtaining prior Environmental Clearance under the EIA Notification, 2006, as amended, does not apply in the project as the proposed expansion does not involve more than 100 km of length nor additional right of way (RoW) or land acquisition is greater than 40m on existing alignments and 60m on re-alignments or by-passes. Therefore, in order to comply with the Hon'ble



Tarun Kathula
Director/Scientist 'F'
Integrated Regional Office
Ministry of Environment Forest And Climate Change
Aranya Bhavan, Hyderabad. Telangana-500 004.

Tribunal's judgment dated 06.11.2023 solely, the Terms of Reference was granted and the EIA Report was accepted by the answering Respondent.

22. It is humbly submitted that the EAC, while taking into account the request of the NHAI and submissions made therein and after examining the regulatory provisions of EIA Notification, 2006, accepted the request made by NHAI and exempted the conduct of Public Hearing for the project with an advice to include the recommendations of the Sub-committee included in its site visit Report as additional Terms of Reference for conducting the EIA study. True copy of the Minutes of the 363rd EAC meeting is herewith attached and marked as **Annexure- IV**.
23. It is humbly submitted that the NHAI vide letter dated 22.06.2024 submitted the EIA Report to the answering Respondent in compliance of the Terms of Reference and also in compliance with the recommendations of the Sub-Committee site visit Report. The EIA/EMP report was placed before the 368th EAC meeting was held on 04.07.2024. True copy of the Minutes of the 368th EAC meeting is herewith attached and marked as **Annexure- V**.
24. That during the appraisal of the EIA/EMP Report submitted by NHAI, it was observed that initially, a total 915 old Banyan trees were falling within the Right of Way out of which 683 were supposed to be affected and 232 trees are proposed to be saved. Thereafter, the answering Respondent has issued the Term of Reference (ToR) letter vide letter dated 17.02.2024. Subsequently, the EAC Sub-committee visited the site during 28th- 30th January, 2024 and suggested certain mitigation measures to save the banyan trees.
25. That as suggested by the EAC, NHAI has explored the options to save additional Banyan trees by increasing and decreasing the median width and submitted the EIA/EMP report to the answering Respondent on 22.06.2024. It has been proposed by the project proponent to retain 393



Tarun Kathula
Director/Scientist 'F'
Integrated Regional Office
Ministry of Environment Forest And Climate Change
Aranya Bhavan, Hyderabad. Telangana-500 004.

nos of Banyan trees as it is and submitted a plan for translocating 522 number of banyan trees.

26. It is humbly submitted that the NHAI has requested Zoological Survey of India (ZSI), Kolkata to conduct a study for assessing the impact of the project on biodiversity with focus on fauna and flora within 10 km distance of alignment and has also committed that mitigation measures proposed/suggested by ZSI, Kolkata shall be adhered to and implemented during the contract period of the project.
27. The answering Respondent further submits that the wildlife movement during the construction will be closely monitored by ZSI/ Forest Department and if found necessary, additional over/underpasses be developed.
28. That in view of the foregoing facts stated by the answering Respondent, it is humbly submitted that the directions of the NGT vide judgment dated 06.11.2023 was duly complied with by the answering Respondent by appraising the proposal in detail, conducting a site visit, issuing the Terms of Reference and accepting the EIA Report prepared by the NHAI and sending the recommendations of 368th meeting of the EAC prescribed to the NHAI.
29. That in the instant matter, the Hon'ble Tribunal, vide Order dated 25.11.2024, has directed the answering Respondent to file the Sub-committee's inspection Report. That in compliance of the Hon'ble NGT's Order, the Report of the Sub-committee is attached herein and marked as **Annexure- VI.**
30. Therefore, in view of the above, it is prayed that this Hon'ble Tribunal may take on record and consider above submissions while passing an appropriate order, which the answering Respondent shall duly comply with and thus render justice.



Tarun Kathula
Director/Scientist F
Integrated Regional Office
Ministry of Environment Forest And Climate Change
Aranya Bhavan, Hyderabad. Telangana-500 004.

31. The answering Respondent craves liberty to file additional information, if any, till *pendente lite*.



DEPONENT

Tarun Kathula
Director/Scientist 'F'
Integrated Regional Office
Ministry of Environment Forest And Climate Change
Aranya Bhavan, Hyderabad. Telangana-500 004.

VERIFICATION

I, the aforementioned Deponent do hereby declare on this 11th day of December, 2024 at Hyderabad that the contents of the affidavit are true to my knowledge and belief and nothing material has been concealed therefrom.



DEPONENT

Tarun Kathula
Director/Scientist 'F'
Integrated Regional Office
Ministry of Environment Forest And Climate Change
Aranya Bhavan, Hyderabad. Telangana-500 004.

Item No.1:-**BEFORE THE NATIONAL GREEN TRIBUNAL
SOUTHERN ZONE, CHENNAI****Dated this the 06th day of November, 2023***(Through Video Conference)***Original Application No.242 of 2021(SZ)
I.A. Nos.17 & 75 of 2023 (SZ)**

IN THE MATTER OF

1. Tejah BalantrapuS/o Hemachandra Balantrapu,
202, Grace des res heights,
SBI colony, Baghamberpet,
Hyderabad- 500 013, Telangana.**2. Pranay Juvvadi**S/o J. Praveen Rao,
1-10-63/4,
Chikoti gardens, Begumpet,
Hyderabad- 500 016, Telangana.**3. Natasha Ramarathnam,**D/o Dr. S Ramarathnam,
504, Samala Royale,
Street No. 4, Begumpet,
Hyderabad-500 016, Telangana.

...Applicant(s)

Versus**1. Union of India,**Rep. its Secretary,
Ministry of Environment, Forest & Climate Change,
Jorbagh, New Delhi.**2. The National Highways Authority of India,**Rep. by its Project Director,
NO. 25A & 28A, ASCI, College Park Campus,
Road No. 3, Banjara Hills, Hyderabad.

...Respondent(s)

For Applicant(s):

Mr. A Yogeshwaran.

For Respondent(s):Mr. G.M. Syed Nurullah Sheriff for R1.
Mr. Su. Srinivasan for R2.**Judgment Reserved on: 11.08.2023.****CORAM:****HON'BLE SMT. JUSTICE PUSHPA SATHYANARAYANA, JUDICIAL MEMBER****HON'BLE DR. SATYAGOPAL KORLAPATI, EXPERT MEMBER**

JUDGEMENT

Delivered by Smt. Justice Pushpa Sathyanarayana, Judicial Member.

**“தெள்ளிய ஆலின் சிறுபழத் தொருவிதை
தெண்ணீர்க் கயத்துச் சிறுமீன்சினையினும்
நுண்ணிதே ஆயினும் அண்ணல் யானை
அணிதேர் புரவி ஆட்பெரும் படையொடு
மன்னர்க் கிருக்க நிழலா கும்மே.”**

(பாடல் : 17 – வெற்றிவேற்கை – அதிவீர ராம பாண்டியர்)

**(The tiny seed of a mighty Banyan Tree is smaller than the egg of the
smallest fish, when grown, it is large enough to offer shade to the entire
battalion of the King viz., Elephants, Chariots, Cavalry and Infantry.)**

1. The most attractive feature of the Banyan Tree is its ability to survive for hundreds of years which grows in the tropical climate. The Banyan tree is the National Tree of India known for its distinct hanging or aerial roots and has excellent medicinal properties. In our country the Banyan tree holds religious, mythical and cultural significance. It is quite common to find a Banyan tree in the middle of every Indian village, as it signifies strength and unity because of which it is considered as National tree of India.
2. The Banyan tree which represents and portraits longevity are now in the risk of being cut for the purpose of widening the stretch between Moinabad and Manneguda by National Highway Authority of India (NHAI).
3. In an attempt to save more than 1036 old Banyan trees along with other trees which are more than 9,000 in numbers, the applicants have filed the above Original Application not to widen the stretch of NH 163 by cutting Banyan trees along the road or in the alternative the NHAI should be directed to obtain Environmental Clearance under Section 7(f) of the EIA Notification, 2006 for the proposed project between Hyderabad and Manneguda.

4. The objection raised by the applicants are:

- (i) The project is not an expansion project as contended by the NHAI and therefore not exempted under entry 7(f) of the EIA Notification, 2006.
- (ii) The NHAI has not considered other alternatives before deciding to go for the proposed widening.
- (iii) The stretch of 46km which is the matter of concern in this application is an old road where thousands of Banyan trees among other trees were planted as avenue trees and they are at least 80 to 100 years old.
- (iv) The stretch also includes scrub forests that run for about 05 to 06 km next to the highway Mudimyal and Kandlapally.
- (v) The Banyan trees support a variety of life forms like birds, lizards and other living organisms.
- (vi) The feasibility report based on which the NHAI is executing this project has not been prepared after considering the environmental impact of the proposed tree felling.
- (vii) Other than the preliminary environmental assessment carried out to identify the critical issues and areas that would be studied in detail, no further study was taken up during the subsequent stages of the project preparation.
- (viii) The enumeration of trees that are to be felled has not been provided in the feasibility report, much less an assessment of the impact of such felling.
- (ix) No alternatives to the proposed widening have been considered in the feasibility report or otherwise by NHAI.
- (x) The proposed road is not a national highway built according to IRC standards and with Environmental Clearance. As it is a new project as far as EIA Notification, 2006 is concerned,

it has to be assessed for its impact following the procedure laid down in the notification.

- (xi) If is not an existing project or a highway, it is a new project which requires prior Environmental Clearance without which the project itself is vitiated. Therefore, the expansion as envisaged under the EIA Notification, 2006 is only for project that have obtained clearance and to contend that the provisions under Section 7(f)(2) of EIA Notification, 2006 is applicable to all roads even those notified as highway would defeat the very purpose of the law.

5. The very project is contrary to the precautionary principle, principles of sustainable development and principle of intergenerational equity, hence ought not to be allowed to be proceeded with. As the ecological impact of felling trees is irreversible and the proposed widening is contrary to the precautionary principles, the applicant has sought for direction to 2nd respondent to obtain Environmental Clearance before proceeding with the project.

6. **The MoEF&CC, which is the 1st respondent** has filed its counter affidavit stating that as per the provisions of the EIA Notification, 2006 new national highways and expansion of national highways greater than 30 km, involving additional right of way or land acquisition greater than 20m involving land acquisition or passing through more than one State was listed in Schedule 7(f) of the EIA Notification, 2006 and such projects were required to be undertaken only after prior Environmental Clearance from the Central Government.

7. The new national highway/State highways, irrespective of its length, width of right of way or land acquisition, requires prior Environmental Clearance from the Central Government or State Government as the case may be. The MoEF&CC constituted a high level committee in OM dated 11.12.2012 to review the provisions of EIA Notification, 2006 relating to grant of Environmental Clearances for roads, buildings and special economic zone projects. The said committee recommended that the expansion of national highway projects upto 100km involving additional right of way/land acquisition upto 40m on existing alignments and upto 60m on re-alignments/bypasses may not be insisted for prior Environmental Clearance under the EIA Notification, 2006 in view of the spatial linearity of the project. The said recommendation was accepted by the Ministry and issued an amendment notification in S.O NO. 2559 (E) dated 22.08.2013. As per the amended provisions expansion of national highways greater than 100km involving additional right of way or land acquisition greater than 40m on existing alignment and 60m on realignment or bypasses. Therefore, as per the amended EIA Notification only such projects which meets both the conditions i.e. threshold length of the highway and envisaged expansion width of the highway would require a prior Environmental Clearance.

8. Apart from the regulatory provision of MoEF&CC, the national highways have to follow the guidelines prescribed by the Ministry of Road Transport and Highways from time to time. It means that even the projects which do not fall under the purview of the EIA Notification, 2006 and its amendments also need to obtain clearances from various departments which includes:

- (i) Tree cutting permission from appropriate authority for forest and non-forest area as per the prevailing laws.
- (ii) Consent to Establish and Consent to Operate for construction machineries from the State Pollution Control Board under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- (iii) Clearance for diversion forest land under Forest Conservation Act, 1980.
- (iv) CRZ clearance for CRZ area etc.

9. The 2nd Respondent/National Highways Authority of India

(NHAI) had filed its status report through the GM (T) & Project Director dated 08.03.2022. The NHAI has submitted that the total length of 46.405 km of which the length of the bypass is 12 km, length of the forest is 07km and the balance length is 24km. The project alignment was approved by the Competent Authority, NHAI in 2017. Land acquisition cost has also been approved by the land acquisition committee of NHAI on 27.10.2020. The standing finance committee also approved the construction of 04 laning of NH-163 from Hyderabad to Mannegudda on hybrid annuity mode. Bids for construction of the project were invited, opened and they are under evaluation.

- 10.** The NHAI has requested permission for felling of trees from the forest authorities concerned, which is awaited. The consultant had explored various alignments and the present alignment is the most feasible one and is approved by the Competent Authority, NHAI in 2017. It is stated that there are 2500 number of trees in the non-forest locations and 688 number of Banyan trees are so far enumerated in the stretch between Moinabad and Manneguda. During the construction of the

project, trees may be felled in bare minimum depending upon the site requirement duly considering the road safety of the road commuters. Relocation of the trees will be done as much as possible to save trees in the stretch which option will be examined before the start of the work. Only bare minimum trees will be proposed for felling during construction as necessitated only which will be examined by the expert before start of the work. The report further states approximately 53,000 number of trees will be planted in the stretch of which 40,000 will be planted towards avenue plantation and 13000 towards median plantation.

11. In its further report dated 06.01.2023 which was pursuant to the direction of this Tribunal to the 2nd respondent, to come out with a final solution by which existing trees will not be disturbed, the 2nd respondent has submitted as follows:

- (i) The conversion of the 02 lane to 04 lane is mandatory as the capacity augmentation of the national highways must be upgraded with paved shoulders before the end of the design life so that by the time the threshold capacity of the road is reached, the 04 lane highway should already be constructed.
- (ii) Upgradation to 04 lanes will trigger when the passenger car unit (PCU) crosses 10,000 per day.
- (iii) The PCUs have already crossed the threshold limit of 10,355 even in the year 2015 on the Hyderabad-manneguda stretch which further increased to 14470 in 2020 which is about 45% in excess of the threshold limit. This compels the respondent to go for expansion from 02 lane to 04 lane highway.
- (iv) The road from Hyderabad-Manneguda is the most accident prone area due to heavy vehicular traffic and the accident on the

stretch in 2021 was 240.

- (v) There are 21 existing culverts in the stretch which are in poor condition which have to be constructed in this project. There are also 10 vehicular underpass and 08 minor bridges are also proposed in the project.
- (vi) There is no widening is proposed at the Mrugavani National Park.
- (vii) As per the latest report there are about 759 Banyan trees existing on either side of the road.

12. It is stated further that the 2nd respondent has got the feasibility report and the road design was made in the best possible way keeping in view of the human life, ecology and other factors. Hence, the 2nd respondent has to widen the road.

13. Regarding the alternative that were explored by the 2nd respondent, the following are submitted:

- (i) As far as the alignment and realignment is concerned, it was decided to lay the road in such a manner on account of the eccentric laying where ever possible to save the trees. This has now resulted in saving 209 number of trees.
- (ii) So far as the laying of the parallel road is concerned, it is not possible to go with the same as the entire road has serpentine shape and most of the neighbouring land is either in the catchment area or in the forest area.
- (iii) Further acquisition of land is not possible due to legal issues.
- (iv) The restriction of the carriage way is not possible in view of the heavy traffic flow. By laying the road as proposed would straighten the hairpin bends and curves into a straight line.

14. Regarding the Banyan trees which are situated on the entire stretch, it is stated that there are only 759 trees against the 1036 mentioned by the applicant. Of the 759 trees only a few have a big trunk and huge branches whereas about 90% of the trees are as good as that of any other tree. The only two alternatives suggested by the 2nd respondent are that (i) laying of the highway where ever it is feasible to make it eccentric from concentric and (ii) translocation of the Banyan trees.

15. It is also stated that NHAI had already previous experience of translocating the trees including the Banyan trees on the Hyderabad-Srisailem Highway and all of them have survived. Many of the stretches, it is stated that the Banyan trees are not very healthy and they will only have a reduced span of life due to vibrations and sound pollution. Therefore, translocation of these trees to the neighbouring areas would certainly help them to have a longer life.

16. From the above pleadings, the issues that arise for consideration are:

- (i)** Whether the NHAI had considered the alternatives before choosing the impugned alignment?
- (ii)** Whether there was a study on the impact of hydrology, flora and fauna due to felling of large number of trees including 700 and odd mature Banyan trees besides 7,000 other trees.
- (iii)** Whether NHAI requires an EIA report when segmenting of the project is done considering the numbers of trees to be cut and also when the 07km stretch is within forest area?

Issue No.1 to 3:

- 17.** This is one of the NHAI's ambitious road-widening project that has hit the major hurdle. The applicant, herein, have objected to the fact that several thousands of trees are being cut to make way for the wider road including the 700 and odd Banyan trees.
- 18.** The 2nd respondent has received all approvals from other Competent Authorities including land acquisition committee etc., for the purpose of converting the 02 lane into 04 lane to ease out the traffic in the accident prone stretch between Moinabad and Manneguda. If a mere widening of the road can solve the traffic troubles, whether the environmental destruction can be ignored.
- 19.** Though the above said trees are of vintage 80 to 100 years, axing the same would only give out a bigger loss, as they play a huge role in carbon sequestration containment of dust pollution and heat. The applicant has complained that the NHAI lacks seriousness and callous in attitude as they have not shown any regard for the real heritage of the country the avenue trees by allowing them to be cut for mere widening of the road and construction of underpass and culverts.
- 20.** The primordial concern of the applicant is that these trees are proposed to be felled without any scrutiny, impact assessment, etc. Even this widening of the road project, the NHAI had to acquire lands, construct under passes, flyovers and also strengthen the damage culverts. Therefore, even before it could be finalised the alignment or the realignment should have been done in the manner that it will not cause any loss to the ecology. The report also says the highway has realigned in the eccentric manner where ever possible only to save 209 numbers of trees. The above exercise was also done

only after the application was moved before this Tribunal. Whether the laying of parallel road is possible has not been considered at all by the NHAI as it is stated that it is not possible to go with the same as the entire road has serpentine shape and most of the neighbouring land is either in the catchment area or in the forest area. The legal issues are also quoted as one of the reason for further acquisition of the land. Yet another reason for not looking at the alternate road is that many of the villages in the stretch of Hyderabad to Bijapur are using the same highway to reach the nearby villages or to Hyderabad or Bijapur.

21. The above arguments of the Learned Counsel appearing for the NHAI may not be agreeable because the villages on the stretch of Bijapur and Hyderabad are not deprived of any access but they will only be provided with parallel road which would minimise the cutting of number of trees or not cutting of trees at all. In fact, this Tribunal had appointed a Committee to find out the possibility of any alternative access to the above referred NH-163 giving liberty to the committee to co-opt any expert in the field if necessary. Accordingly, the Committee had filed its report.

22. The Committee has in fact found that there are 915 numbers of Banyan trees along the stretch (forest and non-forest area). Out of which 759 numbers of Banyan trees are in non forest area and 156 numbers exist in the forest area. By considering eccentric widening, bypasses and realignment, 232 numbers of Banyan trees will be saved and remaining 683 numbers of trees are proposed for translocation. Translocation of trees is inevitable mainly on account of proposed vehicular under pass at black spot locations and junctions with cross roads.

- 23.** The project stretch is passing through Rangareddy and Vikarabad Districts and mainly passes through major villages such as Aziz nagar, Himayat nagar, Moinabad, Appa reddygudda, Chevella, Indra reddy nagar, many schools, and religious structures are situated along the project area. The existing carriageway is only 07m and the proposed widening is to a width of 60m. The report further states that due to huge traffic and deficient geometry of existing road, accidents are taking place on a large scale and many locations of this highway are identified as black spots. The report says that due to heavy built up areas with many buildings, commercial establishments, utility lines, bypasses were proposed for Moinabad and Chevella towns for a length of 4.350 km & 6.360 km for a total length of 10.710 km.
- 24.** The Committee had considered the inputs both from the NHAI as well as applicants. From 26.250km to 28.034km, there are cluster of Banyan trees which the NHAI is proposing to translocate. The applicant has requested the Committee to avoid or shift the proposed underpass or make a realignment so that cutting or translocation of the Banyan trees can be avoided. However, the report of the Committee states that the village road connects settlements of Kanakamidi village and religious places such as Kanakamidi Church, Venkateshawara Temple. Major traffic takes turn at this junction. In case the proposed underpass is not constructed, this location will be a potential black spot in timesto come. There will be very high chances of loss of human life due to accidents.
- 25.** Even neither in the pre-feasibility reportnor the final feasibility report there was a mention about the black spots. Black spot report itself is obtained from the Police Department only on 11.10.2022 which is in fact subsequent to the filing of the original application itself. So faras

the above road gets into the forest area, the Forest Division in the reserved forest as per the approved alignment is already approved by the MoEF&CC. It is stated that there is already forest land on both side of the highway and any deviation will again pass through the forest area for which a large extent of about 30 ha., have to be acquired. Since in the given stretch of 07km road is cutting across the Deccan scrub forest and on either side of the road there is only a forest and any deviation would cause road to realignment.

26. The Aloor Chevella Vegetable Market, LVUP is proposed at junction of village road connecting with major settlement of Kistapur and Aloor Village with project highway. The Banyan trees that are coming within this stretch of 950m cannot be avoided from translocation. This location is also an identified black spot and permanent measures for rectification of black spots, underpass is proposed to avoid loss of human lives. Similarly, at the distance of 56 km and 58 km, the proposed highway is straight at this stretch and any deviation in alignment would only create a sub standard curve which would also result in accidents.

27. In Form-A which is used for seeking approval of the Central Government under Section 2 of the Forest (Conservation) Act, 1980 for diversion of fresh forest area, the 2nd respondent as applicant has specifically mentioned that there is no other alternative examined.

28. In the final feasibility report of the NHAI regarding the trees which are more than 10,000 including the Banyan trees that are in question, no detailed study has been conducted. The report only says that there are "trees on both sides of the highway at few locations sum of these trees are required to be cut to accommodate the widening of the existing carriage way".

29. Regarding the other environmental features, **"a detailed environmental impact study will be carried out** as part of the assignment after alignment approval which will bring out in detail particular environmental characteristic or feature which may be disturbed due to the widening of the highway. **The Environmental Management Plan** to be prepared as part of the study will bring out details and mitigation measures to be adopted for issues such as tree cutting and plantation, noise or air pollution during construction, soil or water contamination, safety and health hazards during construction".
30. Regarding the scope of the preliminary Environmental Study, the report states that further details will be taken during subsequent stages of project preparation, if required. The report has been prepared based mainly on the on-field survey and collection of secondary data.
31. Learned Counsel appearing for the applicant also invited attention to the guidelines on landscaping and tree plantation published by the Indian Road Congress. Chapter-III clause 3.1.5 which says "while constructing roads in forest areas, felling of trees should be kept minimum". It was argued that the National Tree of India, the Banyan tree only holds a great cultural significance but does not have commercial value in India. Though, the National Tree is worshipped in the hope to receive prosperity, growth and wealth and is often known as tree of wish fulfilment by itself it does not seem to have commercial value. Therefore, the NHAI has not given importance to preserve the Banyan tree. The Indian Road Congress also insisted that the trees cutting should be avoided as far as possible.

32. Even in the guidelines of the Environmental Impact Assessment of Highway projects provided by the Indian Road Congress, 1988 the physical and environmental features of the alternatives investigated for the proposed projects should be brought out. The information may be recorded in a tabular form for all the alternatives. Clause 5.2.5 indicates the probable impact of the selected alternative on the environment and proposed mitigating measures. This provides for discussion of selected alternatives on the environment and both beneficial and adverse impact should be included. The measures proposed for mitigating the adverse impact should also be highlighted. However, the project proponent had not done these impact assessments.

33. The IRC guidelines were not considered in the EIA study regarding the tree felling. The applicant also had invited our attention to the policy guidelines for land acquisition, tree felling, utility shifting across the alignment there for in which the Ministry of Road Transport and Highways has given guidelines as follows:

“Upgradation project of any National Highway involves, (i) Acquisition of additional land, (ii) Shifting of utilities, (iii) Felling of trees, and (iv) Removal of existing structures which fall in the Right of Way (ROW) of the proposed expansion. Meeting these prerequisites not only entails heavy cost but also involves a lot of time and effort. Further, the felling of grown-up trees leads to adverse effects on environment. It has been observed that shifting of utilities, felling of trees and structures can be considerably reduced (by about 50%) if the land for expansion of any highway is acquired on one side of an existing road, as against doing the same on both sides.”

34. The above direction of the Ministry of Road Transport and Highways is not considered by the 2nd respondent in this case. Though, the 02 lane with paved shoulders with traffic between 5,000 to 10,000 PCUs is considered and the road expansion is taken up in the project.

- 35.** The pre-feasibility report also speaks about the scope of preliminary environmental impact assessment study. The preliminary environmental assessment has been carried out to identify critical issues and areas that would be studied in detail for the detailed EIA study. As mentioned earlier, the further details will be taken up during subsequent stages of project preparation if required. Prior to implementing any alternative approach a thorough EIA and consultation with environmental experts are essential to ensure that the chosen method effectively balance the infrastructure development with environmental conservation.
- 36.** Even in the pre-planning stage, a comprehensive environmental impact assessment should have been conducted to identify the environmentally sensitive areas and critical habitats. If the said assessment is done, the early identification of potential conflicts would be identified and the road alignment planning could be guided based on the environmental impact assessment report. The EIA would involve local communities, environmental organisations and other stakeholders even in the pre-planning stage from whom the insights can be gained regarding the value of existing trees and green space in the area. Such inputs from the stakeholders, local communities and the villagers would certainly influence the project design and alignment.
- 37.** Learned Counsel appearing for the 2nd respondent stated that this is brownfield national highway project involved in widening/re-development of the existing national highway. This is only an upgradation of the existing road which is a brownfield expressway project as it has high traffic demand. If that is so it would be appropriate for the 2nd respondent to consider converting

underutilized or abandoned areas rather than encroaching on green spaces. Whether such land reclamation which can help preserving the existing green belt can be assessed only through an EIA study. In fact the environmental guidelines on sustainable construction practices recommend that scheduling of any road expansion project can be done considering the dormant season for the trees to avoid critical phases of tree growth and reproduction. The impact on the life and growth of the trees can be considered only during the pre-planning stage when the EIA is done.

38. Admittedly, for the 07km road cutting cross the Deccan Scrub forest, it would not have been difficult for realignment of the road if proper pre-planning was done by considering implementing urban forest tree programmes. A thorough environmental assessment and road alignment plan can help in avoiding ecological sensitive areas, critical inhabitants and forest regions. The impact on the existing trees can be minimised by optimising the road path. It is also possible in the areas with sensitive ecology features to construct a bypass road around the environmentally impact zones. As large number of Banyan trees, the importance of which are already discussed, are to be uprooted the construction of any bypass could have been considered by the 2nd respondent.

39. It is also not out of place to mention that the NHAI had not taken up any innovative road design techniques which ensure eco-friendly road layout. The aim of the 2nd respondent was only of widening the road and in the process had not thought of the upgradation of the existing roads instead of expanding them. This is only to state that if the efficiency of the existing roads is improved the need for laying additional roads can be reduced. However without adopting to these

pre-planning or design modification etc by going for EIA report, the Committee appointed by this Tribunal also had recommended that the proposed alignment is the only best feasible alignment to avoid minimum diversion of forest land, bare minimum felling of Banyan trees, providing connectivity to all important hamlets along the highway and safety of road users. The realignment/bypass to Mudimyal stretch is rejected by the Committee only on the ground that it is passing through the Mudimyal Reserved Forest. To be noted is that it is only Deccan Scrub Forest and it will not be difficult to implement compensatory afforestation by planting greater number of trees in the said area in the extent of 60m width right of way.

40. The Committee also had recommended 18 numbers of underpasses identified by DPR consultant which cannot be avoided in the light of the guidelines given in the Ministry of Road Transport and Highways circular dated 26.08.2019. It is also stated that there is no technical possibility as well to shift the location of such underpasses to save the Banyan trees.

41. In this regard, it is to be noted that even in densely forest areas or areas with sensitive ecological features elevated or tunnels can be considered as alternatives to cutting trees. These structures can be designed to minimise the environmental disturbances. The report has not even considered such kind of elevated roads or tunnels for avoiding the tree felling.

42. The next reason given by the Expert Committee is that the project was awarded to the concessionaire in March, 2022 and any delay in commencement of work may lead to heavy traffic congestion, continued reduction in travel speed in the entire length of 46.405km

and there will be increased number of accidents. The Committee only has spoken about the delay in implementing the already decided proposed alignment and not considered any other innovated road design techniques for ensuring the eco-friendly road layout.

- 43.** Albeit, road expansion is important and also an essential aspect of modern infrastructure development to meet the increasing transportation demands. Nevertheless, the same should be done by taking care of adverse environmental impacts such as deforestation habitat, fragmentation and increased carbon emissions. Eco-friendly strategies that balance infrastructure growth with environmental conservation should be considered for sustainable road expansion. The environmental harm in road expansion can be limited by adopting eco-friendly practices, including EIA, smart road alignment, tree plantation etc. Such kind of collaborative efforts are possible only if the government agencies, environmental organisation and local communities work in co-ordination.

- 44.** (i) Cutting of trees for the sake of expansion have various social, economic and environmental impact. The roadside trees in general reduce 40% pollution and heat and it is more than 70% for the older trees. (ii) Cutting of trees lead to loss of biodiversity particularly Banyan trees provide habitat and food sources for man plant and animal species. The disruption in eco-system will only contribute to habitat fragmentation. (iii) The cutting of trees leads to increase the carbon emission. (iv) Trees also play a crucial role in soil erosion and excessive water runoff during rainfall. (v) Trees are natural air filters absorbing pollutants and improving air quality. (vi) Finally, the cultural practice of the local communities get disrupted because of tree cutting, as they rely on forests for resources and may even lead

to displacement. Thus, tree cutting for road expansion can lead to public opposition and environmentalists leading to delay and additional costs as are happening in the instant case.

45. The only way to address all the above issues is to have an Environmental Impact Assessment Study before proceeding further for a sustainable road expansion.

46. In the background of the above facts, it is evident that the sense of urgency about the environmental problems has changed the relationship between ecology and public policy. Issues of values and equity cannot be separated when advancement of science is used in support of policy making. To put it in other words, the sense of urgency has affected not only ecology but other disciplines that influence environmental problems. When ecological knowledge is used for regulatory purpose alone it causes difficulty particularly in executing public projects/policies.

47. Secondly, ecological understanding is an important tool for dealing with environmental problems. Therefore, interdisciplinary and comprehensive studies should have been undertaken before finalizing the execution of the project.

48. The appellant argued that NHAI failed to sufficiently consider the alternatives to the project. NHAI ought to have analysed rigorously all reasonable alternatives. The objective of any highway is to provide connectivity to two points. The respondent could have easily achieved the same by laying a Greenfield road or an alignment which would avoid felling of trees. The Learned Counsel appearing for NHAI was only mentioning that the proposed widening of road is for providing

(i) link between Manneguda and Moinabad, (ii) has an expanded capacity, (iii) increased safety and (iv) economic development.

49. As already Section 3(D) Notification issued NHAI is reluctant to go back on its stand in looking for alternative.

50. In **Association for Protection of Democratic Rights &Anr. Vs.**

The State of West Bengal &Ors. (SLP No. 25047 of 2018), it is

held as follows:

1. This petition challenges the judgment and order dated 31.8.2018, passed by the Division Bench of the Calcutta High Court, thereby holding that felling of 356 trees was necessary for implementing the important public project of constructing the five Railway Over Bridges (ROBs). The Division Bench further held that the respondent/State of West Bengal was entitled to fell only 356 trees and no other tree.

2. The Division Bench further directed that the respondent/State shall carry out compensatory plantation of at least five trees for every tree felled in the same plot or in a plot as near to the plot as possible where the trees will be felled.

3. By an interim order dated 20.09.2018, this Court had stayed the operation of the impugned judgment and order passed by the High Court.

4. Subsequently, this Court, vide order dated 09.01.2020 had appointed a Committee of Experts comprising of five members to take a decision about the best course to be adopted in the present case and to make a Report to this Court, within a stipulated period.

5. A Report was submitted by the said Committee to this Court on 18.02.2020. The Committee recommended thus:-

"that bridge will have to be constructed to resolve the congestion at the railway crossing in any event. But this issue may be solved by constructing local overbridges, at the lower cost, and possibly save some of the 306 trees from the chopping block, adding to both economic and environmental value."

6. At the end of the Report, the Committee concluded thus:-

"Conclusion: To conclude, the committee to make this report has not only been traveling on roads, but has been on a journey of discovery.

We learnt that if we factor environmental costs and do a cost/benefit analysis, into the total cost of the project it can make a difference to the strategy choices that we make. As in the intention to "Go East". We learnt to assess whether synergies of other transport modes like rail and waterways can be part of the strategy to make our decisions. We learnt that an environment impact analysis should be rigorously done 23 before a project to protect the human communities living there and their environment. We learnt that natural capital can be saved by acquiring a tree relocation technology and transferring it into the country. This will result in enormous economic benefits also. We learnt that plantation strategies should be formulated and implemented continuously to achieve the leaf area index (LAI) which has been lost as fast as is possible. And

we learnt that signage communications about the project and environment indices in the local language will educate the people affected, and create harmony and understanding between the project teams and the local populace.

The issues in this study have implications far beyond this particular stretch of 60 km. Road. The learnings and axioms from this study can apply to other locations where such issues may surface. In this sense this report can become a template for solutions on a much larger scale.

On a more personal note, if one may be allowed, and it is relevant. One of the members of the team went on this very road 50 years ago to liberate Bangladesh with the magnificent Indian Army. Massive army columns with very heavy war technology and armaments traversed these roads smoothly and without incident. Perhaps even then they could "see the wood from the trees".

- 51.** Finally in the above case the Hon'ble Supreme Court found that the committee itself is not sure, as to whether by constructing over bridges any of the 306 trees could be saved or not.

- 52.** Nonetheless, it has been the uniform approach of the judiciary to emphasize on the importance of EIA Assessment. In ***T.N. Godavarma Thirumulpad Vs. Union of India and Ors. (2011) 1 SCC 744***, it is stated as follows:

"51. In substance the EIA notification provides that all projects and activities enumerated in the schedule would require prior environmental clearance before any construction work or preparation of land for the project is started on the project or activity. The project and activities depending upon various factors such as the potential hazard to environment, location, the extent of area involved, etc., are categorised in Categories A or B. For projects or activities falling in Category A, the competent authority to grant prior environmental clearance is the MoEF and for projects or activities falling Category B, the State Environmental Impact Assessment Authority (SEIAA). The Constitution of SEIAA is provided for in Clause 3 of the notification with which we are not concerned in this case. In certain cases a project or activity, though categorised in Category B may be treated as Category A by application of the general condition [on account of its location being within a distance of 10 km from a protected area notified under the wildlife (Protection) Act, etc.,]. In other words, if a project or activity attracts the general condition, the competent authority to grant prior environmental clearance in that case would be the Central Government, even though, the project or activity may figure in the schedule in Category B.

.
. .
. .
. .
. .

84. Before putting down the records of the case a few observations may not be out of place. The EIA Notification dated 14.09.2006 urgently calls for a close second look by the authorities concerned. The projects/activities under Item 8(a)

and 8(b) of the Schedule to the notification need to be described with greater precision and clarity and the definition of built-up area with facilities open to the sky needs to be freed from its present ambiguity and vagueness. The question of application of the general condition to the projects/activities listed in the schedule also needs to be put beyond any debate or dispute. We would also like to point out that the environmental impact studies in this case were not conducted either by the MoEF or any organisation under it or even by any agencies appointed by it. All the three studies that were finally placed before the Expert Appraisal Committee and which this Court has also taken into consideration, were made at the behest of the project proponents and by agencies of their choice. This court would have been more comfortable if the environment impact studies were made by the MoEF or by any organisation under it or at least by agencies appointed and recommended by it."

53. In the case of *National Highways Authority of India vs. Pandarinathan Govindarajulu and Anr. (2021) 6 SCC 693*, it is

held as follows:

"6. The project under consideration in this case pertains to the expansion of NH-45A between Villuppuram to Nagapattinam for a distance of 179.555 kms as a part of the BharatmalaPariyojana project. Admittedly, no environmental impact assessment was undertaken. The Appellant stated in the counter affidavit filed before the High Court that environmental clearance is not required as the additional right of way or land acquisition was not greater than the limits specified in the Notification even if the expansion of the National Highways is beyond 100 km. Environmental clearance under the Notifications dated 14.09.2006 and 22.08.2013 is required only if the additional right of way or land acquisition is greater than 40 meters on existing alignments and 60 meters on realignments or bypasses. The pivot of the controversy relates to the applicability of Notifications dated 14.09.2006 and 22.08.2013 to the project in question. Therefore, we deem it necessary to adjudicate on the interpretation of the said Notifications though the High Court did not consider the said point.

7. A plain reading of Item 7 (f) to the Notification dated 22.08.2013 would make it clear that expansion of a National Highway project needs prior environmental clearance in case (a) expansion of the National Highway project is greater than 100 km. and (b) it involves additional right of way or land acquisition greater than 40 meters on existing alignments and 60 meters on realignments or bypasses. There is no ambiguity in the above provision as it gives no scope for any doubt. The distance of 100 km is important as expansion of National Highways below 100 km needs no prior environmental clearance. If the project involves expansion of a National Highway greater than 100 km, prior environmental clearance would be required only if it involves additional right of way or land acquisition greater than 40 meters on existing alignments and 60 meters on realignments or by passes.

.
.
.

24. For the sake of clarity, we hold that the "right of way" includes the existing National Highway and the additional right of way. To illustrate further, if the existing National Highway is 20 meters then the right of way will be that 20 meters and the land acquired for the additional right of way.

25. The consternation of the High Court that the Appellant had been remiss in not fulfilling the requirement of reafforestation in spite of giving undertakings for the projects taken up earlier is to be noted. There is an obligation on the part of the Appellant to plant ten trees

for each felled tree. The High Court commented upon Coastal Regulation Zones (CRZ) clearances to be taken at certain points. The learned Attorney General submitted that the Appellant has already obtained CRZ clearances, wherever it is required. We have not dealt with the issues relating to acquisition of land being in contravention of the National Highways Act, 1956 as no such submission was made either before the High Court or this Court.”

54. It is pointed out by the Learned Counsel for the applicant that in the strip chart filed by NHAI, clusters of Banyans i.e. about 169 Banyan trees are located in cluster in a distance of 18.95 km. Therefore the entire 47 km long road need not be realigned but only one-third of the length. In order to save the trees, NHAI only has to create a by-pass and realign the road in the above segments of the road referred in the strip chart.

55. In this regard, it would not be out of place to refer to ***Hanuman Laxman Aroskar Vs. Union of India 2019 (15) SCC 401***, wherein it is held that the objective of the EIA process is to ensure that environmental and developmental concerns are appropriately balanced on the basis of the most accurate information available.

56. In ***M.C. Mehta Vs. Union of India 2004 (12) SCC 118***, the protection of green belts and forest areas from destruction during highway expansion projects are dealt with. The Hon'ble Supreme Court emphasised the need for sustainable development and directed that no trees should be cut down for road expansion in environmentally sensitive areas. The Hon'ble Apex Court emphasised the importance of Environmental Impact Assessments and encouraged the adoption of eco-friendly road construction techniques. It also directed the authorities to explore alternative routes that cause less damage to the exploring environment. The said Judgement also recommended exploring options such as elevated roads, flyovers or underpasses to reduce the need for cutting trees. Additionally the

court emphasised the importance of Environmental Impact Assessment (EIA) before undertaking road expansion projects and incorporating measures to prevent green spaces and protect trees wherever possible.

- 57.** Even Courts across the world are also in favour of environmental activities and emphasised transparency and the importance of considering public opinion and ecological impact in infrastructural development. In ***SIERAA CLUB Vs. FEDERAL HIGHWAY ADMINISTRATION (UNITED STATES)*** where a case involved a proposed road expansion projects in California which would result in felling of trees and environmental destruction, it was held that the highways administration had violated the National Environmental Policy by failing to adequately assess the environmental impact of the project and directed the Federal Highway Administration to conduct a comprehensive environmental impact statement to identify alternate routes and measures that will minimise the trees cutting and mitigate environmental harm.

- 58. *R (Friends of the Earth Limited) Vs. Secretary of State of Transport in 2020 EWCA Civ 214 (UNITED KINGDOM)***, a road expansion was challenged as it involved tree felling and potentially harming the protected habitat. The Hon'ble High Court Justice has held in favour of the petitioner holding that the Government had not properly considered the environmental impact and had not taken into account the alternative options. The Hon'ble Court emphasised the need for the Government to explore the alternative options and conduct thorough environmental impact assessment before proceeding with the road expansion considering the measures to protect the trees and the habitat.

59. Therefore the aim is to balance the economic and social needs on the one hand and the environmental consideration on the other. The rapid increase in the population with consequential demands to sustain the population has resulted in polluting the water resources, encroaching upon the lakes, deforestation, concreting the open lands and polluting the air. This need not mean that there should be deadlock in the development on the one hand and the environment on the other. In ***Enviro Legal Action Vs. Union of India 1996 (5) SCC 281***, it is categorically held that the objective of all laws on environment should be to create harmony between the two, since neither one can be satisfied at the altar of the other which reads as follows:

"While economic development should not be allowed to take place at the cost of ecology or by causing wide-spread environment destruction and violation; at the same time, the necessity to preserve ecology and environment should not hamper economic and other developments. Both development and environment must go hand in hand, in other words, there should not be development at the cost of environment and vice-versa, but there should be development while taking due care and ensuring the protection of environment."

60. The Learned Counsel appearing for the applicant submitted that trees could be saved if there is a slight deviation in the alignment of the road fixed by the authority. The Learned Counsel for the respondent relied on ***Union of India Vs. Dr. Kushala Shetty & Ors. AIR 2011 SC 3210*** to state that the appellant cannot act as an expert, as the NHAI Projects are implemented after a thorough study and referred to the relevant paragraph:

" 24. Here, it will be apposite to mention that NHAI is a professionally managed statutory body having expertise in the field of development and maintenance of National Highways. The projects involving construction of new highways and widening and development of the existing highways, which are vital for development of infrastructure in the country, are entrusted to experts in the field of highways. It comprises of persons having vast knowledge and expertise in the field of highway development and maintenance. NHAI prepares and implements projects relating to development and

maintenance of National Highways after thorough study by experts in different fields. Detailed project reports are prepared keeping in view the relative factors including intensity of heavy vehicular traffic and larger public interest. The Courts are not at all equipped to decide upon the viability and feasibility of the particular project and whether the particular alignment would subserve the larger public interest. In such matters, the scope of judicial review is very limited. The Court can nullify the acquisition of land and, in rarest of rare cases, the particular project, if it is found to be ex-facie contrary to the mandate of law or tainted due to mala fides. In the case in hand, neither any violation of mandate of the 1956 Act has been established nor the charge of malice in fact has been proved. Therefore, the order under challenge cannot be sustained."

- 61.** In view of the forgoing facts and as demonstrated by various judgements and cases worldwide, there is growing awareness of the need to balance road expansion and environment conservation. There cannot be any debate in so far as preservation of environment and maintenance of ecological balance is concerned. The Constitution of India mandates under Article 48(A) that it is the endeavour of the State to protect and improve the environment and safeguard the forest and wildlife of the country. The findings of the various courts in different countries also have considered the ecological significance of the trees. In majority of the cases, the Environmental Impact Assessment is highlighted before undertaking road expansion projects. Such assessment can identify potential alternatives and mitigative measures to reduce tree cutting, particularly, the Banyan trees which are said to be ecology by itself. In this case also the NHAI is ready to re-transplant the trees in the places earmarked by the Forest Department. It may also not be possible for transplanting the Banyan Trees which are more than 780 in number as it is expensive. Secondly, the transplantation is possible only of those trees whose width is not more than 65cm in girth and any Banyan Tree would be more than that. Even if the trees are uprooted and transplanted, if they do not survive, the cost incurred would be a waste. Though the compensatory afforestation and reforestation as a mean to offset the

loss of trees due to road expansion that cannot be the wise option. Therefore, we would have to strike balance between development and conservation for creating greater, bigger and more sustainable future for which the authorities ought to have explore alternative roads and involve thorough Environmental Impact Assessment by consulting the experts and stakeholders to identify less harmful options for the road project.

- 62.** In the light of the above, we hold that the courts being not experts an Environmental Impact Study in this regard if conducted would have given a better appreciation of the project. While we appreciate the project which is of public interest and the same could not be stopped or put to stand still, considering the rare phenomena of existence of more than 800 numbers of Banyan Trees besides several thousands of other trees, an Environmental Impact Assessment is suggested and the expansion project of the road may be taken up after the EIA study is conducted.

- 63.** Accordingly,

(i) The NHAI (Respondent No.2) is directed to undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.

(ii) The MoEF&CC (Respondent No.1) is directed to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months time.

- 64.** With the above directions, this Original Application [O.A. No.242 of 2021 (SZ)] is disposed of.

65. As a corollary, the interlocutory applications [I.A. Nos.17 and 75 of 2023 (SZ)] are closed.

Sd/-
Smt. Justice Pushpa Sathyanarayana, JM

Sd/-
Dr. Satyagopal Korlapati, EM

Internet – Yes/No
All India NGT Reporter – Yes/No

O.A. No.242/2021(SZ)
06th November, 2023(AM)





सत्यमेव जयते

Government of India
Ministry of Environment, Forest and Climate Change
IA Division
(INFRA-1)



Minutes of 353rd Meeting of Expert Appraisal Committee to be held on 10th and 12th January, 2024 for Projects related to Infrastructure Development covered under the schedule of 7(b); 7(c); 7(e) and 7(f) EIA notification, 2006 meeting INFRA-1 held from 10/01/2024 to 12/01/2024

Date: 01/02/2024

MoM ID: EC/MOM/EAC/324503/1/2024

Agenda ID: EC/AGENDA/EAC/324503/1/2024

Meeting Venue: Hybrid mode (Indus Conference Room, Indira Paryavaran Bhawan, Ministry of Environment Forest and Climate Change, Alibhag Road, Jorbhag, New Delhi)

Meeting Mode: Hybrid

Date & Time:

10/01/2024	10:30 AM	05:30 PM
11/01/2024	No meeting scheduled	
12/01/2024	10:30 AM	05:30 PM

1. Opening remarks

At the outset, Shri. Manmohan Singh Negi, 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 previous meeting

The Committee confirmed the Minutes of 351st EAC meeting held on 27th-28th December, 2023.

3. Details of proposals considered by the committee**Day 1 -10/01/2024****3.1. Agenda Item No 1:****3.1.1. Details of the proposal**

Proposed Modernization and Expansion of Port Infrastructure for Fishing, Passenger Jetty, Coastal Multipurpose Cargo Berth and Berths for Indian Navy & Indian Coast Guard at Mormugao Port Authority by Mormugao Port Trust located at SOUTH GOA, GOA

Proposal For		Fresh ToR	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/GA/INFRA1/453939/2023	10-8/2017-IA.III	01/12/2023	Ports, harbors, breakwaters, dredging (7(e))

3.1.2. Project Salient Features

1. The above said proposal was considered by the Expert Appraisal Committee (EAC) for Infra-I Sector, in its 349th Expert Appraisal Committee held on 15th December, 2023. The EAC after detailed deliberations deferred the proposal for want of additional information. (i) The details of the activities carried out in the port by the port authorities along with their EC and CRZ clearances shall be given in the chronological order. (ii). Comparative statement of activities for which ToR was granted against the current proposal. At this instance, the aforementioned proposal was placed before the EAC during its 353rd meeting held on 10th and 12th January, 2024.
2. The project proponent along with the EIA consultant M/s Ultra Tech made a presentation in the Ministry and provided the following information:-
3. The details of the activities carried out in the port by the port authorities along with their EC and CRZ clearances shall be given in the chronological order.

Berth No.	Date of EC accorded	File No.	Year of Commissioning	Type of Berth	Remarks
Berth No. 1 Amole Berth	-	-	2012	Leased to IN&I CG	EC not applicable-pre-existing harbour structures since 1885 have been used for berthing crafts.
Berth No. 1 Breakwater Berth	-	-	2012	Dedicated for International Domestic Cruise Berthing	EC not applicable - Pre-existing since 1885, the harbour protective structure has been primarily used for the berthing of crafts and ferries.
Berth No. 2, 3 & 4,	-	-	Berth no 2-1885 Berth no. 3-1885 Berth no. 4-1885		Berth No. 2, 3 and 4- EC not applicable, pre-existing structure since 1885.
Berth No. 5	24.01.2001	PD-260 18/2/2000 -PDZ (CRZ)	2004	General/Coal Cargo	EC obtained
Berth No. 6	24.01.2001	PD- 260 18/2/2000 -PDZ (CRZ)	2004	General/Coal Cargo	EC obtained
Berth No.	30.12.2	10-39/2	2014	Coal Cargo	EC obtained

7	013	009-IA.I II			
Berth No. 8	06.07.2 023	10-33/2 015-IA.I II	1978	Liquid Bulk	EC not applicable, constructed in 1978
Berth No. 9	06.07.2 023	10-33/2 015-IA.I II	1978	General Cargo	Now EC obtained F. No. 10-33/2015-IA.III dated 6th July 2023, for Redevelopment of Berth No. 8, 9 and barge berths.
Barge Berth	06.07.2 023	10-33/2 015- IA. III	1978	Barge Berth	
Berth No. 10	-	-	1986	General Cargo (except coal)	EC not applicable, constructed in 1985, prior to EIA notifications 1994
Berth No. 11	13.08.1 991	J-16011/ 10/90-I A.III	1997	General Cargo (except coal)	EC obtained
6 Nos. Mooring Dolphin	-	-	2005 to 2010	General cargo	Mooring Dolphin

(ii) Comparative statement of activities for which ToR dated 08.05.2017 was granted against the current proposal.

Earlier Proposal (As per ToR F.No. 10-8/2017-IA-III dated 8th May 2017)	Current proposal For ToR (Proposal No. IA/GA/INFRA1/4539/2023 dated 01.12.2023)
Construction of Fishing Jetty Fish landing quay length: 264 m Outfitting quay length: 75 m Total berthing quay: 415 m length & 88 m in width.	Construction of Fishing Jetty with size dimension: Fish landing quay length: 264 m Outfitting quay length: 75 m Total berthing quay: 415 m length & 88 m in width. No change in proposal.
Development of Berth for Liquid bulk (Petroleum products including LPG) POL Berth: 300 m length and 25 m width Back up area of 26,000 sq m.	POL Berth will be converted into Coastal Cargo Berth 300 m length & 25 m width with dredging depth -13 m. Revised Back up area 35,458 sqm. No change in berth dimensions. Only type of cargo will change. Back up area of 26,000 sqm earlier proposed for POL berth will be utilized for coastal cargo berth in revised proposal.
General Cargo Berth: 350 m length and 25 m width.	General Cargo Berth will be converted into Indian Coast Guard Berth 350 m length & 25 m width. No change in berth dimensions.
Coastal Cargo Berth: 210 m length and 25 m width the total back-up area of General & Coastal Cargo berths approx. 8000 m ²	Coastal Cargo Berth will be transformed into Indian Naval Berth 210 m length & 25 m width No change in berth dimensions.
Construction of Passenger Jetty 100 m length & 100 m width with dredging depth -5.1 m	Construction of Passenger Jetty 100 m length & 100 m width with dredging depth -5.1 m. No change in proposal
Deepening of Berths 10 & 11 pockets from -13.	Excluded from current proposal

10 to -15.0 m.	
Deepening of Breakwater Berth from -9.5 to -11.5m	Excluded from current proposal
The dredging volume for the existing project amounted to 15,05,660 cum.	The intended dredging volume will reach 10,00,000 cum, attributed to the removal of the deepening of Berths 10 & 11 and the breakwater berth.
The existing Reclamation work area of about approx. 65,000 sqm.	A total marine reclamation work of about 71,300 Sqm is involved for the Construction of Fishing Jetty, Development of Passenger Jetty, Coastal Cargo, Berths for Indian Coast Guard & Navy.
The existing project cost amounted to 679.62 Cr.	Proposed project developments cost will be 570 Cr.

3.1.3. Deliberations by the committee in previous meetings

Date of EAC 1 : 15/12/2023

Deliberations of EAC 1 :

- During the EAC, the committee observed the following:
 - During the Meeting PP is requested the Committee to consider the EIA/EMP report carried out by the PP. In view of the above, the committee sought following clarifications from the PP.
- The activities proposed in the instant proposal are different from the activities for which the ToR vide letter no.10-8/2017-IA-III dated 08.05.2017 was granted therefore the committee sought clarification in form of comparative statement of activities for which ToR was granted against the current proposal.
 - The details of the activities carried out in the port by the port authorities along with their EC and CRZ clearances shall be given in the chronological order.
- The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in its 349th meeting of Expert Appraisal Committee held on 15th December, 2023 and recommended to **defer** the proposal for want of following information.
 - The details of the activities carried out in the port by the port authorities along with their EC and CRZ clearances shall be given in the chronological order.
 - Comparative statement of activities for which ToR was granted against the current proposal.

3.1.4. Deliberations by the EAC in current meetings

- During the EAC, the committee observed the following:
- PP made a request to the Committee that the Terms of References was obtained on 08.05.2017 for Modernization and Expansion of Port infrastructure for Fishing, Coastal and Multipurpose Cargo Berth and Liquid/general cargo at Murmugao Port, Goa. In line with the ToR Port had been carried out EIA studies and subsequently public hearing was conducted from 05.10.2018 to 08.10.2018. The application for CRZ clearance was submitted to member secretary Goa Coastal Zone Management Authority on 11.03.2019. However due to non finalization of the Coastal Zone Management plan 2011 for the state of Goa GCZMA did not issue the

necessary recommendations for the project. Meanwhile extension of validity of ToR was obtained for further one year i.e. till 07.05.2021. Subsequently considering the covid pandemic Ministry issued a notification dated 18.01.2021 excluding the period of from April 2020 to March 2021 and as per the said notification the validity of ToR is extended up to 07.05.2022. Further, Government of Goa finalized the CZMP, 2011 and MoEF&CC notified the GoA CZMA in September, 2022, by then the ToR validity was expired. Thus PP is applied for fresh ToR. PP is requested the Committee to consider the EIA/EMP report and Public hearing carried out by the PP.

3. The Committee clarified the PP that as per the Ministry's OM dated 08 Jun 2022. 'Baseline data used for preparation of EIA/EMP reports may be collected at any stage of the EC process or even before the grant of ToR. Public consultation shall be conducted after the grant of ToR. The Public consultation conducted after the expiry of ToR shall not be accepted by the Regulatory Authority. The baseline data and Public Hearing shall not be more than three years old at the time of submission of application for consideration of EC. At the time of application for EC, in case baseline data is older than three years, but less than five years old in the case of River valley and HEP Projects, or less than four years old in the case of other projects, the same shall be considered, subject to the condition that it is revalidated with one season fresh non-monsoon data collected after three years of the initial baseline data. In case the proposal for EC along with EIA/EMP reports based on the ToRs prescribed is not submitted within the validity period of ToRs, and/or not complying with the above-mentioned criteria, the concerned Member Secretary shall not accept the proposal and process shall be initiated de novo by the PP. This O.M. is issued in supersession of OM no. J-11013/41/2006-IA-II (I) (Part) dated 29th August 2017 and with the approval of the Competent Authority'.
4. In the instant proposal public hearing was conducted from 05.10.2018 to 08.10.2018 which is more than 3 years old and the request of PP the committee not accepted and directed to the PP that fresh PH hearing shall be conducted.
5. The Committee also noted that in the instant proposal PP mentioned that they are developing the Indian Coast Guard Berth 350 m length & 25 m width, and Indian Naval Berth 210 m length & 25 m width. Proposed along with the other general berth and also informed that there are settlements inside the port boundary therefore the committee considering the sensitive nature of the project a sub-committee will make a site visit before finalisation of the EIA/EMP report.
6. The EAC, after examining the documents submitted by the project proponent and detailed deliberations in its 353rd meeting held on 10th-12th January, 2023 **recommended** the proposal for grant of Terms of Reference (ToR) with the specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

3.1.5. Recommendation of EAC

Recommended

3.1.6. Details of Terms of Reference

3.1.6.1. Specific

Specific Conditions

1.	1. Importance and benefits of the project. 2. Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scale 3. Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 4. Recommendation of the Goa State CZMA shall be obtained and submitted. 5. Submit superimposing of latest CZMP as per CRZ (2011) on the CRZ map. 6. Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011. 7. Location of the dredge material, if any will be disposed shall be indicate in the KML file and the layout maps overlay on the approved CZMP map shall be submitted and site suitability study shall be conducted. 8. Hydrodynamics study on impact of dredging on flow characteristics shall be carried out. 9. Study the impact of dredging and dumping on marine ecology and draw up a management plan through the NIO or any other institute specializing in marine ecology.

10. The types of Cargos proposed to be handled at the port shall be submitted product wise and quantity wise.
11. The impacts study on the hazardous materials handling and storage in worst case scenario shall be submitted along with the EIA/EMP report.
12. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).
13. A certificate from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.
14. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project.
15. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
16. An assessment of the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA.
17. Disaster Management Plan for the project shall be prepared and submitted.
18. Risk analysis and its management plan for handling different types of liquid cargos (if handling) shall be conducted and submitted.
19. Detailed modelling studies to understand whether the selected site can withstand severe cyclones and develop design in accordance to due safety measures.
20. Erosion and accretion study at the mouth of the creek which is adjacent to the proposed site be carried out and submitted.
21. As informed by the PP the backup area originally proposed for POL berth may not be required presently as additional back up area for coastal cargo berth. Therefore this area should be used as green belt and planting of indigenous species shall be carried out.
22. A detailed study on the impact of proposed activity on marine ecology and marine biodiversity with specific focus on the corals, mangroves and mud flats in the proximity of the site should be conducted and required mitigation plan be submitted through a nationally reputed institute.
23. A management plan for the area under which mangroves are or likely to be removed and compensatory mangrove plantation plan be submitted.
24. Details and status of court case pending against the project, if any.
25. Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
26. A tabular chart with index for point-wise compliance of above ToRs. The specific ToRs as recommended above are in addition to all the relevant information as per the „Generic Structure of EIA“ given in Appendix III and IIIA in the EIA Notification, 2006.
27. A specific note to be prepared which compare the current state of environmental parameters due to completed construction against the baseline data presented during the previous EC. Change in the data should clearly presented along with mitigation measures.
28. 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 Studies and the same shall be submitted to the ministry as part of the EIA Report available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.
29. Site inspection will be carried out by the subcommittee before finalisation of EIA/EMP

3.1.6.2. Standard

7(e)	Ports, harbors, breakwaters, dredging
Air Environment	

1.	The air quality monitoring should be carried out according to the notification issued on 16th November, 2009.
Baseline data	
1.	Examine baseline environmental quality along with projected incremental load due to the proposed project/activities.
Court/ Litigation records	
1.	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
Environment Management/ Monitoring, Mitigative Measures and Risk Assessment details	
1.	Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.
1.	Details of desalination plant and the study for outfall and intake
1.	Submit details of a comprehensive Risk Assessment and Disaster Management Plan including emergency evacuation during natural and man-made disasters.
Environment Responsibility	
1.	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, specific studies 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 Studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.
ESZ, CRZ, International Boundary and Acts	
1.	A detailed study on the impact of proposed activity on marine ecology and marine biodiversity with specific focus on the corals, mangroves and Mud flats in the proximity of the site should be conducted and required mitigation plan be submitted.
1.	Hydrodynamics study on impact of dredging on flow characteristics shall be carried out.
1.	A management plan for the area under which mangroves are or likely to be removed and compensatory mangrove plantation plan be submitted.
1.	Examine and submit detail of land use around 10 km radius of the project site and map of the project area and 10 km area from boundary of the proposed/existing project area, delineating project areas notified under the wild life (Protection) Act, 1972/critically polluted areas as identified by the CPCB from time to time/notified eco-sensitive areas/interstate boundaries and international boundaries.
1.	Erosion and accretion study at the mouth of the creek which is adjacent to the proposed site be carried out and submitted
1.	Detailed modelling studies to understand whether the selected site can withstand severe cyclones and develop design in accordance to due safety measures.
1.	Submit superimposing of latest CZMP as per CRZ Notification (2011) on the CRZ map. And also submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scales.

1.	Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011.
Forest and Wildlife	
1.	Submit the details of compensatory plantation.
1.	Submit details of the trees to be cut including their species and whether it also involves any protected or endangered species.
1.	Explore the possibilities of relocating the existing trees.
1.	Measures taken to reduce the number of the trees to be removed should be explained in detail.
1.	Submit the present land use and permission required for any conversion such as forest, agriculture etc.
1.	land acquisition status, rehabilitation of communities/ villages and present status of acquiring Forest and Agricultural activities.
1.	The identification of species/ plants should be made based on the botanical studies.
1.	Landscape plan, green belts and open spaces may be described. A thick green belt should be planned all around the nearest settlement to mitigate noise and vibrations.
1.	Examine the details of afforestation measures indicating land and financial outlay
Land use, Land Acquisition and R&R	
1.	Submit details regarding R&R involved in the project
1.	Details of the land use break-up for the proposed project. Details of land use around 10 km radius of the project site.
Project details	
1.	Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry.
1.	The examination should justify site suitability in terms of environmental angle, resources sustainability associated with selected site as compared to rejected sites.
1.	The analysis should include parameters considered along with weightage criteria for short-listing selected site.
1.	Submit the status of shore line change at the project site
1.	A detailed draft EIA/EMP report should be prepared in accordance with the above additional TOR and should be submitted to the Ministry in accordance with the Notification.
1.	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
1.	Reasons for selecting the site with details of alternate sites examined/rejected/selected on merit with comparative statement and reason/basis for selection.
Rain Water Harvesting	

1.	Details of rainwater harvesting and utilization of rain water.
Remote Sensing & GIS	
1.	Analysis should be made based on latest satellite imagery for land use with raw images.
Road/Transport Connectivity and Traffic measures	
1.	Details of handling of each cargo, storage, transport along with spillage control, dust preventivemeasures.
1.	In case of coal, mineral cargo, details of storage and closed conveyance , dust suppressionand prevention filters.
1.	An assessment of the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA.
1.	Examine road/rail connectivity to the project site and impact on the existing traffic network due tothe proposed project/activities
1.	A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.
Terrain and Topography	
1.	Details of ship tranquillity study.
1.	Details of bathymetry study.
1.	Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agencyon 1:4000 scale along with the recommendation of the SCZMA.
1.	Submit the details of terrain, level with respect to MSL, filling required, source of filling materials and transportation details etc.
1.	The ecologically fragile area including CRZ 1A area etc. shall be demarcated and superimposed on the layout plan and submitted.
Waste Management, Drainage and STPs	
1.	Details of oil spill contingency plan.
1.	Examine details of Solid waste generation treatment and its disposal.
1.	Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area
1.	Details of the layout plan including details of channel, breakwaters, dredging, disposal and reclamation.
Water Environment/Quality Analysis/ Hydrology and Water Bodies	
1.	Submit the details of fishing activity and likely impacts on the fishing activity due to the project.
1.	Examine and submit the water bodies including the seasonal ones within the corridor of impactsalong with their status, volumetric capacity, quality likely impacts on them due to the project.

1.	Examine the details of water requirement, impact on competitive user, treatment details, use of treated waste water. Prepare a water balance chart.
1.	Specific study on effects of construction activity and pile driving on marine life

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

Proposed Industrial Area Ralawas by TARA BHATT located at DAUSA, RAJASTHAN			
Proposal For		Fresh ToR	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/RJ/INFRA1/444761/2023	10/79/2023-IA.III	28/12/2023	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (7(c))

3.2.2. Project Salient Features

3.2.3. Deliberations by the committee in previous meetings

N/A

3.2.4. Deliberations by the EAC in current meetings

The PP did not attend the meeting. The proposal shall be considered only after a written request by the PP.

3.2.5. Recommendation of EAC

Deferred for PP not attending the meeting

3.3. Agenda Item No 3:

3.3.1. Details of the proposal

Development of projects under PPA Comprehensive Master Plan for implementation in next 10 years by PARADIP PORT AUTHORITY located at JAGATSINGHAPUR, ODISHA			
Proposal For		Fresh ToR	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/OR/INFRA1/455843/2023	10-62/2017-IA.III	29/12/2023	Ports, harbors, breakwaters, dredging (7(e))

3.3.2. Project Salient Features

1. The project proponent along with EIA consultant M/s RITES Ltd and M/s NCSCM made a presentation in the Ministry and submitted the following information.-
2. The proposal is for Expansion and Mechanization of existing berths of inner harbour facilities for handling of additional 48 MTPA in the existing inner harbor basin by M/s Paradip Port Authority.
3. The proposed development projects are summarized below:

S. no.	Proposed Development	Category
1	Two nos. of berths in New Dock Complex as NDC-3 & NDC-4	New Berth
2	Mechanization of SQ Berth	Mechanization of existing berths
3	Mechanization of Multipurpose Berth	
4	Mechanization of CQ-1 & CQ-2 Berth	
5	Development of Green Hydrogen Berth	New Berth
6	Development of New Short Arm Berth near I.O.B (SQ-II)	New Berth
7	Development of New Berth in NDC basin (NQ-III)	New Berth
8	Development of Clean Cargo Berth as CCB-II	New Berth
9	Expansion of North Oil Jetty	Extension
10	Development of South Western Dock	New Berth

1. The proposed development.

Sr.no.	Proposed Development	Category	Proposed Capacity
1	Two nos. of berths in New Dock Complex as NDC-3 & NDC-4	New Berth	20 MTPA
2	Development of Green Hydrogen Berth	New Berth	5 MTPA
3	Development of Short Arm Berth near I.O.B (SQ-II), NDC basin (NQ-III) and extension of Clean Cargo Berth as CCB-II (5MTPA each)	New Berths	3 x 5 =15 MTPA
4	Extension of North Oil Jetty	Extension	2 MTPA
5	Development of South Western Dock	New Berth	25 MTPA

1. The proposed project falls under 7(e)-Ports, harbours, break waters, dredging Category-A, as per EIA

notification 2006. Total investment/cost of the project is Rs.693500 Lakhs.

2. Total area of the port is 6305.58 acres, out of which 6285.54 acres is situated in Paradip and 20.04 acres is in Haridaspur. Out of total port area of 6285.54 acres, 2482.05 acres is inside the security wall (1920.47 acres of land area plus water lagoon area of 561.58 acres).
3. Topography: The Paradip port serves a vast hinterland, which is rich in mineral, industrial and agricultural resources and connected through network of roads, railways and waterways. The port is connected by state highway with Cuttack (96 km) and the state capital Bhubaneswar (125 km). An express highway of 142 km was constructed from Daitari mines directly to Paradip port in 1966, running across NH.16 (NH5 previously), for movement of iron ore by trucks. Subsequently, portion of the express highway from Chandikhol to Paradip was declared as NH5A (now NH53). Indian railways serve the port through a direct broad gauge link from Cuttack, the commercial hub of the state of Odisha. The Taldanda canal, starting from the Mahanadi barrage near Cuttack is extended upto Paradip, meeting the water requirement for the port. The confluence point of Mahanadi River lies about 7.5 km north of the port and the river is also navigable during good part of the year.
4. Water requirement: Requirements: Water would be needed at the port for use of port personnel, dust suppression, firefighting and miscellaneous uses. Following are the water requirements

Sr. No	Phase	Present Demand	Demand after Expansion
1	Construction Phase	2000	7000
2	Operation Phase	4000	6000

1. The water shall be sourced from surface water i.e. from Taldanda canal off taking from Mahanadi Barrage. The source is located at around 90 kms from the project site.
2. Tree cutting: The proposed project does not involve any tree cutting.
3. Diversion of Forest land: The proposed project does not involve any forest diversion. The proposed project is not falling within 10 km buffer zone of the wildlife Sanctuary and National Park fall within 10 km buffer zone of the project and no Eco-Sensitive Zone, Eco-sensitive areas fall within 10 km buffer zone of the project.
4. Details of CRZ: The proposed project area falls under CRZ-II area. The CRZ map is under preparation. The final CRZ map and report will submit along with the EIA/EMP report.
5. Waste Management (Solid): Municipal Waste (Domestic) Source: From office buildings, worker's amenities areas, Labour Camps. Quantity: 438 Tonnes Per Annum. Solid waste from the common area is to be collected and disposed-off as per the MSW Rules, 2016 through Paradip Municipal Waste Treatment Facility. The organic waste shall be utilized as a manure in the greenbelt and in other avenue plantations/gardens. Hazardous Waste (Cargo Associated Wastes) Source: From Ships such as ballast water with oil, cargo residue, sludge etc. Quantity: 8.25 Tonnes per Annum. Hazardous wastes that are likely to be generated from ships, will be stored in HDPE drums in isolated place and disposed off through authorized buyers/disposers. Manual handling of hazardous waste and use of paint with lead content shall be avoided. Demolition/ Construction Waste Source: Dilapidated Structures & during construction of proposed berths. Quantity: 2445 Tonnes Per Annum. Method of disposal: Construction waste (Debris) will be used to strengthen the low-lying area of project site/ approach roads etc.
6. Land acquisition and R&R issues involved: No Rehabilitation & Resettlement is involved in the project.
7. Employment Potential: The proposed development works involve construction of new berths, mechanization works. So, there will be ample job opportunities during construction and operational phase. The details are as following.
8. Employment potential: The proposed development works involve construction of new berths, mechanization works. So, there will be ample job opportunities during construction and operational phase. The details will be provided along with the EIA/EMP report.
9. Benefits of the Project: The construction of the infrastructures will have both direct and indirect impacts on the economic development of the country. The project is expected to stimulate the participation of private businesses in industrial and transport sector development. There will be many ancillary industries come up. Private investments will create employment opportunities which will ultimately create income opportunities and alleviate poverty and consequently improve standard of living of the People. The development of Green Ammonia Berth will be first of its kind in India that will set an example for other ports as well. Improvement in social infrastructure like roads, railways, townships, housing, water supply, electrical power, drainage, educational institutions, hospitals, improved environmental conditions etc.
10. Details of Court cases: There are no pending court cases against project.

3.3.3. Deliberations by the committee in previous meetings

N/A

3.3.4. Deliberations by the EAC in current meetings

1. The EAC, taking into account the submission made by the project proponent has a detailed deliberation in its 353rd meeting on 10th and 12th January, 2023 and observed that Project Proponent has given contradicting information. As submitted by the PP, the proposed project is for expansion in the existing inner harbor basin and Mechanization of existing berths for handling of additional 48 MTPA. However the proposed development shown during the EAC is 67MMTPA and in the PFR existing port handling capacity is shown as 135 MMTPA and Traffic Projections 250 Million Tons by 2030.
2. There is no clarity in the proposal, for further consideration of the project PP shall submit the detailed statement of the existing handling capacity and proposed project handling capacity after expansion and modernisation shall be submit in tabular format along with the copies of EC. Accordingly Proposal is **deferred** with advice to furnish above information.

3.3.5. Recommendation of EAC

Deferred for ADS

Day 2 -12/01/2024

3.1. Agenda Item No 1:

3.1.1. Details of the proposal

Proposed Project for Setting up of New Industrial Estate - GIDC Bulk Drug Park by M/s. Gujarat Industrial Development Corporation by GUJARAT INDUSTRIAL DEVELOPMENT CORPORATION located at BHARUCH, GUJARAT			
Proposal For		Fresh EC	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/GJ/INFRA1/457083/2023	10/47/2022-IA.III	29/12/2023	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (7(c))

3.1.2. Project Salient Features

1. The project proponent along with the EIA Consultant M/s Eco Chem Sales & Services. made a presentation and provided the following information:-
2. The proposal is for Setting up of New Industrial Estate - GIDC Bulk Drug Park in the area of 815.46 Ha at Villages: Kansagar, Tankaribandar, Madafar, Bakarportimbi, Thakor Talavadi, Asanvad and Islampur of Taluka: Jambusar, District Bharuch, Gujarat by Gujarat Industrial Development Corporation (GIDC).
3. The project falls under Schedule 7(c) Category "A" as per EIA Notification 2006. The total cost of the project is Rs. 350000 Lakhs (Rs. 3500 Crores).
4. Terms of References (ToR): The ToR proposal was considered in the 316th EAC meeting held during 15th-16th December, 2022 through video conferencing and the Committee recommended for grant of ToR. Ministry granted the ToR vide letter no.10/47/2022-IA.III dated 25th January, 2023.

5. Public Hearing: The Public Hearing was held on 11/09/2023 at 11:00 Hrs, at Cricket Ground, Village: Bakarpor Timbi, Ta.Jambusar, Dist: Bharuch (Gujarat).

S.no	Date	Venue	District and State	Chaired by
1	11/09/2023	Cricket Ground, Village: Bakarpor Timbi, Tahsil. Jambusar	Bharuch (Gujarat).	Residential Additional Collector and Additional District Magistrate.

1. Land use/ Land cover of project site in tabular form:

S. No.	Land use/Land cover	Area (ha)	Percentage (%)	Remarks, if any
1.	Grass Land	174	24.30	
2.	Scrub Land	34	4.77	
3.	Trees/Orchard	74	10.35	
4.	Crop Land	230	32.18	
5.	Fallow Land	172	24.07	
6.	Salt Pan	18	2.22	
7.	Water body	14	1.76	
8.	Barren Land	78	9.60	
9.	Settlement	10	1.28	
Total		815.0	100.00	

1. List to industries to be housed with the proposed project site, only for projects covered under 7(c) category of EIA Notification, 2006:

S. No	Types of Industries/Sectors	Categorization of Industry as per EIA Notification, 2006	Categorization as per CPCB	Zoning as per ATLAS
1	Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)	5 (f)	A & B	A1,W1
2	Common Effluent Treatment Plant	7 (h)	A & B	A1,W1
3	Treatment Storage Disposal Facility	7 (d)	A & B	A1,W1
4	Sewage Treatment Plant	-	-	-

5	Solvent Management Facility	-	-	-
6	Common Steam Facility	-	-	-
7	Residential Facility	-	-	-
8	Industries which do not attract any provisions of EIA Notification 2006, but covered under CTE/CTO	-	-	-

1. Terrain and topographical features: Terrain of the project site is undulating and Mean Sea level is ranging from 5 to 8 m.
2. Details of water bodies, impact on drainage: Vishwamitri River is at a distance of 3 km from proposed project site. Storm water drainage system shall be designed to collect and convey run-off generated within the catchment of the Bulk Drug Park during and after rainfall events, for safe discharge of the collected storm water into the natural storm drain passing through the Bulk Drug Park area, finally draining in to the river Vishwamitri. Sections of the drains have been considered based on the magnitude of peak flows of the micro catchment of the Park.
3. Water requirements: The estimated water demand for manufacturing and nonmanufacturing area, services, and greenbelt will be 64 MLD which will be tapped from 60 MGD water supply pipeline from Narmada Main Canal to Dahej PCPIR. NOC letter for water supply is obtained vide letter no: GIDC/ENG/PH/609 on dated 08th July 2022 from GIDC Gandhinagar.
4. Tree cutting: The Project area comprises of agricultural land. There are no trees in the project development area. No tree cutting is therefore envisaged.
5. Diversion of Forest land: The proposed project does not involve any forest diversion. No mangrove will be cut down due to construction of proposed Bulk Drug Park. The pipe laying may result direct loss of 0.315 ha area, having approximately 3528 nos. mangrove trees in the route of pipeline. 10 times the number of mangroves will be replanted as a part of compensatory afforestation. For conservation of existing mangroves, unit has prepared Mangrove Management plan.
6. The proposed project is not falling within 10 km buffer zone of the wildlife Sanctuary, National Park, no Eco-Sensitive Zone, Eco-sensitive areas etc.
7. Details of CRZ: The total area of Bulk Drug Park is 815.46 Ha. out of which 48.45 Ha. (5.94 %) falls under CRZ IB and CRZ III. No activity will be carried out in the proposed CRZ Areas. Treated effluent disposal pipeline of Bulk Drug Park will be laid from CETP complex to deep sea in total length of 64.24 km. Out of which 10.99 km length falls under CRZ-IA, CRZ-IB, CRZ-III, CRZ-IVA and CRZ-IVB areas. The details are as following:

Industrial Estate Area	Proposed Project Activities	Area under CRZ categories(Ha)	Total area(Ha)
	CRZ IB	CRZ III(NDZ)	
	22.75	25.70	48.45

1. Proposed Disposal pipeline route under CRZ classes as per approved CZMP of Gujarat State.

Activities	Length of the pipeline under CRZ Categories(km)							Total length(km)
	CRZ I A	CRZ IA-50 m	CRZ-I B	CRZ I II	CRZ I II	CRZ IV A	CRZ IV B	
Disposal pipeline	2.85	0.11	2.33	4.09	0.15	0.30	1.16	10.99

GIDC-Bulk Drug Park has obtained the recommendation from GCZMA vide letter no. ENV/10/2023/99/T.Cell, dated 22nd December, 2023.

1. Waste management: An integrated TSDF (comprising a secured landfill, a solid-liquid feed incinerator (with a common MEE and/or a strong-effluent Spray Drying unit) is proposed inside a TSDF complex within the Bulk

Drug Park to cater solid/hazardous waste generated from industrial units inside the park. Hazardous waste generation from the proposed Bulk Drug Park has been estimated as Landfill-able waste: 15,000 T/month and Inciner-able waste: 7,500 T/month. Biomedical waste generated from the park will be 70 kg/day, which will be disposed at nearest Common Biomedical Waste Treatment Facility. Total Municipal Solid Waste generated from Commercial, institutional, Residential and Industrial area etc. will be 12.75 Tonne/day. Half of the above municipal waste, 6 T/day will be wet waste, suitable for composting and reuse as manure.

2. CETP: API manufacturing involves extensive usage of water in process and utilities. After optimization of use and possible recycling by member industries, it is estimated that 45.5 MLD of wastewater will be generated as low COD & low TDS stream and 8.1 MLD as high COD & high TDS stream. Industrial units shall discharge pre-treated/primary treated low COD & low TDS effluent into CETP through underground closed pipeline network of GIDC after conforming CETP inlet norms. A CETP of 54 MLD capacity has been proposed inside the Bulk Drug Park.
3. STP: Sewage generated from API & bulk drug manufacturing units will be treated by individual member units in dedicated and designed STPs and shall be reused within their own plant premises. Around 5.2 MLD sewage will be generated from commercial and residential units. For the treatment of sewage, two STPs will be provided. a. Cluster 01 – 03 MLD. b. Cluster 02 – 2.2 MLD. Treated Sewage will be used for gardening purpose, ash quenching and washing purpose.
4. 1 MLD treated sewage shall be reused and balance treated sewage will be disposed off along with the treated industrial wastewater from the CETP before marine disposal.
5. Dried sludge from the STP will be used as manure for greenbelt development in the Bulk Drug Park and in the industrial units.
6. A detailed Marine EIA and EMP studies for the identification of suitable outfall for effluent discharge from CETP of Bulk Drug Park in the Gulf of Khambhat, Gujarat has been carried out by CSIR-National Institute of Oceanography, Goa. NOC for marine disposal from Gujarat Pollution Control Board was applied on 26.06.2023.
7. Land acquisition and R&R issues involved: GIDC has already acquired total 815.46 ha of land for proposed development. From total 815.46 ha land, 407.65 ha is from private land and 407.81 ha is from government land. No R&R issues involved.
8. Employment potential: Around 3500 nos. of workers will be employed during construction phase. Employment during operation phase is projected for pharma industries with a worker density of 113 employees/Ha. Around 67815 nos. of workers will be employed directly and indirectly.
9. Benefits of the project: Financial Benefit With a view to significantly bring down the manufacturing cost of bulk drugs and thereby increase the competitiveness of the domestic bulk drug industry by providing easy access to standard testing and infrastructure facilities, Department of Pharmaceuticals Government of India has notified a guidelines of the scheme for "Promotion of Bulk Drug Parks" on 27th July 2020. The current interventions shall address the need that arises in a situation of pandemic, which the world has been facing since last two years. Such a project envisages to provide supply of medicines to the market addressing the demand of the critical times. The proposed Bulk Drug Park would strengthen the position of the pharma industry within the state, which will further improve the position of the state, both in terms of business and the industry. There is an opportunity for the Indian pharmaceutical industry to play a larger role in global drug supply-security and Gujarat can be the trusted partner in this journey with its proven track record and continuous progress in the pharmaceutical sector. This project will generate tax revenues for the government and will improve the GDP of the district. Social Benefit: The employment of local people in primary and secondary sectors of project shall upgrade the prosperity of the region. This inturn will improve the socio-economic conditions of the area.
10. Details of Court cases: There are no pending court cases against project.

3.1.3. Deliberations by the committee in previous meetings

N/A

3.1.4. Deliberations by the EAC in current meetings

1. During the EAC, the Committee observed the following are.
2. Treated effluent disposal pipeline of Bulk Drug Park will be laid from CETP complex to deep sea in total length of 64.24 km. Out of which 10.99 km length falls under CRZ-IA, CRZ-IB, CRZ-III, CRZ-IVA and CRZ-IVB areas as per CRZ Notification, 2011.
3. The laying pipe line may result direct loss of 0.315 ha area, having approximately 3528 nos. mangrove trees in

the route of pipeline. Therefore the committee directed to the PP that the pipeline shall be constructed using [Horizontal Directional Drilling](#)(HDD) technology only and no mangroves shall be removed and Mudflats shall not disturbed. The PP is agreed for the same.

4. The total green belt to be developed by GIDC around the periphery of the park will be 22.60 Ha i.e. 2.77 %. Additional to this, there will be greenbelt development along the road, natural drain and buffer of 15 Mts. along common village boundary, which will be around 2.60 Ha area i.e. 0.32 %. Total greenbelt area to be developed within the park will be 25.20 Ha. i.e. 3.1 % of the total plot area.
5. The committee opined that the green belt proposed by PP is bare minimal and advised PP to revise the green belt area, as suggested, GIDC agreed to develop 83.147 ha area as greenbelt i.e. 10.20 % instead of 3.1%.and rest of the 22.8 % will develop the individual industrial units.
6. The EAC, taking into account the submission made by the project proponent has a detailed deliberation in its 353rd meeting on 10th and 12th January, 2023 and recommended the proposal for Environmental and CRZ Clearance with the specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects.

3.1.5. Recommendation of EAC

Recommended

3.1.6. Details of Environment Conditions

3.1.6.1. Specific

Specific Conditions	
1.	1. The Environmental Clearance to the project is primarily under provisions of EIA Notification, 2006. 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. 2. Construction activity shall be carried out strictly according to the provisions of the CRZ Notification, 2011. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area. 3. All the recommendations and conditions specified by the Gujarat Coastal Zone Management Authority (GCZMA) vide letter no. ENV/10/2023/99/T.Cell, dated 22nd December, 2023 shall be complied with. 4. The green belt proposed by PP is bare minimal and, therefore PP to revise the green belt area, as suggested by EAC and agreed to by GIDC, and develop 83.147 ha area as greenbelt i.e. 10.20 % instead of 3.1%.and rest of the 22.8 % will develop the individual industrial units. Green belt around natural drains and in the buffer around villages/habitation shall be at least 30-meter wide instead of 15 meter as proposed by the PP and width of green belt around project boundary shall be at least 15 meter. The plant species shall be native species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive alien species should not be used. 5. An area of 48.45ha in CRZIII and CRZ IB which is the part of the project area shall not be used for any development activity. In CRZ III zone the area should be restored through enrichment planting of the same species or any other suitable indigenous species. A plan shall be made in consultation with and implemented through concerned Divisional Forest Officer of State forest department at the project cost and plan shall be part of EMP consultation. 6. A detailed impact study on the mangroves and mud flats in the proximity of the site and effluent disposal point due to proposed activity has been carried out by the CSIR-NIO (Govt. of India). All the recommendations/mitigation measures drawn in the CSIR-National Institute of Oceanography, Goa report shall be implemented in letter and spirit. 7. The pipeline shall be constructed using Horizontal Directional Drilling(HDD) technology only, No mangroves shall be removed and Mudflats shall not disturbed.

8. The treated industrial wastewater Marine disposal is subject to obtaining the No Objection Certificate from Gujarat Pollution Control Board.
9. The ecological and biodiversity conservation study conducted by the consultant shall be reviewed by Gujarat Institute of Desert Ecology (GUIDE) and the recommendations if any shall be incorporate in the report, thereafter PP shall get approval/recommendations of the concern state forest department and all commitments made in the biodiversity Management & Conservation Plan shall be implemented in letter and spirit. The status of implementation of Wildlife Management & Conservation Plan shall be submitted to the Regional Office of the Ministry along with 6 monthly compliance report.
10. The proponent has to comply with the Ministry's OM no. J-11011/321/2016-IA.II(I), dated 27.04.2018 which made it mandatory for certain type of industries to conduct public hearing irrespective of their location within Industrial Area or outside the industrial area.
11. The proposed individual units need to take Environmental Clearance separately as per the applicability of the schedule of EIA Notification, 2006.
12. The PP shall construct a garland drain, with catch pits of appropriate capacity at appropriate distance, all around the industrial estate and also around the water bodies falling with in project boundary to prevent runoff of any contaminants/ waste into the nearby water bodies. Effluent shall be properly treated and treated wastewater shall conform to CPCB standards.
13. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R.608(E) dated 21st July, 2010 and amended from time to time shall be followed.
14. Processed effluents/any wastewater shall not be allowed to mix with storm water, storm water drain shall be provided on tank farm, and solvent transfer through pumps.
15. The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the industrial estate at least at four locations (one within and three outside the port area at an angle of 120°each), covering upwind and downwind directions.
16. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed fugitive emission standards.
17. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
18. Garland drains and collection pits of adequate capacity shall be provided for each stock pile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface run off.
19. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high level of particulate matter such as around loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
20. Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
21. Necessary approvals be taken during implementation and commissioning from statutory bodies concerned.
22. The Project proponent shall ensure that no creeks or rivers, natural drain/nallah or any other water body are blocked/diverted due to any activities at the project site and free flow of water is maintained.
23. A continuous monitoring programme covering all the seasons on various aspects of the coastal and marine environs need to be undertaken by a competent organization available in the State or by entrusting to the National Institutes/renowned Universities/accredited Consultant with rich experiences in marine science aspects. Monitoring should include sea weeds, sea grasses, mudflats, sand dunes, fisheries, mangroves and other marine biodiversity components as part of the management plan.
24. All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.
25. All the mitigation measures to reduce pollution as mentioned in EIA/EMP report shall be implemented in toto.
26. Ground water abstraction shall be as prescribed by the CGWA. A clearance/permission of the CGWA shall

- be obtained in this regard.
27. Sufficient number of Piezometer wells shall be installed in and around the project site to monitor the ground water quality in consultation with the State Pollution Control Board / CPCB. Trend analysis of ground water quality shall be carried out each season and information shall be submitted to the SPCB and the Regional Office of MoEF&CC.
 28. All the recommendation of the EMP shall be complied with in letter and spirit. All the mitigation measures submitted in the EIA report and suggested by the EAC shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to RO, MoEF&CC along with half yearly compliance report.
 29. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
 30. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.
 31. Any hazardous waste generated during development/ construction phase, should be disposed off as per applicable rules and norms with necessary approvals of the Gujarat State Pollution Control Board.
 32. Rain water harvesting for roof run-off and surface run-off, should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.
 33. Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water. Treated affluent emanating from STP shall be recycled/reused to the maximum extent possible. Treatment of 100% grey water by decentralized treatment should be done.
 34. The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of firefighting equipments, etc. as per National Building Code including protection measures from lightening etc.
 35. The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.
 36. Notification GSR 94(E0 dated 25.01.2018 of MoEF&CC regarding mandatory Implementation of dust Mitigation Measures for construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.
 37. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/wind breaking walls all around the site (at least 3 meters height). Plastic/tarpaulin sheet covers shall be provided for vehicles brining in sand, cement, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from site.
 38. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central public health and Environmental Engineering Organization (CPHEEO) Manual on sewerage and sewage treatment systems, 2013 for Residential Facility.
 39. All the topsoil excavated during development/construction activities should be stored for use in horticulture/landscape development within the project site.
 40. Disposal of muck during development/construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
 41. Detailed plan of expenditure with implementation schedule to address issues raised during Public Hearing shall be prepared and submitted to the Regional Office of this Ministry within three months. The proponent shall adhere the strict compliance of above plan to utilize funds as per schedule.
 42. As per the Ministry's Office Memorandum F.No.22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Aforestationetc, either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.

3.1.6.2. Standard

7(c)	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones
Air quality monitoring and preservation	
1.	The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the project area at least at four locations (one within and three outside the project area at an angle of 120°each), covering upwind and downwind directions.
1.	A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.
1.	Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
1.	Dust collectors shall be deployed in all areas where surface cleaning and painting operations are to be carried out, supplemented by stacks for effective dispersion.
1.	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed emission standards.
Energy Conservation measures	
1.	Provide LED lights in their offices and project areas.
1.	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
Environment Responsibility	
1.	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
1.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
1.	Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
1.	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/

	conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
Green Belt	
1.	Wherever possible, plantations around the periphery of the Industrial Area, in the downwind direction and along the road sides shall be provided for containment of pollution and for formation of a screen between the industrial area and the outer civil area. The choice of plants should include shrubs of height 1 to 1.5 m and tree of 3 to 5 m height. The intermixing of trees and shrubs should be such that the foliage area density in vertical is almost uniform.
1.	The individual industrial unit, at the time of obtaining EC, shall bring a letter from the Industrial Area, specifying the area allocated to them to be developed as green cover, as a part of obligation from the Industrial Area.
1.	The Industrial Areas are directed to accordingly allocate the area, to be developed as green cover, to respective individual industrial units so as to achieve the above mentioned condition.
1.	An overall green area of at-least 33% of the Industrial Area should be developed with native species. The green area shall be 40% in case of critically polluted area. The project proponent of the Industrial Area shall comply with the additional commitment made by them in the EIA report regarding the development of green belt.
1.	The parameters like selection of plant species, procedure for plantation, density of tree plantation etc shall be as per the CPCB guidelines.
Miscellaneous	
1.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
1.	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
1.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
1.	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
1.	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
1.	The criteria pollutant levels namely; PM _{2.5} , PM ₁₀ , SO ₂ , NO _x (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
1.	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
1.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.

1.	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
1.	No further expansion or modifications in the Industrial Area shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
1.	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
1.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
1.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
1.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
1.	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
1.	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010
Noise monitoring and prevention	
1.	Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.
1.	Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.
1.	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.
1.	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
Public hearing and human health issues	
1.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
1.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
1.	Occupational health surveillance of the workers shall be done on a regular basis.
1.	Workers shall be strictly enforced to wear personal protective equipments like dust mask, ear muffs or ear plugs,

	whenever and wherever necessary/ required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration.
1.	Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/ accidents.
Specific Conditions	
1.	The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
Statutory compliance	
1.	All excavation related dewatering shall be as duly authorized by the CGWA. A NOC from the CGWA shall be obtained for all dewatering and ground water abstraction
1.	A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
1.	The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
1.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Coast Guard, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.
1.	The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (incase of the presence of schedule-I species in the study area).
Waste management	
1.	A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
1.	Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.
1.	Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.
1.	The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
1.	Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.
Water quality monitoring and preservation	
1.	Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression.

1.	Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
1.	No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.
1.	A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

Four laning of NH-163 from Hyderabad [ORR near Appa Junction at design Km.14+000 (existing Km.14+000)] to Manneguda [design Km.60+405 (existing Km.59+500)] in the State of Telangana under NH(O) on Hybrid Annuity Mode by PIU HYDERABAD located at RANGA REDDY, TELANGANA			
Proposal For		Fresh ToR	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/TG/INFRA1/457022/2024	10/78/2023-IA.III	02/01/2024	Road (7(f))

3.2.2. Project Salient Features

1. The project proponent made a presentation in the Ministry and provided the following information:-
2. The project is widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Telangana State. The total Length is 45.5 km in the State of Telangana under NH(O) on Hybrid Annuity Mode by M/s National Highway Authority of India.
3. The proposed widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Rangareddy district of Telangana State. Total length of the project is 46.4 km. The alignment start at 17°20'56.61"N 78°21'29.30"E and ends at longitudes of 17°17'53.21"N 77°59'30.74"E.
4. The Hon'ble National Green Tribunal Judgment dated 6th November, 2023 in the matter of [Tejahfile:///Users/amardeeppraju/Downloads/NGTJudgement.pdf](#) [Balantrapufile:///Users/amardeeppraju/Downloads/NGTJudgement.pdf](#) et.al. Vs. Union of India and NHAI 6th November, 2023 in Original Application No.242 of 2021(SZ) I.A. Nos.17 & 75 of 2023 (SZ) directed as following:
5. The NHAI (Respondent No.2) is directed to undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.
6. The MoEF&CC (Respondent No.1) is directed to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months time.
7. Accordingly the M/s NHAI on 02/01/2024 submitted the online application on PARIVESH Portal. The proposal was considered in the 353rd EAC meeting held on 10th & 12th January, 2024.
8. As directed by the Hon'ble NGT, The proposed project considered under Schedule 7(f), Highways, Category "A" of EIA Notification 2006. Total estimated civil cost of the project is about Rs. 928.41 Cr.
9. Land use pattern of 10 km radius of the project road is contributed by the agricultural, forest, vegetation built up and barren land.
10. Terrain and topographical features: The project mostly follows 'plain and rolling' terrain. The elevation varies from ~565 m to ~687 m above MSL at different locations. Average elevation of the project stretch is ~626 m above MSL.
11. Right of Way (RoW): the proposed RoW is 45m on existing road and 60m in bypasses RoW except Rest Areas, and entry/exit toll plazas).
12. Details of water bodies, impact on drainage: The project stretch passes through 2 Nalla. Minor Bridges shall be provided at all the crossings.

13. Water requirements: About 2000 KLD of water for 24 months shall be required for construction of the project. Water shall be sourced from surface water bodies through Tanker after necessary approval. No groundwater extraction is proposed. However, if potable water is required same shall be extracted after necessary permission from appropriate authority.
14. Tree cutting: About 11669 trees are falling within PROW. The tree enumeration for affected trees shall be undertaken during detailed EIA Study. The inventory will include tree species, girth and height.
15. Diversion of forest land: 42.74 Ha of forest land is required for the project. Stage-II approval has been obtained from the IRO, MoEF&CC vide letter no.4-TSB132/2018-CHN/93 dated 20th October, 2021.
16. The existing road is passing through along the boundary of Murgavani National Park. However, there is no widening proposed along the Murgavani National Park. The project is passing through the ESZ area of Mrugavani National Park. However, there is no widening proposed along the boundary of Murgavani National Park.
17. Land acquisition and R&R issues involved: Approx. 257.41 ha. land is required for the project. The land acquisition has been done as per NH Act, 1956 and RFCT LARR Act, 2013.
18. Employment potential: Project shall provide employment opportunities for ~300 population(including permanent and temporary) based on Ministry of Road Transport & Highways Press.
19. Benefits of the project: Will provide easy access to commuters of the settlement located along the road; Will provide easy accessibility for school, medical facilities, etc. for the nearby settlements with urban centres (Hyderabad, Moinabad and Chevella; Project Road would bring about all-round development activities in the region, such as movement of people and goods, agriculture, commerce, education, health and social welfare, or even maintenance of law and order and security.
20. Details of Court cases: The Hon'ble National Green Tribunal Judgment dated 6th November, 2023 in the matter of [Tejahfile:///Users/amardeeppraju/Downloads/NGT Judgement.pdf](#)Balantrapufile:///Users/amardeeppraju/Downloads/NGT Judgement.pdfet.al. Vs. Union of India and NHAI 6th November, 2023 in Original Application No.242 of 2021(SZ) I.A. Nos.17 & 75 of 2023 (SZ) directed as following:
21. *The NHAI (Respondent No.2) is directed to undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.*
22. *The MoEF&CC (Respondent No.1) is directed to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months time.*

3.2.3. Deliberations by the committee in previous meetings

N/A

3.2.4. Deliberations by the EAC in current meetings

1. During the EAC, the Committee observed the following:
2. *During the meeting PP mentioned that about 759 Banyan trees existing on either side of the road and as far as the alignment and realignment is concerned, it was decided to lay the road in such a manner on account of the eccentric laying where ever possible to save the trees and this has now resulted in saving 209 number of trees.*
3. *The Committee also observed that the alignment seems to be passing through ESZ of Mrugavani National Park and forest area.*
4. *Alignment in forest area has already been examined by the competent authority in state forest department and MoEFCC in the process of granting Forest Clearance*
5. *Committee also desired to know the complete alignment and understand the issue comprehensively since expansion of existing road(s) in will be influencing cutting of large no of trees as well as passing through forest area.*
6. *The EAC was of the opinion that after seeing the presentation prima facie there is some more scope for saving the trees, especially banyan trees*
7. *The Committee opined that Banyan tree can be translocate and having the very good survival rate.*
8. *Considering the sensitive nature of the alignment a sub-committee will make a site visit before finalisation of the EIA/EMP report. The alignment shall be finalized once the site visit report is submitted.*
9. *The EAC based on the information submitted and clarifications provided by the project proponent and detailed discussions held on all the issues during 353rd meeting held on 10th& 12th January, 2024 and recommended the project for grant of Terms of Reference (ToR) with stipulated specific conditions along with other Standard*

ToR Conditions.

3.2.5. Recommendation of EAC

Recommended

3.2.6. Details of Terms of Reference

3.2.6.1. Specific

	Specific Conditions
1.	1. Alignment of road and its design in non-forest area shall be revised so as to avoid cutting of trees, especially the banyan trees. 2. Alignment in Forest area is already examined by SFD and MOEFCC while granting Forest Clearance. However, PP shall explore the possibility of reducing the width of median as well as adding animal underpasses for facilitating the free movement of wildlife. 3. Subcommittee of the EAC shall make the site visit before the end of January 2024 for finding out possible changes in the alignment and road design and submit report and recommendations so as to enable the EAC to issue an additional TOR if required. 4. The proponent, with the help of an independent institution of national repute shall carry out the impact studies of proposed alignment (once finalized after the sub-committee visit) on biodiversity with focus on fauna and flora 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 of Chief Wildlife Warden of Telangana. 5. After finalisation of alignment and road design the PP shall, in consultation with concerned Divisional Forest Officers of the state forest department, shall identify and translocate the banyan trees to suitable site through an expert tree translocation agency. 6. The alignment of road should be such that the cutting of trees is kept at bare minimum and for this the proponent shall obtain permission from the competent authorities. 7. Project alignment should be such that felling of the Heritage/old trees are avoided as far as possible. All such trees should be geo-tagged. 8. The proponent, with the help of an independent institution 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. 9. 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. 10. The proponent, with the help of an independent institute 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. 11. 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. 12. Rain water harvesting structures to be constructed at the either sides of the road with special precaution of oil filters and de-silting chambers. 13. 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. 14. Trees with heronry (breeding ground for herons, egrets, etc), pelicanary or community nesting of birds like Painted Storks, Ibis, Egrets, Pelican, etc will not be allowed to fell. In case of presence of such, alignment

	will be required to be changed to save such trees. 15. 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. 16. 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 studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent. 17. 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. 18. 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. 19. 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.

3.2.6.2. Standard

7(f)	Road
Air Environment	
1.	Description of model, input requirement and reference of derivation, distribution of major pollutants and presentation in tabular form for easy interpretation shall be carried out.
1.	The air quality monitoring should be carried out as per the new notification issued on 16th November, 2009.
1.	Examine the impact during construction activities due to generation of fugitive dust from crusher units, air emissions from hot mix plants and vehicles used for transportation of materials and prediction of impact on ambient air quality using appropriate mathematical model.
Alignment, ESZ & CRZ	
1.	Details of road on stilt in CRZ-I areas, design details to ensure free tidal flow
1.	Details of CRZ-I areas, mangroves required to be removed for the project along with the compensatory afforestation, area and location with budget
1.	HTL/LTL map prepared by authorized agencies superimposed with alignment and recommendation of Coastal Zone Management Authority
1.	In case of alignment passing through coastal zones
Climate and Meteorology	
1.	Climate and meteorology (max and min temperature, relative humidity, rainfall, frequency of tropical cyclone and snow fall); the nearest IMD meteorological station from which climatological data have been obtained to be indicated.
Court Matters	

1.	Details of any litigation(s) pending against the project and/or any directions or orders passed by any court of law/any statutory authority against the project to be detailed out.
Drainage	
1.	If the proposed route involves tunneling, the details of the tunnel and locations of tunneling with geological structural fraction should be provided. In case the road passes through a flood plain of the river, the details of micro drainage, flood passages and information on high levels flood periodicity at least of last 50 years in the area should be examined.
1.	If there will be any change in the drainage pattern after the proposed activity, details of changes shall be examined and submitted.
Employment	
1.	Details of Labour camps, machinery location.
Environmental Monitoring and Management	
1.	Estimated cost of the project including environmental monitoring cost and funding agencies. Submit environmental management and monitoring plan for all phases of the project viz. construction and operation.
1.	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
1.	Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure.
Forest	
1.	If there is a possibility that the construction/widening of road will cause impact such as destruction of forest, poaching, reductions in wetland areas, if so, examine the impact and submit details.
1.	Necessary green belt shall be provided on both sides of the highway with proper central verge and cost provision should be made for regular maintenance
1.	The information should be provided about the details of the trees to be cut including their species and whether it also involves any protected or endangered species. Measures taken to reduce the number of the trees to be removed should be explained in detail. Submit the details of compensatory plantation.
1.	In case the project involves diversion of forests land, guidelines under OM dated 20.03.2013 may be followed and necessary action taken accordingly.
Land Acquisition and R&R	
1.	Detailed R&R plan with data on the existing socio-economic status of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternative livelihood concerns/employment and rehabilitation of the displaced people, civil and housing amenities being offered, etc and the schedule of the implementation of the project specific.
1.	Examine and submit the details of sand quarry, borrow area and rehabilitation
1.	whether governmental or on the basis of BOT etc and provide details of budget provisions (capital & recurring) for the project specific R&R Plan.
1.	Details of the properties, houses, businesses religious and social places etc. activities likely to be effected by land

	acquisition and their financial losses annually.
1.	If the proposed project involves any land reclamation, details to be provided for which activity land to reclaim and the area of land to be reclaimed.
Land Environment	
1.	If the proposed route is passing through any hilly area, examine and submit the stability of slopes, if the proposed road is to pass through cutting or embankment / control of soil erosion from embankment. Landslide, rock fall protection measures to be indicated.
1.	Submit Land use map of the study area to a scale of 1: 25,000 based on recent satellite imagery delineating the crop lands (both single and double crop), agricultural plantations, fallow lands, waste lands, water bodies, built-up areas, forest area and other surface features such as railway tracks, ports, airports, roads, and major industries etc.
1.	submit a detailed ground surveyed map on 1:2000 scale showing the existing features falling within the right of way namely trees, structures including Archeological & religious, monuments etc. if any.
Miscellaneous	
1.	The Action Plan on the compliance of the recommendations of the CAG as per Ministry's Circular No. J-11013/71/2016-IA. I (M), dated 25th October, 2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.
Noise Environment	
1.	Also examine and submit the details about the protection to existing habitations from dust, noise, odour etc. during construction stage.
1.	Identify project activities during construction and operation phases, which will affect the noise levels and the potential for increased noise resulting from this project.
1.	Discuss the effect of noise levels on near by habitation during the construction and operational phases of the proposed highway
1.	Identify noise reduction measures and traffic management strategies to be deployed for reducing the negative impact if any.
1.	Prediction of noise levels should be done by using mathematical modeling at different representative locations.
Project Details	
1.	Examine and submit a brief description of the project, project name, nature, size, its importance to the region/state and the country.
1.	Explore the possibilities of utilizing the debris/ waste materials available in and around the project area.
1.	Examine and submit the details of use of fly ash in the road construction, if the project road is located within the 100 km from the Thermal Power Plant.
1.	Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project.
1.	If the proposed route is passing through low lying areas, details of fill materials and initial and final levels after filling above MSL, should be examined and submit.

1.	If the proposed route involves cutting of earth, the details of area to be cut, depth of cut, locations, soil type, volume and quantity of earth and other materials to be removed with location of disposal/ dump site along with necessary permission.
1.	Assess whether there is a possibility that the proposed project will adversely affect road traffic in the surrounding areas (e.g. by causing increases in traffic congestion and traffic accidents). Specific care be also taken to ensure that by passes have a sufficient buffer to prevent unwanted obstructions defying the purpose of the by pass
1.	Submit details about measures taken for the pedestrian safety and construction of underpasses and foot-over bridges along with flyovers and interchanges. If any.
1.	If the proposed route is passing through a city or town, with houses and human habitation on the either side of the road, the necessity for provision of bypasses/diversions/under passes shall be examined and submitted. The proposal should also indicate the location of wayside amenities, which should include petrol station/service centre, rest areas including public conveyance, etc. Noise reduction measures should also be indicated.
1.	Describe various alternatives considered, procedures and criteria adopted for selection of the final alternative with reasons.
1.	Submit detailed alignment plan, with details such as nature of terrain (plain, rolling, hilly), land use pattern, habitation, cropping pattern, forest area, environmentally sensitive places, mangroves, notified industrial areas, sand dunes, sea, river, lake, details of villages, teshils, districts and states, latitude and longitude for important locations falling on the alignment by employing remote sensing techniques followed by ground truthing and also through secondary data sources.
Rain Water Harvesting	
1.	Provision shall be made for oil and grease removal from surface runoff
1.	Rain water harvesting pit should be at least 3 - 5 m. above the highest ground water table.
Road and Traffic	
1.	In case of bye passes, the details of access control from the nearby habitation/habitation which may come up after the establishment of road.
1.	Submit details of social impact assessment due to the proposed construction of road.
1.	Examine road design standards, safety equipment specifications and Management System training to ensure that design details take account of safety concerns and submit the traffic management plan.
1.	Accident data and geographic distribution should be reviewed and analyzed to predict and identify trends - incase of expansion of the existing highway and provide Post accident emergency assistance and medical care to accident victims.
1.	The proponent shall carry out a detailed traffic flow study to assess inflow of traffic from adjoining areas like airport/urban cities. The detailed traffic planning studies shall include complete design, drawings and traffic circulation plans (taking into consideration integration with proposed alignment and other state roads etc.). Wherever required, adequate connectivity in terms of VUP (vehicle underpass)/ PUP (Pedestrian underpass) needs to be included.
1.	IRC guidelines to be followed for traffic safety while passing through the habitat.
1.	Provision of speed breakers, safety signals, service lanes and foot paths should be examined at appropriate locations throughout the proposed road to avoid the accidents.

1.	Submit the details of road safety, signage, service roads, vehicular under passes, accident prone zone and the mitigation measures.
1.	IRC guidelines shall be followed for widening & upgradation of road.
Socio-Economic Environment	
1.	As per the Ministry's Office Memorandum F.No.22-65/2017-IA.III dated 30th September, 2020, the project proponent, based on the commitments made during the public hearing, shall include all the activities required to be taken to fulfil these commitments in the Environment Management Plan along with cost estimates of these activities in addition to the activities proposed as per recommendations of EIA Studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.
1.	The proponent shall carry out a comprehensive socio-economic assessment and also impact on biodiversity with emphasis on impact of ongoing land acquisition on the local people living around the proposed alignment. The Social Impact Assessment should have social indicators which can reflect on impact of acquisition on fertile land. The Social Impact Assessment shall take into consideration of key parameters like people's dependence on fertile agricultural land, socio-economics spectrum, impact of the project at local and regional levels.
Soil Quality Analysis	
1.	Submit the details on compliance with respect to Research Track Notification of MoRTH 20) Examine and submit the details of sand quarry and borrow area as per OM no.2-30/2012-IA-III dated 18.12.2012 on 'Rationalization of procedure for Environmental Clearance for Highway Projects involving borrow areas for soil and earth as modified vide OM of even no. dated March 19, 2013.
Water Environment	
1.	Examine and submit the details of measures taken during constructions of bridges across river/ canal/major or minor drains keeping in view the flooding of the rivers and the life span of the existing bridges.
1.	In case of river/ creek crossing, details of the proposed bridges connecting on either banks, the design and traffic circulation at this junction with simulation studies.
1.	Details to ensure free flow of water in case the alignment passes through water bodies/river/ streams etc.
1.	Examine and submit details of water quantity required and source of water including water requirement during the construction stage with supporting data and also categorization of ground water based on the CGWB classification
Wildlife	
1.	Provide compilation of road kill data on the wildlife on the existing roads (national and state highways) in the vicinity of the proposed project. Provide measures to avoid road kills of wildlife by the way of road kill management plan.
1.	Explore the possibilities of relocating the existing trees. Animal and wild life crossings to be provided in areas inhabited by wild life.
1.	Study regarding the Animal bypasses / underpasses etc. across the habitation areas shall be carried out. Adequate cattle passes for the movement of agriculture material shall be provided at the stretches passing through habitation areas.
1.	Details of blasting if any, methodology/technique adopted, applicable regulations/permissions, timing of blasting, mitigation measures proposed. keeping in view mating season of wild life.

1.	The projects is located within 10km. of the sanctuary a map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon should be furnished at the stage of EC.

3.3. Agenda Item No 3:

3.3.1. Details of the proposal

Development of 4 lane Ring Road for Jabalpur city starting from village Manegaon, Design Ch. 19+100 and ends near Barela, Design Ch. 117+000 in Jabalpur district in the state of Madhya Pradesh (Total length = 97.900 km) by National Highways Authority of India located at JABALPUR,MADHYA PRADESH			
Proposal For		Fresh EC	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/MP/INFRA1/423280/2023	10/38/2022-IA.III	11/04/2023	Road (7(f))

3.3.2. Project Salient Features

1. The above mentioned proposal was earlier considered by the Expert Appraisal Committee (EAC) in its 324th meeting on 19th– 21st April, 2023. The EAC, has already recommended the proposal for grant of Environmental Clearance. However, due to technical glitch, the proposal was not visible in the MS login. The issue was discussed with the NIC team and it was suggested that to bring back the thread, the proposal will have to be again placed in agenda so that it can be processed in regular way; accordingly the proposal has been considered before the EAC. 2. The Committee recommended the proposal and requested the Ministry that the proposal may be processed as per the earlier recommendations of the 324th EAC meeting held on 19th – 21st April, 2023.

3.3.3. Deliberations by the committee in previous meetings

Date of EAC 1 : 10/05/2023 Deliberations of EAC 1 : Duplicate

3.3.4. Deliberations by the EAC in current meetings

1. The Committee recommended the proposal and requested the Ministry that the proposal may be processed as per the earlier recommendations of the 324th EAC meeting held on 19th – 21st April, 2023.

3.3.5. Recommendation of EAC

Recommended

3.3.6. Details of Environment Conditions

3.3.6.1. Specific

N/A

3.3.6.2. Standard

7(f)	Road
Compliance Reporting	
1.	The project proponent shall submit online six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change and also upload the same, including results of monitored data, on their company website.
1.	Beside fulfilling obligations under Corporate Social Responsibilities as per Company's Act, 2013, the proponent has to adhere to the followings Environment Responsibilities: i.The Company shall have a well laid down Environment Policy approved by the Board of Directors. ii.The Environment Policy shall prescribe for standard operating process/ procedures to bring into focus any infringements/ deviation/violation of the environmental or forest norms/ conditions. iii.The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished. iv.To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/ violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
1.	The Ministry reserves the right to stipulate additional conditions, if found necessary.
1.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
1.	For compliance of conditions during operation phase, PP shall either itself undertake the responsibility of compliance or ensure setting up institutional mechanism for compliance of conditions under intimation on the website of the Ministry of Environment, Forest and Climate Change.
General Instructions (Part A)	
1.	The proponent shall obtain permission from the competent authorities for tree felling along the proposed alignment.
1.	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to MoEF&CC and its concerned Regional Office.
1.	Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources.
1.	As per MoEF&CC's circular no. J-11013/41/2006-IA.II (I) dated 22.09.2008, provision shall be made for supply of kerosene or cooking gas and pressure cooker to the labourers, mobile toilets, mobile STP, safe drinking water, medical health care, Crèche and temporary structures for living during construction phase.
General Instructions (Part B)	
1.	The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions.
1.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during

	operational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.
1.	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
1.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
1.	The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/SEIAA website where it is displayed.
1.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
Note	
1.	The PP is under obligation to implement commitments made in the to the issues raised during public hearing Conceptual Plan/ Environment Management Plan, which forms the part of this EC.
1.	Further attention of project proponent is drawn towards the following Acts/ Regulations/ Statutes/ Guidelines issued from time to time: (a)All the Indian Road Congress (IRC) guidelines wherever applicable may be followed. (b)Provisions related to tree cutting as contained in the Forest (Conservation) Act, 1980 and related rules of the respective state. (c)Dust Mitigation Measures stipulated for Construction and Demolition Activities as provided in the amendment Notification GSR 94(E) dated 25.01.2018 of MoEF&CC. (d)Provisions for use of Fly ash as building material in the construction as per stipulated under Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. (e)Provisions for management of construction and demolition activities related thereto as contained in Construction and Demolition Waste Management Rules, 2016.
1.	The above conditions shall be enforced in a time bound manner
1.	The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006. 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.
Specific Conditions	
1.	Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.
null	
1.	Construction camps shall be proposed 500 m away from the nearest settlements to avoid conflicts and stress over the infrastructure facilities with the local community. Location for stockyards for construction materials shall be identified at least 1000m from water sources. Garbage tanks and sanitation facilities will be provided at camps.
1.	Construction spoils including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the dump sites for such materials must be secured so that they shall not leach into

	the ground water. The non-usable bitumen spoils shall be disposed off in a deep trench providing clay lining at the bottom and filled with soil at the top (for at least 0.5m)
1.	The embankments/slopes and the slopes left after cutting shall be provided with vegetative growth to avoid soil erosion.
1.	Rain water harvesting including oil and grease trap shall be provided as prescribed by CGWB guidelines. Water harvesting structures shall be located at every 500m along the road. Vertical drain type rainwater harvesting structures shall be set up to minimize surface runoff losses of rainwater.
1.	Blasting shall be carried out during fixed hours (preferably during mid-day) or as permitted by the concerned authority. The timing shall be made known to all the people within 1000m (200m for pre-splitting) from the blasting site in all directions.
1.	The drain shall be at least 1m away from the toe of the embankment of the road adopting IRC guidelines. Longitudinal drains shall be provided all along the project road to ensure proper drainage of the area. In addition, adequate number of under passes and culverts to act as cross drainage structures shall also be provided.
1.	Sidewalk shall be provided along the bridges.
1.	Cut and fill works shall be carried out strictly in accordance with the design drawings proposed at the time of appraisal of the project.

3.4. Agenda Item No 4:

3.4.1. Details of the proposal

Environmental Clearance Amendment for change in Land use patterns in internal sectors of the Industrial complex area for Development of Khushkhera Bhiwadi Neemrana Investment Region (KBNIR) in Rajasthan by RAJASTHAN INDUSTRIAL CORRIDORS DEVELOPMENT CORPORATION LIMITED located at ALWAR, RAJASTHAN			
Proposal For		Amendment in EC	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/RJ/INFRA1/457332/2024	21-18/2011-IA.III	01/01/2024	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (7(c))

3.4.2. Project Salient Features

1. The project proponent along with the EIA consultant M/s. Ecomen Laboratories Pvt. Ltd made a presentation in the Ministry and provided the following information:-
2. The proposal is for Amendment in Environmental Clearance for change in Land use patterns in internal sectors of the Industrial complex area for Development of Khushkhera Bhiwadi Neemrana Investment Region (KBNIR) in Rajasthan by M/s Rajasthan Industrial Corridors Development Corporation Limited (RICDC).
3. Initially Environmental Clearance vide letter F.No.21-18/2011-IA.III dated 13th October, 2014 granted for development of Khushkhera Bhiwadi-Neemrana Investment Region (KBNIR) in Rajasthan by M/s Delhi Mumbai Industrial Corridor Development Corporation Limited. Thereafter the EC vide letter dated 13th October, 2014 has been transferred from M/s Delhi Mumbai Industrial Corridor Development Corporation Limited to M/s Rajasthan Industrial Corridors Development Corporation Limited (RICDC) vide letter no. F.No.21-18/2011-

IA.III dated 20th June, 2023.

4. The proposed project activity is listed at schedule no. 7(c) Under Category "A" Of the schedule of the EIA Notification, 2006 and attracts general condition due to state boundary and appraised at Central Level. The total cost of the project is Rs. 22612 Crores.
5. Now M/s. Rajasthan Industrial Corridors Development Corporation Limited has made an online application vide proposal No.IA/RJ/INFRA1/457332/2024 Dated 01/10/2024 seeking Amendment in Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above.
6. As per the EC vide letter dated 13th October, 2014 the total Land area was 165.62 km². After amendment the industrial sector is added by 2.14 km² and river area 0.01 km² within a total area. whereas in place of increased industrial area following land use area will be adjusted with the following Sectors like Residential land (0.16 Km²), Commercial land (0.76 Km²), Knowledge City land (0.92 Km²) and Facilities & Utilities land (0.31 Km²). There will be no change in the overall area of 165.62 km².the details are as following:

Detailed land use	Area under original planning (of part land) as per EC Order	Area under revised planning (of part land)	Total area after revised planning for which EC amendment Sought		Percentage (%) changes
	Area in ha	Area in ha	Amended area(Ha)	Percentage (%)	
Industrial		214.01	3018.01	18.22	1.29
Knowledge City	134.31	42.52	1136.21	6.86	-0.55
Commercial	118.44	42.82	241.38	1.46	-0.46
Residential	42.19	26.27	2301.08	13.89	-0.10
Aabadi Development Area	13.52	13.52	1767	10.67	0.00
Facilities & Utilities (Recreational+ Govt Office)*	158.65	127.43	69.78	0.42	-0.19
Green			1103	6.66	0.00
NH& Green Buffer	8.68	8.68	601	3.63	0.00
Road (Transportation+Road)*	83.16	83.16	1186	7.16	0.00
Aabadi Area			815	4.92	0.00
Agriculture & Hi-Tech Agriculture			2840	17.15	0.00
Natural Conservation			689	4.16	0.00
River (Pond/L		0.54	794.54	4.80	0.00

ake)*					
	558.95	558.95	16562	100	

1. Details of Amendment in Land Use

S. no	Land use	Land use Detail as per Notified SNB UC Master Plan / EC	As per Environmental Clearance (%)	As per Notified SNB UC Master Land use Plan 2041 development plan for KBNIR(%)	Final Proposed Land use Plan 2041 (after Modification/Changes by RIDCO) (%)	Land use Difference after Amendment (B-A)
1	Residential Use Zone	Abadi/Abadi Area	8.15	10.06	8.15	0.00
		Abadi Development area	17.67	13.47	17.67	0.00
		Residential	23.17	20.64	23.01	-0.16
2	Industrial Use Zone	Industry	-	25.34	-	
		RICCO Industrial Area	28.04	1.81	30.18	2.14
3	Commercial Use Zone	Commercial	3.17	3.92	2.41	-0.76
4	Tourism Use Zone	Tourism	-	6.31	-	
5	Public/Semi Public Use Zone	PSP/Knowledge City	12.28	11.94	11.36	-0.92
6	Government Use Zone	Government	-	0.69	-	
S N	Land use	Land use Detail as per Notified SNB UC Master Plan / EC	As per Environmental Clearance (%)	As per Notified SNB UC Master Land use Plan 2041 development plan for KBNIR (%)	Final Proposed Land use Plan 2041 (after Modification/Changes by RIDCO) percentage(%)	Land use Difference after Amendment (B-A)
1	Residential Use Zone	Abadi/Abadi Area	8.15	10.06	8.15	0.00

		Abadi Development area	17.67	13.47	17.67	0.00
		Residential	23.17	20.64	23.01	-0.16
2	Industrial Use Zone	Industry	-	25.34	-	
		RICCO Industrial Area	28.04	1.81	30.18	2.14
3	Commercial Use Zone	Commercial	3.17	3.92	2.41	-0.76
4	Tourism Use Zone	Tourism	-	6.31	-	
5	Public/ Semi Public Use Zone	PSP/Knowledge City	12.28	11.94	11.36	-0.92
6	Government Use Zone	Government	-	0.69	-	

1. Changes in EC amendment Details

EC amendment proposed description	Details EC amendment proposed
Land use pattern change in internal Sectors by addition Change in of increased in industrial area following the land use area will be adjusted with the following Sectors like Residential land, Commercial land, Knowledge City land and Facilities & Utilities land.	Industry: 2.14 Km ² (increase) Residential: -0.16 Km ² (decrease) Commercial: -0.76 Km ² (decrease) Knowledge city: -0.92 Km ² (decrease) Facilities & Utilities: -0.31 Km ² (decrease) River: 0.01 Km ² (increase)
Increase in water requirement	7.21 MLD
Increase in wastewater generation	2.887 MLD
Hazardous waste	Additional hazardous waste from additional Industrial sector 2.14 Km ² 1.07 TPD
Total Solid Waste Generation	35 TPD
Biodegradable Waste	16.6 TPD

Recyclable Waste	9.6 TPD
Industry sectors to be proposed in the Industrial area of 2.14km ²	1 Automobiles and Ancillary • Manufacturing of motor vehicles and other transport equipment 2 Electricals • Manufacturing of electrical consumer goods such as switches, fans, wires, etc. 3. Metals & Minerals • Manufacturing of metal products such as metal pipes, sheets, rods, etc • Other products like cements, tiles, stones, etc. 4. Rubbers & Plastics • Manufacturing of rubber & plastics products such as tyres, tubes, polymers, etc. 5. Chemicals • Manufacturing of chemical products, thinner, paints, etc. 6. Pharmaceuticals • Manufacturing of medical equipment and medicinal chemicals. 7. Others • Manufacturing of food & agro based products, • Manufacturing of wood & paper- based products • Manufacturing of Electronics • Manufacturing of Textiles • Manufacturing of machinery & equipment • Other small industries to support the industrial ecosystem like printing and packaging

3.4.3. Deliberations by the committee in previous meetings

N/A

3.4.4. Deliberations by the EAC in current meetings

1. During the EAC the committee observed the following: 2. <i>The Environmental Consultant M/s. Ecomen Laboratories Pvt. Ltd has mentioned that the instant proposal is for the amendment and no change in the scope, however the committee noted that the residential area, Public/Semi Public Use Zone and other areas are converting in to the Industrial area and the scope of the project is changed. EAC noted that the consultant is trying to mislead the committee. The Committee warned M/s. Ecomen Laboratories Pvt. Ltd and advised to thoroughly examine the matter before appearing to the EAC.</i> 3. The EAC, after examining the documents submitted by the project proponent had a detailed deliberation in its 353rd meeting held on 10th & 12th January, was of the view that the instant proposal cannot be considered for amendment in EC as the proposed project scope has changed and increased the industrial area. Thus, the Committee advised the PP that they shall apply under para 7(ii) of the EIA notification, 2006 along with the following information. 4. Comparative statement covering the all facilities as per the existing EC and proposed amendment shall be submit. 5. Changes occurred due to Amendment in the existing facilities and their impacts assessment along with the EIA/EMP report. 6. The revised proposal should clearly provide impact analysis of the existing and proposed developments along with the mitigation measures. 7. Latest Certified EC compliance report duly certified by the IRO, MOEF&CC. Accordingly, the proposal is returned in the present form

3.4.5. Recommendation of EAC

Returned in present form

3.5. Agenda Item No 5:

3.5.1. Details of the proposal

Construction of Gobindpur - Tangi (Capital Region Ring Road) for Six Laning with Paved shoulder NH Configuration Under Bharatmala Scheme - in the State of Odisha (Lot-3/Odisha & Jharkhand- Package - 3). by National Highways Authority of India located at CUTTACK, ODISHA			
Proposal For		Fresh ToR	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/OR/INFRA1/444879/2023	10/74/2023-IA.III	23/11/2023	Road (7(f))

3.5.2. Project Salient Features

1. The above proposal was considered by the Expert Appraisal Committee (EAC) for Infra-I Sector, in its 349th Expert Appraisal Committee held on 15th December, 2023. The EAC after detailed deliberations deferred the proposal for want of additional information. At this instance, the aforementioned proposal was placed before the EAC during its 353rd meeting held on 10th-12th January, 2024. NHAI, the project proponent and EIA consultant M/s Chaitanya Projects Consultancy Pvt. Ltd., Ghaziabad made presentation in the Ministry and submitted the following:

S. n o	ADS raised during the 349th EAC meeting held on 15th December, 2023	Reply submitted by PP during the 353rd meeting held on 10th-12th January, 2024
1	The proposed road alignment is passing through a landscape which have Kapilash WLS. The sanctuary area at many places is in patches interspersed with the non forest/PA area and few roads network including highways area are already existing in this landscape. Addition of proposed new alignment in the landscape will further functionally bisect the sanctuary area which may lead to more disruption in the movement of wildlife. In initial stretch of road approximately between chainage 00+000 to 80+700 there is possibility of using an existing highway whose alignment can be improved to avoid new alignment. From chainages 85+100 to 86+500 are expected for possible wildlife movement PP shall explore the elevated road corridors with appropriate length. While deciding the length of the elevated road corridors general principles of maintaining habitat connectivity mentioned in WII guidelines shall be followed.	The Capital Region Ring Road is proposed to reduce the traffic and city congestion of existing 6 lane NH-16 highway which passes through 3 major towns/cities i.e. Cuttack, Bhubaneswar and Khurda in the state of Odisha. The existing traffic on the NH-16 is 49000 PCU. However, in the Bhubaneswar city the recent traffic studies conducted in the month of November'23 noticed that the traffic volume is 1,70,889 (One lakh Seventy thousand eight hundred eighty-nine) which is beyond the Traffic Capacity of Six lane. To avoid the traffic congestion, the 6 lane Greenfield ring road alignment is proposed on this NH-16 as these cities pose a major traffic congestion, since further widening of NH-16 is not feasible due to ROW constraint.
2	The alignment between chainage 00+000 to 80+700 shall be revised by way of following the alignment of existing highway (particularly between Gobindpur and Kulailo villages) and improving the existing highway with due provisions for elevated corridors for wildlife crossing.	An alternate alignment was presented to PCCF Nodal (Wild life), Odisha Forest Department, Bhubaneswar, using the existing NH-55 which bifurcates the reserve forest and ESZ boundary of Kapilash WLS two times and its cumulative length in forest area is about 2.5 km which is nearly 2.5 times of the proposed alignment passing through the sanctuary forest area.
3	Since at many places alignment is passing through the patches of WLS provisions of wildlife underpasses/ elevated c	

corridors shall be made for facilitating the wildlife movement. Especially from chainages 85+100 to 86+500 provisions for elevated corridors with appropriate length shall be ensured. While deciding the length of the elevated road corridors general principles of maintaining habitat connectivity mentioned in WII guidelines shall be followed.

The PCCF Nodal (Wild life), Bhubaneswar was apprised about the alignment by the NHAI and the PCCF Nodal (Wildlife) has expressed that the NHAI proposed alignment is the best alignment and also convinced about the proposed 1.05 Km Elephant Elevated Corridor. Further it was also informed that the Animal under passes will be suggested as a part of Site Specific Wildlife Conservation Plan. The said plan would also be got approved by the PCCF (WL) office. It was also discussed that there is Elephant movement on the realignment area also which was suggested by the Hon'ble EAC committee.

The Odisha State Government agreed to share 50% of Land Acquisition cost and accordingly Rs. 200 Cr. out of the agreed amount of Rs. 600 Cr has been released. Further the balance Rs. 400 Cr. is also going to be released in this current financial year.

At the intersection of NH 55 and NH 655 it is not possible to design the curve joining for the interchange at/near Khuntuni village as per IRC code provisions for the proposed EAC alignment for designed speed of 80-100kmph. Also, habitations on both sides will limit the interchange design.

In light of the above it is submitted that; as the subject project is a very important project of the NHAI and also the Government of Odisha, it is requested to kindly consider the same for grant of ToR.

1. CWLW Odisha, who was present in the meeting, stated that original alignment proposed by the NHAI involve less forest area of Kapilash WLS and therefore more feasible. On being asked whether existence of two highways within WLS and ESZ will not be more obstructive for movement of elephants and wildlife CWLW was of the opinion that Elephant movement on existing NH 55 is sporadic now which can be facilitated by adding elephant underpasses at appropriate places

3.5.3. Deliberations by the committee in previous meetings

Date of EAC 1 :15/12/2023

Deliberations of EAC 1 :

1. During the EAC, the committee observed and the PP in principle agreed for the following:
 2. The proposed road alignment is passing through a landscape which have Kapilash WLS. The sanctuary area at many places is in patches interspersed with the non forest/PA area and few roads network including highways area are already existing in this landscape. Addition of proposed new alignment in the landscape will further functionally bisect the sanctuary area which may lead to more disruption in the movement of wildlife. In initial stretch of road approximately between chainage 00+000 to 80+700 there is possibility of using an existing highway whose alignment can be improved to avoid new alignment. From chainages 85+100 to 86+500 are expected for possible wildlife movement PP shall explore the elevated road corridors with appropriate length. While deciding the length of the elevated road corridors general principles of maintaining habitat connectivity mentioned in WII guidelines shall be followed.
-
1. The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in its 349th meeting of Expert Appraisal Committee held on 15th December, 2023 and recommended that PP may come up with following modifications in alignment and design of road.
 1. The alignment between chainage 00+000 to 80+700 shall be revised by way of following the alignment of existing highway (particularly between Gobindpur and Kulailo villages) and improving the existing highway with due provisions for elevated corridors for wildlife crossing.
 2. Since at many places alignment is passing through the patches of WLS provisions of wildlife underpasses/ elevated corridors shall be made for facilitating the wildlife movement. Especially from chainages 85+100 to 86+500 provisions for elevated corridors with appropriate length shall be ensured. While deciding the length of the elevated road corridors general principles of maintaining habitat connectivity mentioned in WII guidelines shall be followed.

3.5.4. Deliberations by the EAC in current meetings

The EAC based on the information submitted and clarifications provided by the project proponent and detailed discussions held on all the issues during 353rd meeting held on 10th& 12th January, 2024 **recommended** the project for grant of Terms of Reference (ToR) with stipulated specific conditions along with other Standard ToR Conditions.

3.5.5. Recommendation of EAC

Recommended

3.5.6. Details of Terms of Reference

3.5.6.1. Specific

Specific Conditions

1.	1. Since at many places alignment is passing through the patches of WLS provisions of wildlife underpasses/ elevated corridors shall be made for facilitating the wildlife movement. Especially from chainages 85+100 to 86+500 provisions for elevated corridors with appropriate length shall be ensured. While deciding the length of the elevated road corridors general principles of maintaining habitat connectivity mentioned in WII guidelines shall be followed in consultation with CWLW of the state. 2. The proposed highway lead to fragmentation of the animal movements path connectivity, to ensure connectivity of the forest for ensuring animal movement between existing 4 lane NH-55 and proposed new highway shall be retro fitted by providing the overpass/underpasses for Elephants. Locations of these underpasses shall be decided in consultation with concerned APCCF and Chief Wildlife Warden. 3. The proponent, with the help of an independent institution of national repute like WII/ZSI, shall carry out the impact studies (covering minimum two season) of proposed alignment on biodiversity with focus on

mammals, birds and endemic flora and wetlands/water bodies 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 of Chief Wildlife Warden of Odisha.

4. All animal underpasses/elevated corridors proposed above shall be constructed with provision of guiding barriers of sufficient length and height along both side of the roads on both sides of underpasses.
5. The proponent, with the help of an independent institution 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.
6. 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.
7. The proponent, with the help of an independent institute 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.
8. 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.
9. Cumulative impact assessment study to be carried out along the entire stretch including the other packages in the same stretch.
10. Rain water harvesting structures to be constructed at the either sides of the road with special precaution of oil filters and de-silting chambers.
11. 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.
12. 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.
13. Trees with heronry (breeding ground for herons, egrets, etc), pelicanary or community nesting of birds like Painted Storks, Ibis, Egrets, Pelican, etc will not be allowed to fell. In case of presence of such, alignment will be required to be changed to save such trees.
14. 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.
15. 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 studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.
16. 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.
17. 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.
18. 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.

3.5.6.2. Standard

7(f)	Road
Air Environment	

1.	Description of model, input requirement and reference of derivation, distribution of major pollutants and presentation in tabular form for easy interpretation shall be carried out.
1.	The air quality monitoring should be carried out as per the new notification issued on 16th November, 2009.
1.	Examine the impact during construction activities due to generation of fugitive dust from crusher units, air emissions from hot mix plants and vehicles used for transportation of materials and prediction of impact on ambient air quality using appropriate mathematical model.
Alignment, ESZ & CRZ	
1.	Details of road on stilt in CRZ-I areas, design details to ensure free tidal flow
1.	Details of CRZ-I areas, mangroves required to be removed for the project along with the compensatory afforestation, area and location with budget
1.	HTL/LTL map prepared by authorized agencies superimposed with alignment and recommendation of Coastal Zone Management Authority
1.	In case of alignment passing through coastal zones
Climate and Meteorology	
1.	Climate and meteorology (max and min temperature, relative humidity, rainfall, frequency of tropical cyclone and snow fall); the nearest IMD meteorological station from which climatological data have been obtained to be indicated.
Court Matters	
1.	Details of any litigation(s) pending against the project and/or any directions or orders passed by any court of law/any statutory authority against the project to be detailed out.
Drainage	
1.	If the proposed route involves tunneling, the details of the tunnel and locations of tunneling with geological structural fraction should be provided. In case the road passes through a flood plain of the river, the details of micro drainage, flood passages and information on high levels flood periodicity at least of last 50 years in the area should be examined.
1.	If there will be any change in the drainage pattern after the proposed activity, details of changes shall be examined and submitted.
Employment	
1.	Details of Labour camps, machinery location.
Environmental Monitoring and Management	
1.	Estimated cost of the project including environmental monitoring cost and funding agencies. Submit environmental management and monitoring plan for all phases of the project viz. construction and operation.
1.	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
1.	Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure.

Forest	
1.	If there is a possibility that the construction/widening of road will cause impact such as destruction of forest, poaching, reductions in wetland areas, if so, examine the impact and submit details.
1.	Necessary green belt shall be provided on both sides of the highway with proper central verge and cost provision should be made for regular maintenance
1.	The information should be provided about the details of the trees to be cut including their species and whether it also involves any protected or endangered species. Measures taken to reduce the number of the trees to be removed should be explained in detail. Submit the details of compensatory plantation.
1.	In case the project involves diversion of forests land, guidelines under OM dated 20.03.2013 may be followed and necessary action taken accordingly.
Land Acquisition and R&R	
1.	Detailed R&R plan with data on the existing socio-economic status of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternative livelihood concerns/employment and rehabilitation of the displaced people, civil and housing amenities being offered, etc and the schedule of the implementation of the project specific.
1.	Examine and submit the details of sand quarry, borrow area and rehabilitation
1.	whether governmental or on the basis of BOT etc and provide details of budget provisions (capital & recurring) for the project specific R&R Plan.
1.	Details of the properties, houses, businesses religious and social places etc. activities likely to be effected by land acquisition and their financial losses annually.
1.	If the proposed project involves any land reclamation, details to be provided for which activity land to reclaim and the area of land to be reclaimed.
Land Environment	
1.	If the proposed route is passing through any hilly area, examine and submit the stability of slopes, if the proposed road is to pass through cutting or embankment / control of soil erosion from embankment. Landslide, rock fall protection measures to be indicated.
1.	Submit Land use map of the study area to a scale of 1: 25,000 based on recent satellite imagery delineating the crop lands (both single and double crop), agricultural plantations, fallow lands, waste lands, water bodies, built-up areas, forest area and other surface features such as railway tracks, ports, airports, roads, and major industries etc.
1.	submit a detailed ground surveyed map on 1:2000 scale showing the existing features falling within the right of way namely trees, structures including Archeological & religious, monuments etc. if any.
Miscellaneous	
1.	The Action Plan on the compliance of the recommendations of the CAG as per Ministry's Circular No. J-11013/71/2016-IA. I (M), dated 25th October, 2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.
Noise Environment	
1.	Also examine and submit the details about the protection to existing habitations from dust, noise, odour etc.

	during construction stage.
1.	Identify project activities during construction and operation phases, which will affect the noise levels and the potential for increased noise resulting from this project.
1.	Discuss the effect of noise levels on near by habitation during the construction and operational phases of the proposed highway
1.	Identify noise reduction measures and traffic management strategies to be deployed for reducing the negative impact if any.
1.	Prediction of noise levels should be done by using mathematical modeling at different representative locations.
Project Details	
1.	Examine and submit a brief description of the project, project name, nature, size, its importance to the region/state and the country.
1.	Explore the possibilities of utilizing the debris/ waste materials available in and around the project area.
1.	Examine and submit the details of use of fly ash in the road construction, if the project road is located within the 100 km from the Thermal Power Plant.
1.	Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project.
1.	If the proposed route is passing through low lying areas, details of fill materials and initial and final levels after filling above MSL, should be examined and submit.
1.	If the proposed route involves cutting of earth, the details of area to be cut, depth of cut, locations, soil type, volume and quantity of earth and other materials to be removed with location of disposal/ dump site along with necessary permission.
1.	Assess whether there is a possibility that the proposed project will adversely affect road traffic in the surrounding areas (e.g. by causing increases in traffic congestion and traffic accidents). Specific care be also taken to ensure that by passes have a sufficient buffer to prevent unwanted obstructions defying the purpose of the by pass
1.	Submit details about measures taken for the pedestrian safety and construction of underpasses and foot-over bridges along with flyovers and interchanges. If any.
1.	If the proposed route is passing through a city or town, with houses and human habitation on the either side of the road, the necessity for provision of bypasses/diversions/under passes shall be examined and submitted. The proposal should also indicate the location of wayside amenities, which should include petrol station/service centre, rest areas including public conveyance, etc. Noise reduction measures should also be indicated.
1.	Describe various alternatives considered, procedures and criteria adopted for selection of the final alternative with reasons.
1.	Submit detailed alignment plan, with details such as nature of terrain (plain, rolling, hilly), land use pattern, habitation, cropping pattern, forest area, environmentally sensitive places, mangroves, notified industrial areas, sand dunes, sea, river, lake, details of villages, teshils, districts and states, latitude and longitude for important locations falling on the alignment by employing remote sensing techniques followed by ground truthing and also through secondary data sources.
Rain Water Harvesting	

1.	Provision shall be made for oil and grease removal from surface runoff
1.	Rain water harvesting pit should be at least 3 - 5 m. above the highest ground water table.
Road and Traffic	
1.	In case of bye passes, the details of access control from the nearby habitation/habitation which may come up after the establishment of road.
1.	Submit details of social impact assessment due to the proposed construction of road.
1.	Examine road design standards, safety equipment specifications and Management System training to ensure that design details take account of safety concerns and submit the traffic management plan.
1.	Accident data and geographic distribution should be reviewed and analyzed to predict and identify trends - incase of expansion of the existing highway and provide Post accident emergency assistance and medical care to accident victims.
1.	The proponent shall carry out a detailed traffic flow study to assess inflow of traffic from adjoining areas like airport/urban cities. The detailed traffic planning studies shall include complete design, drawings and traffic circulation plans (taking into consideration integration with proposed alignment and other state roads etc.). Wherever required, adequate connectivity in terms of VUP (vehicle underpass)/ PUP (Pedestrian underpass) needs to be included.
1.	IRC guidelines to be followed for traffic safety while passing through the habitat.
1.	Provision of speed breakers, safety signals, service lanes and foot paths should be examined at appropriate locations throughout the proposed road to avoid the accidents.
1.	Submit the details of road safety, signage, service roads, vehicular under passes, accident prone zone and the mitigation measures.
1.	IRC guidelines shall be followed for widening & upgradation of road.
Socio-Economic Environment	
1.	As per the Ministry's Office Memorandum F.No.22-65/2017-IA.III dated 30th September, 2020, the project proponent, based on the commitments made during the public hearing, shall include all the activities required to be taken to fulfil these commitments in the Environment Management Plan along with cost estimates of these activities in addition to the activities proposed as per recommendations of EIA Studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.
1.	The proponent shall carry out a comprehensive socio-economic assessment and also impact on biodiversity with emphasis on impact of ongoing land acquisition on the local people living around the proposed alignment. The Social Impact Assessment should have social indicators which can reflect on impact of acquisition on fertile land. The Social Impact Assessment shall take into consideration of key parameters like people's dependency on fertile agricultural land, socio-economics spectrum, impact of the project at local and regional levels.
Soil Quality Analysis	
1.	Submit the details on compliance with respect to Research Track Notification of MoRTH 20) Examine and submit the details of sand quarry and borrow area as per OM no.2-30/2012-IA-III dated 18.12.2012 on 'Rationalization of procedure for Environmental Clearance for Highway Projects involving borrow areas for soil and earth as modified vide OM of even no. dated March 19, 2013.

Water Environment	
1.	Examine and submit the details of measures taken during constructions of bridges across river/ canal/major or minor drains keeping in view the flooding of the rivers and the life span of the existing bridges.
1.	In case of river/ creek crossing, details of the proposed bridges connecting on either banks, the design and traffic circulation at this junction with simulation studies.
1.	Details to ensure free flow of water in case the alignment passes through water bodies/river/ streams etc.
1.	Examine and submit details of water quantity required and source of water including water requirement during the construction stage with supporting data and also categorization of ground water based on the CGWB classification
Wildlife	
1.	Provide compilation of road kill data on the wildlife on the existing roads (national and state highways) in the vicinity of the proposed project. Provide measures to avoid road kills of wildlife by the way of road kill management plan.
1.	Explore the possibilities of relocating the existing trees. Animal and wild life crossings to be provided in areas inhabited by wild life.
1.	Study regarding the Animal bypasses / underpasses etc. across the habitation areas shall be carried out. Adequate cattle passes for the movement of agriculture material shall be provided at the stretches passing through habitation areas.
1.	Details of blasting if any, methodology/technique adopted, applicable regulations/permissions, timing of blasting, mitigation measures proposed.keeping in view mating season of wild life.
1.	The projects is located within 10km. of the sanctuary a map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon should be furnished at the stage of EC.

3.6. Agenda Item No 6:

3.6.1. Details of the proposal

Expansion of Waterfront Development Plan for Mundra Port by APSEZ, Mundra, Gujarat by ADANI PORTS AND SPECIAL ECONOMIC ZONE LIMITED located at KACHCHH, GUJARAT			
Proposal For		Amendment in ToR	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/GJ/INFRA1/457274/2024	10-24/2019-IA-III	04/01/2024	Ports, harbors, breakwaters, dredging (7(e))

3.6.2. Project Salient Features

1. The project proponent made a presentation in the Ministry and submitted the following information.-
2. The ToR Proposal was considered by the Expert Appraisal Committee in its 40th Meeting of Expert Appraisal

Committee (Infra-2) held on 23rd April 2019, 43rd Meeting of Expert Appraisal Committee (Infra-2) held on 20th August 2019, 45th Meeting of Expert Appraisal Committee (Infra-2) held on 17th October 2019 and Terms of Reference (ToR) was accorded vide File No: 10-24/2019-IA-III dated 17th May 2019 and subsequent amendments dated 27th September, 2019 and 10th April, 2020.

3. The proposal is for amendment in the ToR granted for Expansion of Waterfront Development Plan for Mundra Port by APSEZ, Mundra, Gujarat by M/s Adani Ports and Special Economic Zone Limited vide letter no. 10-24/2019-IA-III dated 17th May 2019 and subsequent amendments dated 27th September, 2019 and 10th Apr 2020.
4. Now M/s Adani Ports and Special Economic Zone Limited has made an online application no. IA/GJ/INFRA1/457274/2024 in Form-3, seeking amendment in the ToR accorded by the Ministry vide letter no. 10-24/2019-IA-III dated 17th May 2019 under the provisions of the EIA Notification, 2006 for the project mentioned above.
5. The following amendments are sought:

S. no	Description	Approved as per ToR issued 2019	Proposed Amendment in ToR	Remark
1	Total Area (ha)	5170	3335	No Change except the exclusion of East Port area of 1835 Ha.
2	Cargo Capacity (M MTPA)	610	514	No change in cargo type from the earlier approved ToR.
3	Quay Length (m)	22340	16760	No change from the earlier approved ToR except exclusion of East Port quay length (5580 m)
4	Dredging (MCuM)	350	120	No change except exclusion of east port dredging quantity.
5	Effluent Treatment Plant (KLD)	1265	1065	No change from the earlier approved ToR except proportionate reduction of ETP capacity for East Port.
6	Sewage Treatment Plant (KLD)	50055	50055	No Change.
7	Desalination Plant (MLD)	447	447	No Change.
8	Sea Island Jetty	1	1	No Change.
9	Single Point Mooring (SPM)/ Single buoy Mooring	4	3	No Change except the exclusion of East Port (1 SPM).

1. Reason for Amendment: East port development plan is still not finalised and will take some time, APSEZ has decided to take a phased approach for the WFD. Therefore, APSEZ is making this application for the ToR amendment.

3.6.3. Deliberations by the committee in previous meetings

N/A

3.6.4. Deliberations by the EAC in current meetings

1. The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in its 353rd meeting of Expert Appraisal Committee held on 10th & 12th January, 2024 and observed that the proposal involve the reduction in activities and area and accordingly **recommended** the project for grant of Amendment in Terms of Reference (ToR) as per amendment proposed at para 10.5 above with all the terms and conditions mentioned in the ToR letter no.10-24/2019-IA-III dated 17th May 2019.

3.6.5. Recommendation of EAC

Recommended

3.6.6. Details of Terms of Reference

3.6.6.1. Specific

Specific Conditions	
1.	all the terms and conditions mentioned in the ToR letter no.10-24/2019-IA-III dated 17th May 2019.

3.7. Agenda Item No 7:

3.7.1. Details of the proposal

Proposed Sarathi-Kurubarahalli Industrial Area, Phase-II, Sarathi & Karlahalli villages, Harihara Taluk, Davanagere District, Karnataka in an extent of 136.03 Hectares (336Acres-5 Guntas). by KARNATAKA INDUSTRIAL AREAS DEVELOPMENT BOARD located at DAVANGERE,KARNATAKA			
Proposal For		Fresh EC	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/KA/INFRA1/455943/2023	10/11/2023-IA.III	05/01/2024	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (7(c))

3.7.2. Project Salient Features

1. The project proponent along with the EIA consult M/s J.M. EnviroNetPvt.Ltd made a presentation in the Ministry and provided the following information:
2. Karnataka Industrial Areas Development Board (KIADB) proposes to establish an Industrial area in the name of Sarathi-Kurubarahalli Industrial Area Phase-II in an area of 136.03 Ha (336Acres-5 Guntas) at Sarathi and Kurubarahalli villages, HariharTaluk, Davanagare District, Karnataka State by M/s Karnataka Industrial Areas Development Board. The Geo-coordinates of project site: 14°35'28.39"N; 75°49'49.53"E.
3. The proposed project falls under 7(C)-Industrial Park, Category A as general conditions applicable to the proposed site due to Ranebennur Blackbuck Sanctuary Core Boundary is located at a distance of 3.98 Km (W), and Ecologically Sensitive Zone (ESZ) is at a distance of 2.63 Km (W) and the project will be appraised in MoEF&CC.
4. Terms of References (ToR): The ToR proposal was considered in the 322nd EAC meeting held during 21st-22nd March, 2022 in the Ministry of Environment Forest and Climate Change and the Committee recommended for grant of ToR. Ministry granted the ToR vide letter no.10/11/2023-IA.III on 09th May, 2023.
5. Public Hearing: Public hearing was conducted The Public Hearing was held on 04.11.2023 at Project Site of Sarathi Kurubarahalli Industrial Area Phase-II, Sarathi & Karlahalli villages, Harihara Taluk, District, Karnataka, Karnataka Presided by Deputy Commissioner.
6. Landuse/Landcover of project site:

S.No	Landuse/Land cover	Area(Ha)	Percentage(%)	Remarks, if any
1	Industrial Plot	214.59	63.84	-
2	Commercial	2.74	0.82	-

3	Utilities	10.68	3.18	-
4	Amenities	6.36	1.89	-
5	Parking	16.81	5.0	-
6	Parks/ Buffer Zone	43.97	13.08	-
7	Roads	40.97	12.19	-
TOTAL		336.12	100%	-

1. List to industries to be housed with the proposed project site:

Sl. No	Type of industry	Categorization of industry as per EIA notification	Anticipated Types of industries / activities	Categorization as per C PCB
1	Engineering and Fabrication industries	Not Applicable	Manufacturing of steel doors, window frames, furniture, grill gates, steel bench, hooks etc. with painting	Orange
2	Glue manufacturing industries	Not Applicable	Glue from starch (physical mixing) with Gas/ electrically operated oven/ boiler	Orange
3	Paint blending industries	Nil	Blending and mixing	Orange
4	Soaps, detergents and cosmetics manufacturing industries	Nil	Synthetic detergents and soaps manufacturing, Handmade soaps, Detergents Formulation	Green
5	Textile spinning industries	Nil	Textile printing	Green
6	Reprocessing of waste plastics	Nil	Flakes from rejected PET bottles Reprocessing of waste plastics including PVC	Orange
7	Food Industry	Nil	Processing etc	Orange
8	Ceramics and refractories	Nil	Ceramics & Refractories	Orange
9	Fertilizers formulation and bio fertilizers manufacturing	Nil	Granulation, formulation and blending only	Orange
		Nil	Bio fertilizers and bio pesticides without using inorganic chemicals	White
10	Electrical and electronics items assembling industries	Nil	Electrical and electronics assembling	Green
11	Electrical lamps, lenses	Nil	Electric lamps and CFL manufacturing	Green

	manufacturing		y assembling only	

1. Terrain and Topographical features: The district Davanagere is characterized by vast stretches of undulating places interspersed by low ranges of hilly rocks. The district is comprised of middle and upper Tungabhadra valley, ChikkaHagari Valley, Davanagere and Channagiri plateaus and uplands of Jagalur and Harapanahalli. The general elevation above the mean sea level varies between 500 and 1000 meters.
2. Details of water bodies, impact on drainage: Two water bodies namely DuggavattiHalla and Karala Halla are adjacent to the site towards the North & south of project site. ZLD is proposed. So there will not be any impact on the drainage.
3. Water requirements: The total fresh water requirement for the proposed project is estimated to be around 903 KLD. The wastewater generated from domestic of about 91 KLD and primary treated industrial effluent quantity of about 387 KLD that can be treated 500 KLD capacity Common Sewage Treatment Plant (CSTP) that can be utilized for gardenin.
4. Diversion of forest land: the proposed project doesn't having the forest land and no forest diversion is involved. Ranebennur Blackbuck Sanctuary Core Boundary is located at a distance of 3.98 Km (W), and Ecologically Sensitive Zone (ESZ) is at a distance of 2.63 Km (W).
5. Tree cutting and green belt development: The proposed project does not involve any tree cutting. The Greenbelt area proposed is 43.97 Acres (13.08% of total area). KIADB has earmarked 43.97 Acres (13.08%) and balance 66.92 Acres (19.92% of total area) will be developed by individual industries and total overall green belt area proposed will be 33%. The individual industries are mandated to develop the remaining percentage of the green belt development. KIADB also proposes to develop 15m width of green belt buffer along the periphery of the project site. It is proposal to plant indigenous native species which can further control pollution load. Greenbelt development to promote integration of environmental issues with industrial development projects. A capital cost of Rs. 75 Lakhs shall be earmarked for this greenbelt development and Rs. 15 Lakhs/annum will be allotted for recurring cost towards greenbelt development and maintenances. It is proposed plant 67,320 1500 trees/Ha for 33% of total 136.023 ha 44.88 ha.
6. Municipal Solid Waste Generation and Management: n the construction phase, Municipal Solid and constructional wastes will be generated is about 50 kg/day. This will be collected and segregated at site. Organic wastes will be composted at site and the manure will be used for green belt development during construction phase. Operational Phase: During the operational phase, Municipal Solid Wastes will be generated. These wastes can be segregated by individual industries and organic wastes will be sent to common MSW processing area. This will be composted at site in an area allocated for municipal waste processing. Sewage generated during construction phase will be treated in smaller size or packaged (portable type) Common Sewage Treatment Plant (CSTP). During operation phase sewage and primary treated industrial effluent will be treated in the CSTP. The CSTP capacity is 500 KLD. The treated wastewater will be reused for gardening etc. and the wastewater generated from the industries is 387 KLD, primary treatment will be each individual industry which shall be treated in their industrial premises. The treated water can reused for the industrial activities like boilers, cleaning equipments etc. The total fresh water requirement for the proposed project is estimated to be around 903 KLD. The wastewater generated from domestic of about 91 KLD and primary treated industrial effluent quantity of about 387 KLD that can be treated 500 KLD capacity Common Sewage Treatment Plant (CSTP) that can be utilized for gardening.
7. Land acquisition and R&R issues: No R&R procedures required/involved in the proposed project site and land has been acquired and Developed by Govt. of Karnataka, in control by KIADB.
8. Employment potential: the proposed project will generate the employment of total 2,250 members out of which 2000 persons will be Permanent employees and 250 persons will be Contractual.
9. Benefits of the project: There will be an opportunity for job at different cadres and work force. This project will have positive impact on the socio economic status of the surrounding human environment and increased inflow of revenue to the Karnataka Government. Proposed Industrial Area will help in revenue generation for the State as well as to the Country.
10. Details of Court cases: No court case is pending against the proposed project.

3.7.3. Deliberations by the committee in previous meetings

N/A

3.7.4. Deliberations by the EAC in current meetings

1. The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in its 353rd meeting of Expert Appraisal Committee held on 10th& 12thJanuary, 2024 and **recommended** the proposal for grant of Environmental Clearance with the specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects.

3.7.5. Recommendation of EAC

Recommended

3.7.6. Details of Environment Conditions

3.7.6.1. Specific

Specific Conditions	
1.	1. The Environmental Clearance to the project is primarily under provisions of EIA Notification, 2006. 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. 2. Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974. 3. The proponent has to comply with the Ministry's OM no. J-11011/321/2016-IA.II(I), dated 27.04.2018 which made it mandatory for certain type of industries to conduct public hearing irrespective of their location within Industrial Area or outside the industrial area. 4. The proposed individual units need to take Environmental Clearance separately as per the applicability of the schedule of EIA Notification, 2006. 5. The company shall construct a garland drain all around the industrial estate to prevent runoff of any contaminants/ waste into the nearby water bodies. Effluent shall be properly treated and treated wastewater shall conform to CPCB standards. 6. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R.608(E) dated 21st July, 2010 and amended from time to time shall be followed. 7. Processed effluents/any wastewater shall not be allowed to mix with storm water, storm water drain shall be provided on tank farm, and solvent transfer through pumps. 8. Proponent shall install the Zero Liquid System (ZLD). The Industrial complex shall achieve Zero Liquid Discharge and to achieve the Zero Liquid Discharge, waste water generated from various industrial operations shall be properly collected, treated to the prescribed standards and then recycled or reused for the identified uses. 9. As proposed by the KIADB 43.97 Acres (13.08% of total area) of the total area will be developed by the KIADB and rest of 19.92 % and balance 66.92 Acres (19.92% of total area) green belt shall be developed by the individual industrial units. The greenbelt over not less than 33% of the total land of the proposed Industrial Area shall be developed which shall include the green belt in plots of individual industries as well as green belt in common areas of the KIADB. 10. Minimum 50 meter width of Green belt with the thick plantation inside the park from the boundary shall be maintained all along the Duggavatti Halla and Karala Halla and around the stream. 11. The industrial unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms. 12. Training shall be imparted to all employees on safety and health aspects of Chemicals handling. 13. The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the industrial estate at least at four locations (one within and three outside the port area at an angle of 120° each), covering upwind and downwind

- directions.
14. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed fugitive emission standards.
 15. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
 16. Garland drains and collection pits of adequate capacity shall be provided for each stock pile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface run off.
 17. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high level of particulate matter such as around loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
 18. Spillage of fuel/engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
 19. Necessary approvals be taken during implementation and commissioning from statutory bodies concerned.
 20. The ecological and biodiversity conservation study conducted by the consultant, PP shall get approval/recommendations of the concern state forest department and all commitments made in the biodiversity Management & Conservation Plan shall be implemented in letter and spirit. The status of implementation of Wildlife Management & Conservation Plan shall be submitted to the Regional Office of the Ministry along with 6 monthly compliance report.
 21. All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.
 22. All the mitigation measures to reduce pollution as mentioned in EIA/EMP report shall be implemented in toto.
 23. Ground water abstraction shall be as prescribed by the CGWA. A clearance/permission of the CGWA shall be obtained in this regard.
 24. Sufficient number of Piezometer wells shall be installed in and around the project site to monitor the ground water quality in consultation with the State Pollution Control Board / CPCB. Trend analysis of ground water quality shall be carried out each season and information shall be submitted to the SPCB and the Regional Office of MoEF&CC.
 25. All the recommendation of the EMP shall be complied with in letter and spirit. 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 RO, MoEF&CC along with half yearly compliance report.
 26. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
 27. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.
 28. Any hazardous waste generated during development/ construction phase, should be disposed off as per applicable rules and norms with necessary approvals of the Karnataka State Pollution Control Board.
 29. Rain water harvesting for roof run-off and surface run-off, should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.
 30. Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water. Treated affluent emanating from STP shall be recycled/reused to the maximum extent possible. Treatment of 100% grey water by decentralized treatment should be done.
 31. Storm water control and its re-use as per CGWB and BIS standards for various applications.
 32. The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of firefighting equipments, etc. as per National Building Code including protection measures from lightening etc.
 33. All the topsoil excavated during development/ construction activities should be stored for use in horticulture/landscape development within the project site.

	34. Disposal of muck during development/ construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority 35. Detailed plan of expenditure with implementation schedule to address issues raised during Public Hearing shall be prepared and submitted to the Regional Office of this Ministry within three months. The proponent shall adhere the strict compliance of above plan to utilize funds as per schedule. 36. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Aforestation etc, either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.

3.7.6.2. Standard

7(c)	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones
Air quality monitoring and preservation	
1.	The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the project area at least at four locations (one within and three outside the project area at an angle of 120°each), covering upwind and downwind directions.
1.	A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.
1.	Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
1.	Dust collectors shall be deployed in all areas where surface cleaning and painting operations are to be carried out, supplemented by stacks for effective dispersion.
1.	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed emission standards.
Energy Conservation measures	
1.	Provide LED lights in their offices and project areas.
1.	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;

Environment Responsibility	
1.	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
1.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
1.	Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
1.	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
Green Belt	
1.	Wherever possible, plantations around the periphery of the Industrial Area, in the downwind direction and along the road sides shall be provided for containment of pollution and for formation of a screen between the industrial area and the outer civil area. The choice of plants should include shrubs of height 1 to 1.5 m and tree of 3 to 5 m height. The intermixing of trees and shrubs should be such that the foliage area density in vertical is almost uniform.
1.	The individual industrial unit, at the time of obtaining EC, shall bring a letter from the Industrial Area, specifying the area allocated to them to be developed as green cover, as a part of obligation from the Industrial Area.
1.	The Industrial Areas are directed to accordingly allocate the area, to be developed as green cover, to respective individual industrial units so as to achieve the above mentioned condition.
1.	An overall green area of at-least 33% of the Industrial Area should be developed with native species. The green area shall be 40% in case of critically polluted area. The project proponent of the Industrial Area shall comply with the additional commitment made by them in the EIA report regarding the development of green belt.
1.	The parameters like selection of plant species, procedure for plantation, density of tree plantation etc shall be as per the CPCB guidelines.
Miscellaneous	
1.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
1.	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
1.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
1.	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated

	environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
1.	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
1.	The criteria pollutant levels namely; PM2.5, PM10, SO2, NOx (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
1.	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
1.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
1.	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
1.	No further expansion or modifications in the Industrial Area shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
1.	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
1.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
1.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
1.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
1.	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
1.	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010

Noise monitoring and prevention

1.	Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.
1.	Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.
1.	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A)

	during day time and 70 dB(A) during night time.
1.	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
Public hearing and human health issues	
1.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
1.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
1.	Occupational health surveillance of the workers shall be done on a regular basis.
1.	Workers shall be strictly enforced to wear personal protective equipments like dust mask, ear muffs or ear plugs, whenever and wherever necessary/ required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration.
1.	Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/ accidents.
Specific Conditions	
1.	The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.
Statutory compliance	
1.	All excavation related dewatering shall be as duly authorized by the CGWA. A NOC from the CGWA shall be obtained for all dewatering and ground water abstraction
1.	A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
1.	The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
1.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Coast Guard, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.
1.	The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (incase of the presence of schedule-I species in the study area).
Waste management	
1.	A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the

	existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
1.	Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.
1.	Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.
1.	The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
1.	Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.

Water quality monitoring and preservation

1.	Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression.
1.	Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
1.	No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.
1.	A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.

3.8. Agenda Item No 8:

3.8.1. Details of the proposal

Development of LNG Import Terminal by M/s Swan LNG Pvt. Ltd. by SWAN ENERGY LIMITED located at AMRELI, GUJARAT			
Proposal For		Application for Validity Extension of EC- Form-6	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/GJ/INFRA1/457685/2024	F. No. 11-36/2010-IA.III	08/01/2024	Ports, harbors, breakwaters, dredging (7(e))

3.8.2. Project Salient Features

null

3.8.3. Deliberations by the committee in previous meetings

N/A

3.8.4. Deliberations by the EAC in current meetings

The PP did not attend the meeting. The proposal shall be considered only after a written request by the PP.

3.8.5. Recommendation of EAC

Deferred for PP not attending the meeting

4. Any Other Item(s)

N/A

5. List of Attendees

Sr. No.	Name	Designation	Email ID	Remarks
1	Dr V K Jain	Member (EAC)	drv*****@hotmail.com	
2	Dr M V Ramana Murthy	Member (EAC)	ram*****@gmail.com	
3	Shri S Jeyakrishnan	Member (EAC)	suk*****@gmail.com	
4	Dr Niraj Sharma	Member (EAC)	nee*****@nic.in	
5	Dr Jaya Kumar Seelam	Member(EAC)	see*****@gmail.com	
6	Dr.P.K.Dinesh Kumar	Member(EAC)	pkd*****@gmail.com	
7	Shri Prakash Tewari	Member(EAC)	pra*****@gmail.com	
8	Shri Sharandeep Singh	Member(EAC)	sha*****@nic.in	
9	Shri Ashok Kumar Patre	Member(EAC)	ash*****@gov.in	Absent
10	Ms.Bindu Manghat	Member(EAC)	bin*****@gov.in	
11	Shri Manmohan Singh Negi	Chairman(EAC)	neg*****@hotmail.com	
12	Shri Amardeep Raju	Member Secretary(EAC)	ad.****@nic.in	

Minutes of the 353rd meeting of Expert Appraisal Committee(EAC) of Infra-I(IA-III) held at INDUS Conference hall hybrid(Physical-Video Conferencing) mode, Ministry of Environment Forest and Climate Change, New Delhi on 10th and 12thJanuary, 2024 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, Harbors, Breakwaters, Dredging 7(e) and National Highways 7(f).

The 353rd Meeting of Expert Appraisal Committee (EAC) of Infra-1(IA-III) was held at INDUS Conference in a hybrid (Physical-Video Conferencing) mode hall on 10th and 12thJanuary, 2024 under the Chairmanship of Shri. Manmohan Singh Negi. A list of participants is annexed as **Annexure-A**.

1. OPENING REMARKS OF THE CHAIRMAN.

At the outset, Shri. Manmohan Singh Negi, 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 351st EAC meeting held on 27th-28th December, 2023.

3. AGENDA WISE CONSIDERATION OF PROPOSALS

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

Agenda Sr. No.1

Subject: Expansion of Regasification Capacity of Dahej Terminal from 20 MMTPA to 25 MMTPA at Plot No. 7-A, Dahej GIDC Estate, District Bharuch, Gujarat by M/s PetronetLng Limited-EC and CRZ clearance regarding.

Proposal No: IA/GJ/INFRA1/449648/2023 File No: 10/31/2022-IA.III.

1.1. The above said proposal was considered by the Expert Appraisal Committee (EAC) for Infra-I Sector, in its 351st meeting of Expert Appraisal Committee held on 27th-28th December, 2023 and **recommended** the proposal for grant of Environmental clearance and CRZ clearance with the specific conditions in addition to all standard conditions applicable for such projects.

However, Due to a technical glitch the said proposal is reflected in this agenda of 353rd EAC meeting held on 10th and 12th January, 2024. The recommendations of the 351st meeting of

Expert Appraisal Committee held on 27th-28th December, 2023 shall be considered and Ministry may resolve the technical problem in PARIVESH Portal.

Agenda Sr. No.2

Subject: Proposed Modernization and Expansion of Port Infrastructure for Construction of Fishing Jetty, Passenger Jetty, Coastal Cargo Berth and Development of Berths for Indian Navy & Indian Coast Guard at Mormugao Port Authority located at Vasco da Gama Village, South Goa by M/s Mormugao Port Trust-Terms of References reg.

[Proposal no: IA/GA/INFRA1/453939/2023; File no:10-8/2017-IA.III].

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

2.1. The above said proposal was considered by the Expert Appraisal Committee (EAC) for Infra-I Sector, in its 349th Expert Appraisal Committee held on 15th December, 2023. The EAC after detailed deliberations deferred the proposal for want of additional information. (i) The details of the activities carried out in the port by the port authorities along with their EC and CRZ clearances shall be given in the chronological order. (ii). Comparative statement of activities for which ToR was granted against the current proposal. At this instance, the aforementioned proposal was placed before the EAC during its 353rd meeting held on 10th and 12th January, 2024.

2.2. The project proponent along with the EIA consultant M/s Ultra Tech made a presentation in the Ministry and provided the following information:-

(i) The details of the activities carried out in the port by the port authorities along with their EC and CRZ clearances shall be given in the chronological order.

Berth No.	Date of EC accorded	File No.	Year of Commissioning	Type of Berth	Remarks
Berth No. 1 Amole Berth	-	-	2012	Leased to IN&ICG	EC not applicable- pre-existing harbour structures since 1885 have been used for berthing crafts.

Berth No. 1 Breakwater Berth	-	-	2012	Dedicated for International Domestic Cruise Berthing	EC not applicable - Pre-existing since 1885, the harbour protective structure has been primarily used for the berthing of crafts and ferries.
Berth No.2, 3 & 4,	-	-	Berth no 2-1885 Berth no. 3-1885 Berth no. 4-1885		Berth No. 2, 3 and 4- EC not applicable, pre- existing structure since 1885.
Berth No. 5	24.01.2001	PD-26018/2/2000 -PDZ (CRZ)	2004	General/Coal Cargo	EC obtained
Berth No. 6	24.01.2001	PD- 26018/2/2000 -PDZ (CRZ)	2004	General/Coal Cargo	EC obtained
Berth No. 7	30.12.2013	10-39/2009-IA.III	2014	Coal Cargo	EC obtained
Berth No. 8	06.07.2023	10-33/2015-IA.III	1978	Liquid Bulk	EC not applicable, constructed in 1978
Berth No. 9	06.07.2023	10-33/2015-IA.III	1978	General Cargo	Now EC obtained F. No. 10-33/2015-IA.III dated 6 th July 2023, for Redevelopment of Berth No. 8, 9 and barge berths.
Barge Berth	06.07.2023	10-33/2015- IA.III	1978	Barge Berth	
Berth No.10	-	-	1986	General Cargo (except coal)	EC not applicable, constructed in 1985, prior to EIA notifications 1994
Berth No.11	13.08.1991	J-16011/10/90- IA.III	1997	General Cargo (except coal)	EC obtained
6 Nos. Mooring Dolphin	-	-	2005 to 2010	General cargo	Mooring Dolphin

(ii) Comparative statement of activities for which ToR dated 08.05.2017 was granted against the current proposal.

Earlier Proposal (As per ToR F.No. 10-8/2017-IA-III dated 8 th May 2017)	Current proposal For ToR (Proposal No. IA/GA/INFRA1/453939/2023 dated 01.12.2023)
Construction of Fishing Jetty Fish landing quay length: 264 m Outfitting quay length: 75 m Total berthing quay: 415 m length & 88 m in width.	Construction of Fishing Jetty with size dimension: Fish landing quay length: 264 m Outfitting quay length: 75 m Total berthing quay: 415 m length & 88 m in width. No change in proposal.
Development of Berth for Liquid bulk (Petroleum products including LPG) POL Berth: 300 m length and 25 m width Back up area of 26,000 sqm.	POL Berth will be converted into Coastal Cargo Berth 300 m length & 25 m width with dredging depth -13 m. Revised Back up area 35,458 sqm. No change in berth dimensions. Only type of cargo will change. Back up area of 26,000 sqm earlier proposed for POL berth will be utilized for coastal cargo berth in revised proposal.
General Cargo Berth: 350 m length and 25 m width.	General Cargo Berth will be converted into Indian Coast Guard Berth 350 m length & 25 m width. No change in berth dimensions.
Coastal Cargo Berth: 210 m length and 25 m width the total back- up area of General & Coastal Cargo berths approx. 8000 m ²	Coastal Cargo Berth will be transformed into Indian Naval Berth 210 m length & 25 m width No change in berth dimensions.
Construction of Passenger Jetty 100 m length & 100 m width with dredging depth -5.1 m	Construction of Passenger Jetty 100 m length & 100 m width with dredging depth -5.1 m. No change in proposal
Deepening of Berths 10 & 11 pockets from -13.10 to -15.0 m.	Excluded from current proposal

Deepening of Breakwater Berth from -9.5 to -11.5m	Excluded from current proposal
The dredging volume for the existing project amounted to 15,05,660 cum.	The intended dredging volume will reach 10,00,000 cum, attributed to the removal of the deepening of Berths 10 & 11 and the breakwater berth.
The existing Reclamation work area of about approx. 65,000 sqm.	A total marine reclamation work of about 71,300 Sqm is involved for the Construction of Fishing Jetty, Development of Passenger Jetty, Coastal Cargo, Berths for Indian Coast Guard & Navy.
The existing project cost amounted to 679.62 Cr.	Proposed project developments cost will be 570 Cr.

2.3. During the EAC, the committee observed the following:

- i. *PP made a request to the Committee that the Terms of References was obtained on 08.05.2017 for Modernization and Expansion of Port infrastructure for Fishing, Coastal and Multipurpose Cargo Berth and Liquid/general cargo at Murmugao Port, Goa. In line with the ToR Port had been carried out EIA studies and subsequently public hearing was conducted from 05.10.2018 to 08.10.2018. The application for CRZ clearance was submitted to member secretary Goa Coastal Zone Management Authority on 11.03.2019. However due to non finalization of the Coastal Zone Management plan 2011 for the state of Goa GCZMA did not issue the necessary recommendations for the project. Meanwhile extension of validity of ToR was obtained for further one year i.e. till 07.05.2021. Subsequently considering the covid pandemic Ministry issued a notification dated 18.01.2021 excluding the period of from April 2020 to March 2021 and as per the said notification the validity of ToR is extended up to 07.05.2022. Further, Government of Goa finalized the CZMP, 2011 and MoEF&CC notified the GoA CZMA in September, 2022, by then the ToR validity was expired. Thus PP is applied for fresh ToR. PP is requested the Committee to consider the EIA/EMP report and Public hearing carried out by the PP.*
- ii. *The Committee clarified the PP that as per the Ministry's OM dated 08 Jun 2022. 'Baseline data used for preparation of EIA/EMP reports may be collected at any stage of the EC process or even before the grant of ToR. Public consultation shall be conducted after the grant of ToR. The Public consultation conducted after the expiry of ToR shall not be accepted by the Regulatory Authority. The baseline data and Public Hearing shall not be more than three years old at the time of submission of application for consideration of EC. At the time of application for EC, in case baseline data is older than three years, but less than five years old in the case of River valley and HEP Projects, or*

less than four years old in the case of other projects, the same shall be considered, subject to the condition that it is revalidated with one season fresh non-monsoon data collected after three years of the initial baseline data. In case the proposal for EC along with EIA/EMP reports based on the ToRs prescribed is not submitted within the validity period of ToRs, and/or not complying with the above-mentioned criteria, the concerned Member Secretary shall not accept the proposal and process shall be initiated de novo by the PP. This O.M. is issued in supersession of OM no. J-11013/41/2006-IA-II (I) (Part) dated 29th August 2017 and with the approval of the Competent Authority’.

- iii. *In the instant proposal public hearing was conducted from 05.10.2018 to 08.10.2018 which is more than 3 years old and the request of PP the committee not accepted and directed to the PP that fresh PH hearing shall be conducted.*
- iv. *The Committee also noted that in the instant proposal PP mentioned that they are developing the Indian Coast Guard Berth 350 m length & 25 m width, and Indian Naval Berth 210 m length & 25 m width. Proposed along with the other general berth and also informed that there are settlements inside the port boundary therefore the committee considering the sensitive nature of the project a sub-committee will make a site visit before finalisation of the EIA/EMP report.*

2.4. The EAC, after examining the documents submitted by the project proponent and detailed deliberations in its 353rd meeting held on 10th-12th January, 2023 **recommended** the proposal for grant of Terms of Reference (ToR) with the specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

- i. Importance and benefits of the project.
- ii. Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scale
- iii. Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000
- iv. Recommendation of the Goa State CZMA shall be obtained and submitted.
- v. Submit superimposing of latest CZMP as per CRZ (2011) on the CRZ map.
- vi. Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011.
- vii. Location of the dredge material, if any will be disposed shall be indicate in the KML file and the layout maps overlay on the approved CZMP map shall be submitted and site suitability study shall be conducted.
- viii. Hydrodynamics study on impact of dredging on flow characteristics shall be carried out.
- ix. Study the impact of dredging and dumping on marine ecology and draw up a management plan through the NIO or any other institute specializing in marine ecology.
- x. The types of Cargos proposed to be handled at the port shall be submitted product wise

- and quantity wise.
- xi. The impacts study on the hazardous materials handling and storage in worst case scenario shall be submitted along with the EIA/EMP report.
 - xii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).
 - xiii. A certificate from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.
 - xiv. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project.
 - xv. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
 - xvi. An assessment of the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA.
 - xvii. Disaster Management Plan for the project shall be prepared and submitted.
 - xviii. Risk analysis and its management plan for handling different types of liquid cargos (if handling) shall be conducted and submitted.
 - xix. Detailed modelling studies to understand whether the selected site can withstand severe cyclones and develop design in accordance to due safety measures.
 - xx. Erosion and accretion study at the mouth of the creek which is adjacent to the proposed site be carried out and submitted.
 - xxi. As informed by the PP the backup area originally proposed for POL berth may not be required presently as additional back up area for coastal cargo berth. Therefore this area should be used as green belt and planting of indigenous species shall be carried out.
 - xxii. A detailed study on the impact of proposed activity on marine ecology and marine biodiversity with specific focus on the corals, mangroves and mud flats in the proximity of the site should be conducted and required mitigation plan be submitted through a nationally reputed institute.
 - xxiii. A management plan for the area under which mangroves are or likely to be removed and compensatory mangrove plantation plan be submitted.
 - xxiv. Details and status of court case pending against the project, if any.
 - xxv. Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular

chart with financial budget for complying with the commitments made.

- xxvi. A tabular chart with index for point-wise compliance of above ToRs. The specific ToRs as recommended above are in addition to all the relevant information as per the „Generic Structure of EIA“ given in Appendix III and IIIA in the EIA Notification, 2006.
- xxvii. A specific note to be prepared which compare the current state of environmental parameters due to completed construction against the baseline data presented during the previous EC. Change in the data should clearly presented along with mitigation measures.
- xxviii. 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 Studies and the same shall be submitted to the ministry as part of the EIA Report available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.
- xxix. Site inspection will be carried out by the subcommittee before finalisation of EIA/EMP

Agenda Sr. No.3

Subject: Development of the proposed industrial area in an area of 80.196 ha located at Ralwas, of Dausa District, Rajasthan by M/s Rajasthan State Industrial Development & Investment Corporation Ltd (RIICO)-Terms of References reg.

Proposal Number: IA/RJ/INFRA1/444761/2023; File No: 10/79/2023-IA.III.

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

The PP did not attend the meeting. The proposal shall be considered only after a written request by the PP.

Agenda Sr. No.4

Subject: Expansion and Mechanization of existing berths of inner harbour facilities for handling of additional 48 MTPA in the existing inner harbor basin by M/s Paradip Port Authority.

Proposal No. IA/OR/INFRA1/455843/2023 and File No. 10-62/2017-IA.III.

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

4.1. The project proponent along with EIA consultant M/s RITES Ltd and M/s NCSCM made a presentation in the Ministry and submitted the following information.-

4.2. The proposal is for Expansion and Mechanization of existing berths of inner harbour facilities for handling of additional 48 MTPA in the existing inner harbor basin by M/s Paradip Port Authority.

4.3. The proposed development projects are summarized below:

S. no.	Proposed Development	Category
1	Two nos. of berths in New Dock Complex as NDC-3 & NDC-4	New Berth
2	Mechanization of SQ Berth	Mechanization of existing berths
3	Mechanization of Multipurpose Berth	
4	Mechanization of CQ-1 & CQ-2 Berth	
5	Development of Green Hydrogen Berth	New Berth
6	Development of New Short Arm Berth near I.O.B (SQ-II)	New Berth
7	Development of New Berth in NDC basin (NQ-III)	New Berth
8	Development of Clean Cargo Berth as CCB-II	New Berth
9	Expansion of North Oil Jetty	Extension
10	Development of South Western Dock	New Berth

4.4. The proposed development.

Sr.no.	Proposed Development	Category	Proposed Capacity
1	Two nos. of berths in New Dock Complex as NDC-3 & NDC-4	New Berth	20 MTPA
2	Development of Green Hydrogen Berth	New Berth	5 MTPA
3	Development of Short Arm Berth near I.O.B (SQ-II), NDC basin (NQ-III) and extension of Clean Cargo Berth as CCB-II (5MTPA each)	New Berths	3 x 5 =15 MTPA

4	Extension of North Oil Jetty	Extension	2 MTPA
5	Development of South Western Dock	New Berth	25 MTPA

4.5. The proposed project falls under 7(e)-Ports, harbours, break waters, dredging Category-A, as per EIA notification 2006. Total investment/cost of the project is Rs.693500 Lakhs.

4.6. Total area of the port is 6305.58 acres, out of which 6285.54 acres is situated in Paradip and 20.04 acres is in Haridaspur. Out of total port area of 6285.54 acres, 2482.05 acres is inside the security wall (1920.47 acres of land area plus water lagoon area of 561.58 acres).

4.7. Topography: The Paradip port serves a vast hinterland, which is rich in mineral, industrial and agricultural resources and connected through network of roads, railways and waterways. The port is connected by state highway with Cuttack (96 km) and the state capital Bhubaneswar (125 km). An express highway of 142 km was constructed from Daitari mines directly to Paradip port in 1966, running across NH.16 (NH5 previously), for movement of iron ore by trucks. Subsequently, portion of the express highway from Chandikhol to Paradip was declared as NH5A (now NH53). Indian railways serve the port through a direct broad gauge link from Cuttack, the commercial hub of the state of Odisha. The Taldanda canal, starting from the Mahanadi barrage near Cuttack is extended upto Paradip, meeting the water requirement for the port. The confluence point of Mahanadi River lies about 7.5 km north of the port and the river is also navigable during good part of the year.

4.8. Water requirement: Requirements: Water would be needed at the port for use of port personnel, dust suppression, firefighting and miscellaneous uses. Following are the water requirements

Sr. No	Phase	Present Demand	Demand after Expansion
1	Construction Phase	2000	7000
2	Operation Phase	4000	6000

4.9. The water shall be sourced from surface water i.e. from Taldanda canal off taking from Mahanadi Barrage. The source is located at around 90 kms from the project site.

4.10. Tree cutting: The proposed project does not involve any tree cutting.

5.1. Diversion of Forest land: The proposed project does not involve any forest diversion. The proposed project is not falling within 10 km buffer zone of the wildlife Sanctuary and National Park fall within 10 km buffer zone of the project and no Eco-Sensitive Zone, Eco-sensitive areas fall within 10 km buffer zone of the project.

4.11. Details of CRZ: The proposed project area falls under CRZ-II area. The CRZ map is under preparation. The final CRZ map and report will submit along with the EIA/EMP report.

4.12. Waste Management (Solid): Municipal Waste (Domestic) Source: From office buildings, worker's amenities areas, Labour Camps. Quantity: 438 Tonnes Per Annum. Solid waste from the common area is to be collected and disposed-off as per the MSW Rules, 2016 through Paradip Municipal Waste Treatment Facility. The organic waste shall be utilized as a manure in the greenbelt and in other avenue plantations/gardens. Hazardous Waste (Cargo Associated Wastes) Source: From Ships such as ballast water with oil, cargo residue, sludge etc. Quantity: 8.25 Tonnes per Annum. Hazardous wastes that are likely to be generated from ships, will be stored in HDPE drums in isolated place and disposed off through authorized buyers/disposers. Manual handling of hazardous waste and use of paint with lead content shall be avoided. Demolition/ Construction Waste Source: Dilapidated Structures & during construction of proposed berths. Quantity: 2445 Tonnes Per Annum. Method of disposal: Construction waste (Debris) will be used to strengthen the low-lying area of project site/ approach roads etc.

4.13. Land acquisition and R&R issues involved: No Rehabilitation & Resettlement is involved in the project.

4.14. Employment Potential: The proposed development works involve construction of new berths, mechanization works. So, there will be ample job opportunities during construction and operational phase. The details are as following.

4.15. Employment potential: The proposed development works involve construction of new berths, mechanization works. So, there will be ample job opportunities during construction and operational phase. The details will be provided along with the EIA/EMP report.

4.16. Benefits of the Project: The construction of the infrastructures will have both direct and indirect impacts on the economic development of the country. The project is expected to stimulate the participation of private businesses in industrial and transport sector development. There will be many ancillary industries come up. Private investments will create employment opportunities which will ultimately create income opportunities and alleviate poverty and consequently improve standard of living of the People. The development of Green Ammonia Berth will be first of its kind in India that will set an example for other ports as well. Improvement in social infrastructure like roads, railways, townships, housing, water supply, electrical power, drainage, educational institutions, hospitals, improved environmental conditions etc.

4.17. Details of Court cases: There are no pending court cases against project.

4.18. The EAC, taking into account the submission made by the project proponent has a detailed deliberation in its 353rd meeting on 10th and 12th January, 2023 and observed that Project

Proponent has given contradicting information. As submitted by the PP, the proposed project is for expansion in the existing inner harbor basin and Mechanization of existing berths for handling of additional 48 MTPA. However the proposed development shown during the EAC is 67MMTPA and in the PFR existing port handling capacity is shown as 135 MMTPA and Traffic Projections 250 Million Tons by 2030.

4.19. There is no clarity in the proposal, for further consideration of the project PP shall submit the detailed statement of the existing handling capacity and proposed project handling capacity after expansion and modernisation shall be submit in tabular format along with the copies of EC. Accordingly Proposal is **deferred** with advice to furnish above information.

Agenda Sr. No.5

Subject: Setting up of new industrial estate-GIDC Bulk Drug Park in total area of 815.46 Hectares at Villages: Kansagar, Tankaribandar, Madafar, Bakarpor timbi, Thakor Talavadi, Asanvad and Islampur of Taluka: Jambusar, District Bharuch, Gujarat by M/s Gujarat Industrial Development Corporation (GIDC)-Environmental and CRZ Clearance regarding.

Proposal No: IA/GJ/INFRA1/457083/2023; File No: 10/47/2022-IA.III

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

5.2. The project proponent along with the EIA Consultant M/s Eco Chem Sales & Services. made a presentation and provided the following information:-

5.3. The proposal is for Setting up of New Industrial Estate - GIDC Bulk Drug Park in the area of 815.46 Ha at Villages: Kansagar, Tankaribandar, Madafar, Bakarportimbi, Thakor Talavadi, Asanvad and Islampur of Taluka: Jambusar, District Bharuch, Gujarat by Gujarat Industrial Development Corporation (GIDC).

5.4. The project falls under Schedule 7(c) Category “A” as per EIA Notification 2006. The total cost of the project is Rs. 350000 Lakhs (Rs. 3500 Crores).

5.5. Terms of References (ToR): The ToR proposal was considered in the 316th EAC meeting held during 15th-16th December, 2022 through video conferencing and the Committee recommended for grant of ToR. Ministry granted the ToR vide letter no.10/47/2022-IA.III dated 25th January, 2023.

5.6. Public Hearing: The Public Hearing was held on 11/09/2023 at 11:00 Hrs, at Cricket Ground, Village: Bakarpor Timbi, Ta.Jambusar, Dist: Bharuch (Gujarat).

S.no	Date	Venue	District and State	Chaired by
1	11/09/2023	Cricket Ground, Village: Bakarpor Timbi, Tahsil. Jambusar	Bharuch (Gujarat).	Residential Additional Collector and Additional District Magistrate.

5.7. Land use/ Land cover of project site in tabular form:

S. No.	Land use/Land cover	Area (ha)	Percentage (%)	Remarks, if any
1.	Grass Land	174	24.30	
2.	Scrub Land	34	4.77	
3.	Trees/Orchard	74	10.35	
4.	Crop Land	230	32.18	
5.	Fallow Land	172	24.07	
6.	Salt Pan	18	2.22	
7.	Water body	14	1.76	
8.	Barren Land	78	9.60	
9.	Settlement	10	1.28	
Total		815.0	100.00	

5.8. List to industries to be housed with the proposed project site, only for projects covered under 7(c) category of EIA Notification, 2006:

S.No	Types of Industries/Sectors	Categorization of Industry as per EIA Notification, 2006	Categorization as per CPCB	Zoning as per ATLAS
1	Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)	5 (f)	A & B	A1,W1
2	Common Effluent Treatment Plant	7 (h)	A & B	A1,W1
3	Treatment Storage Disposal Facility	7 (d)	A & B	A1,W1
4	Sewage Treatment Plant	-	-	-

5	Solvent Management Facility	-	-	-
6	Common Steam Facility	-	-	-
7	Residential Facility	-	-	-
8	Industries which do not attract any provisions of EIA Notification 2006, but covered under CTE/CTO	-	-	-

5.9. Terrain and topographical features: Terrain of the project site is undulating and Mean Sea level is ranging from 5 to 8 m.

5.10. Details of water bodies, impact on drainage: Vishwamitri River is at a distance of 3 km from proposed project site. Storm water drainage system shall be designed to collect and convey run-off generated within the catchment of the Bulk Drug Park during and after rainfall events, for safe discharge of the collected storm water into the natural storm drain passing through the Bulk Drug Park area, finally draining in to the river Vishwamitri. Sections of the drains have been considered based on the magnitude of peak flows of the micro catchment of the Park.

5.11. Water requirements: The estimated water demand for manufacturing and nonmanufacturing area, services, and greenbelt will be 64 MLD which will be tapped from 60 MGD water supply pipeline from Narmada Main Canal to Dahej PCPIR. NOC letter for water supply is obtained vide letter no: GIDC/ENG/PH/609 on dated 08th July 2022 from GIDC Gandhinagar.

5.12. Tree cutting: The Project area comprises of agricultural land. There are no trees in the project development area. No tree cutting is therefore envisaged.

5.13. Diversion of Forest land: The proposed project does not involve any forest diversion. No mangrove will be cut down due to construction of proposed Bulk Drug Park. The pipe laying may result direct loss of 0.315 ha area, having approximately 3528 nos. mangrove trees in the route of pipeline. 10 times the number of mangroves will be replanted as a part of compensatory afforestation. For conservation of existing mangroves, unit has prepared Mangrove Management plan.

5.14. The proposed project is not falling within 10 km buffer zone of the wildlife Sanctuary, National Park, no Eco-Sensitive Zone, Eco-sensitive areas etc.

5.15. Details of CRZ: The total area of Bulk Drug Park is 815.46 Ha. out of which 48.45 Ha. (5.94 %) falls under CRZ IB and CRZ III. No activity will be carried out in the proposed CRZ Areas. Treated effluent disposal pipeline of Bulk Drug Park will be laid from CETP complex to deep sea in total length of 64.24 km. Out of which 10.99 km length falls under CRZ-IA, CRZ-IB, CRZ-III, CRZ-IVA and CRZ-IVB areas. The details are as following:

Industrial Estate Area	Proposed Project Activities	Area under CRZ categories(Ha)	Total area(Ha)
	CRZ IB	CRZ III(NDZ)	
	22.75	25.70	

5.16. Proposed Disposal pipeline route under CRZ classes as per approved CZMP of Gujarat State.

Activities	Length of the pipeline under CRZ Categories(km)							Total length (km)
	CRZ IA	CRZ IA-50m	CRZ-IB	CRZ III	CRZ III	CRZ IVA	CRZ IVB	
Disposal pipeline	2.85	0.11	2.33	4.09	0.15	0.30	1.16	10.99

GIDC-Bulk Drug Park has obtained the recommendation from GCZMA vide letter no. ENV/10/2023/99/T.Cell, dated 22nd December, 2023.

5.17. Waste management: An integrated TSDF (comprising a secured landfill, a solid-liquid feed incinerator (with a common MEE and/or a strong-effluent Spray Drying unit) is proposed inside a TSDF complex within the Bulk Drug Park to cater solid/hazardous waste generated from industrial units inside the park. Hazardous waste generation from the proposed Bulk Drug Park has been estimated as Landfill-able waste: 15,000 T/month and Inciner-able waste: 7,500 T/month. Biomedical waste generated from the park will be 70 kg/day, which will be disposed at nearest Common Biomedical Waste Treatment Facility. Total Municipal Solid Waste generated from Commercial, institutional, Residential and Industrial area etc. will be 12.75 Tonne/day. Half of the above municipal waste, 6 T/day will be wet waste, suitable for composting and reuse as manure.

5.18. CETP: API manufacturing involves extensive usage of water in process and utilities. After optimization of use and possible recycling by member industries, it is estimated that 45.5 MLD of wastewater will be generated as low COD & low TDS stream and 8.1 MLD as high COD & high TDS stream. Industrial units shall discharge pre-treated/primary treated low COD & low TDS effluent into CETP through underground closed pipeline network of GIDC after conforming CETP inlet norms. A CETP of 54 MLD capacity has been proposed inside the Bulk Drug Park.

5.19. STP: Sewage generated from API & bulk drug manufacturing units will be treated by individual member units in dedicated and designed STPs and shall be reused within their own plant premises. Around 5.2 MLD sewage will be generated from commercial and residential units. For the treatment of sewage, two STPs will be provided. a. Cluster 01 – 03 MLD. b. Cluster 02 – 2.2 MLD. Treated Sewage will be used for gardening purpose, ash quenching and

washing purpose.

- i. 1 MLD treated sewage shall be reused and balance treated sewage will be disposed off along with the treated industrial wastewater from the CETP before marine disposal.
- ii. Dried sludge from the STP will be used as manure for greenbelt development in the Bulk Drug Park and in the industrial units.

5.20. A detailed Marine EIA and EMP studies for the identification of suitable outfall for effluent discharge from CETP of Bulk Drug Park in the Gulf of Khambhat, Gujarat has been carried out by CSIR-National Institute of Oceanography, Goa. NOC for marine disposal from Gujarat Pollution Control Board was applied on 26.06.2023.

5.21. Land acquisition and R&R issues involved: GIDC has already acquired total 815.46 ha of land for proposed development. From total 815.46 ha land, 407.65 ha is from private land and 407.81 ha is from government land. No R&R issues involved.

5.22. Employment potential: Around 3500 nos. of workers will be employed during construction phase. Employment during operation phase is projected for pharma industries with a worker density of 113 employees/Ha. Around 67815 nos. of workers will be employed directly and indirectly.

5.23. Benefits of the project: Financial Benefit With a view to significantly bring down the manufacturing cost of bulk drugs and thereby increase the competitiveness of the domestic bulk drug industry by providing easy access to standard testing and infrastructure facilities, Department of Pharmaceuticals Government of India has notified a guidelines of the scheme for "Promotion of Bulk Drug Parks" on 27th July 2020. The current interventions shall address the need that arises in a situation of pandemic, which the world has been facing since last two years. Such a project envisages to provide supply of medicines to the market addressing the demand of the critical times. The proposed Bulk Drug Park would strengthen the position of the pharma industry within the state, which will further improve the position of the state, both in terms of business and the industry. There is an opportunity for the Indian pharmaceutical industry to play a larger role in global drug supply-security and Gujarat can be the trusted partner in this journey with its proven track record and continuous progress in the pharmaceutical sector. This project will generate tax revenues for the government and will improve the GDP of the district. Social Benefit: The employment of local people in primary and secondary sectors of project shall upgrade the prosperity of the region. This inturn will improve the socio-economic conditions of the area.

5.24. Details of Court cases: There are no pending court cases against project.

5.25. During the EAC, the Committee observed the following are.

- i. *Treated effluent disposal pipeline of Bulk Drug Park will be laid from CETP complex to deep sea in total length of 64.24 km. Out of which 10.99 km length falls under CRZ-IA, CRZ-IB, CRZ-III, CRZ-IVA and CRZ-IVB areas as per CRZ Notification, 2011.*
 - ii. *The laying pipe line may result direct loss of 0.315 ha area, having approximately 3528 nos. mangrove trees in the route of pipeline. Therefore the committee directed to the PP that the pipeline shall be constructed using Horizontal Directional Drilling(HDD) technology only and no mangroves shall be removed and Mudflats shall not disturbed. The PP is agreed for the same.*
 - iii. *The total green belt to be developed by GIDC around the periphery of the park will be 22.60 Ha i.e. 2.77 %. Additional to this, there will be greenbelt development along the road, natural drain and buffer of 15 Mts. along common village boundary, which will be around 2.60 Ha area i.e. 0.32 %. Total greenbelt area to be developed within the park will be 25.20 Ha. i.e. 3.1 % of the total plot area.*
 - iv. *The committee opined that the green belt proposed by PP is bare minimal and advised PP to revise the green belt area, as suggested, GIDC agreed to develop 83.147 ha area as greenbelt i.e. 10.20 % instead of 3.1%.and rest of the 22.8 % will develop the individual industrial units.*
- 5.26. The EAC, taking into account the submission made by the project proponent has a detailed deliberation in its 353rd meeting on 10th and 12th January, 2023 and recommended the proposal for Environmental and CRZ Clearance with the specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects.
- i. The Environmental Clearance to the project is primarily under provisions of EIA Notification, 2006. 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. Construction activity shall be carried out strictly according to the provisions of the CRZ Notification, 2011. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.
 - iii. All the recommendations and conditions specified by the Gujarat Coastal Zone Management Authority (GCZMA) vide letter no. ENV/10/2023/99/T.Cell, dated 22nd December, 2023 shall be complied with.
 - iv. The green belt proposed by PP is bare minimal and, therefore PP to revise the green belt area, as suggested by EAC and agreed to by GIDC, and develop 83.147 ha area as greenbelt i.e. 10.20 % instead of 3.1%.and rest of the 22.8 % will develop the individual industrial units. Green belt around natural drains and in the buffer around villages/habitation shall be at least 30-meter wide instead of 15 meter as proposed by the

- PP and width of green belt around project boundary shall be at least 15 meter. The plant species shall be native species with heavy foliage, broad leaves and wide canopy cover are desirable. Water intensive and/or invasive alien species should not be used.
- v. An area of 48.45ha in CRZIII and CRZ IB which is the part of the project area shall not be used for any development activity. In CRZ III zone the area should be restored through enrichment planting of the same species or any other suitable indigenous species. A plan shall be made in consultation with and implemented through concerned Divisional Forest Officer of State forest department at the project cost and plan shall be part of EMP consultation.
 - vi. A detailed impact study on the mangroves and mud flats in the proximity of the site and effluent disposal point due to proposed activity has been carried out by the CSIR-NIO (Govt. of India). All the recommendations/mitigation measures drawn in the CSIR-National Institute of Oceanography, Goa report shall be implemented in letter and spirit.
 - vii. The pipeline shall be constructed using Horizontal Directional Drilling(HDD) technology only, No mangroves shall be removed and Mudflats shall not be disturbed.
 - viii. The treated industrial wastewater Marine disposal is subject to obtaining the No Objection Certificate from Gujarat Pollution Control Board.
 - ix. The ecological and biodiversity conservation study conducted by the consultant shall be reviewed by Gujarat Institute of Desert Ecology (GUIDE) and the recommendations if any shall be incorporate in the report, thereafter PP shall get approval/recommendations of the concern state forest department and all commitments made in the biodiversity Management & Conservation Plan shall be implemented in letter and spirit. The status of implementation of Wildlife Management & Conservation Plan shall be submitted to the Regional Office of the Ministry along with 6 monthly compliance report.
 - x. The proponent has to comply with the Ministry's OM no. J-11011/321/2016-IA.II(I), dated 27.04.2018 which made it mandatory for certain type of industries to conduct public hearing irrespective of their location within Industrial Area or outside the industrial area.
 - xi. The proposed individual units need to take Environmental Clearance separately as per the applicability of the schedule of EIA Notification, 2006.
 - xii. The PP shall construct a garland drain, with catch pits of appropriate capacity at appropriate distance, all around the industrial estate and also around the water bodies falling within project boundary to prevent runoff of any contaminants/ waste into the nearby water bodies. Effluent shall be properly treated and treated wastewater shall conform to CPCB standards.
 - xiii. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R.608(E) dated 21st July, 2010 and amended from time to time shall be followed.
 - xiv. Processed effluents/any wastewater shall not be allowed to mix with storm water, storm water drain shall be provided on tank farm, and solvent transfer through pumps.

- xv. The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the industrial estate at least at four locations (one within and three outside the port area at an angle of 120°each), covering upwind and downwind directions.
- xvi. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed fugitive emission standards.
- xvii. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
- xviii. Garland drains and collection pits of adequate capacity shall be provided for each stock pile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface run off.
- xix. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high level of particulate matter such as around loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- xx. Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
- xxi. Necessary approvals be taken during implementation and commissioning from statutory bodies concerned.
- xxii. The Project proponent shall ensure that no creeks or rivers, natural drain/nallah or any other water body are blocked/diverted due to any activities at the project site and free flow of water is maintained.
- xxiii. A continuous monitoring programme covering all the seasons on various aspects of the coastal and marine environs need to be undertaken by a competent organization available in the State or by entrusting to the National Institutes/renowned Universities/accredited Consultant with rich experiences in marine science aspects. Monitoring should include sea weeds, sea grasses, mudflats, sand dunes, fisheries, mangroves and other marine biodiversity components as part of the management plan.
- xxiv. All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.
- xxv. All the mitigation measures to reduce pollution as mentioned in EIA/EMP report shall be

implemented in toto.

- xxvi. Ground water abstraction shall be as prescribed by the CGWA. A clearance/permission of the CGWA shall be obtained in this regard.
- xxvii. Sufficient number of Piezometer wells shall be installed in and around the project site to monitor the ground water quality in consultation with the State Pollution Control Board / CPCB. Trend analysis of ground water quality shall be carried out each season and information shall be submitted to the SPCB and the Regional Office of MoEF&CC.
- xxviii. All the recommendation of the EMP shall be complied with in letter and spirit. All the mitigation measures submitted in the EIA report and suggested by the EAC shall be prepared in a matrix format and the compliance for each mitigation plan shall be submitted to RO, MoEF&CC along with half yearly compliance report.
- xxix. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
- xxx. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.
- xxxi. Any hazardous waste generated during development/ construction phase, should be disposed off as per applicable rules and norms with necessary approvals of the Gujarat State Pollution Control Board.
- xxxii. Rain water harvesting for roof run-off and surface run-off, should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.
- xxxiii. Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water. Treated affluent emanating from STP shall be recycled/reused to the maximum extent possible. Treatment of 100% grey water by decentralized treatment should be done.
- xxxiv. The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of firefighting equipments, etc. as per National Building Code including protection measures from lightening etc.
- xxxv. The project proponent shall follow the ECBC/ECBC-R prescribed by Bureau of Energy Efficiency, Ministry of Power strictly.
- xxxvi. Notification GSR 94(E0 dated 25.01.2018 of MoEF&CC regarding mandatory Implementation of dust Mitigation Measures for construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.
- xxxvii. Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/wind breaking walls all around the site (at least 3 meters height). Plastic/tarpaulin sheet covers shall be provided for vehicles brining in sand, cement,

murram and other construction materials prone to causing dust pollution at the site as well as taking out debris from site.

- xxxviii. Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central public health and Environmental Engineering Organization (CPHEEO) Manual on sewerage and sewage treatment systems, 2013 for Residential Facility.
- xxxix. All the topsoil excavated during development/construction activities should be stored for use in horticulture/landscape development within the project site.
- xl. Disposal of muck during development/construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
- xli. Detailed plan of expenditure with implementation schedule to address issues raised during Public Hearing shall be prepared and submitted to the Regional Office of this Ministry within three months. The proponent shall adhere the strict compliance of above plan to utilize funds as per schedule.
- xlii. As per the Ministry's Office Memorandum F.No.22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Aforestation etc, either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.

Agenda Sr. No.6

Subject: The project is widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Telangana State. The total Length is 45.5 km in the State of Telangana under NH(O) on Hybrid Annuity Mode by M/s National Highway Authority of India-reg.

[Proposal No: IA/TG/INFRA1/457022/2024; File No: 10/78/2023-IA.III].

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be

rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

6.1. The project proponent made a presentation in the Ministry and provided the following information:-

6.2. The project is widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Telangana State. The total Length is 45.5 km in the State of Telangana under NH(O) on Hybrid Annuity Mode by M/s National Highway Authority of India.

6.3. The proposed widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Rangareddy district of Telangana State. Total length of the project is 46.4 km. The alignment start at 17°20'56.61"N 78°21'29.30"E and ends at longitudes of 17°17'53.21"N 77°59'30.74"E.

6.4. The Hon'ble National Green Tribunal Judgment dated 6th November, 2023 in the matter of Tejah <file:///Users/amardeepraju/Downloads/NGTJudgement.pdf> Balantrapu <file:///Users/amardeepraju/Downloads/NGTJudgement.pdf> et.al. Vs. Union of India and NHA 6th November, 2023 in Original Application No.242 of 2021(SZ) I.A. Nos.17 & 75 of 2023 (SZ) directed as following:

(i) The NHA (Respondent No.2) is directed to undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.

(ii) The MoEF&CC (Respondent No.1) is directed to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months time.

6.5. Accordingly the M/s NHA on 02/01/2024 submitted the online application on PARIVESH Portal. The proposal was considered in the 353rd EAC meeting held on 10th & 12th January, 2024.

6.6. As directed by the Hon'ble NGT, The proposed project considered under Schedule 7(f), Highways, Category “A” of EIA Notification 2006. Total estimated civil cost of the project is about Rs. 928.41 Cr.

6.7. Land use pattern of 10 km radius of the project road is contributed by the agricultural, forest, vegetation built up and barren land.

6.8. Terrain and topographical features: The project mostly follows ‘plain and rolling’ terrain. The elevation varies from ~565 m to ~687 m above MSL at different locations. Average elevation of the project stretch is ~626 m above MSL.

6.9. Right of Way (RoW): the proposed RoW is 45m on existing road and 60m in bypasses RoW except Rest Areas, and entry/exit toll plazas).

6.10. Details of water bodies, impact on drainage: The project stretch passes through 2 Nalla. Minor Bridges shall be provided at all the crossings.

6.11. Water requirements: About 2000 KLD of water for 24 months shall be required for construction of the project. Water shall be sourced from surface water bodies through Tanker after necessary approval. No groundwater extraction is proposed. However, if potable water is required same shall be extracted after necessary permission from appropriate authority.

6.12. Tree cutting: About 11669 trees are falling within PROW. The tree enumeration for affected trees shall be undertaken during detailed EIA Study. The inventory will include tree species, girth and height.

6.13. Diversion of forest land: 42.74 Ha of forest land is required for the project. Stage-II approval has been obtained from the IRO, MoEF&CC vide letter no.4-TSB132/2018-CHN/93 dated 20th October, 2021.

6.14. The existing road is passing through along the boundary of Murgavani National Park. However, there is no widening proposed along the Murgavani National Park. The project is passing through the ESZ area of Murgavani National Park. However, there is no widening proposed along the boundary of Murgavani National Park.

6.15. Land acquisition and R&R issues involved: Approx. 257.41 ha. land is required for the project. The land acquisition has been done as per NH Act, 1956 and RFCT LARR Act, 2013.

6.16. Employment potential: Project shall provide employment opportunities for ~300 population(including permanent and temporary) based on Ministry of Road Transport & Highways Press.

6.17. Benefits of the project: Will provide easy access to commuters of the settlement located along the road; Will provide easy accessibility for school, medical facilities, etc. for the nearby settlements with urban centres (Hyderabad, Moinabad and Chevella; Project Road would bring about all-round development activities in the region, such as movement of people and goods, agriculture, commerce, education, health and social welfare, or even maintenance of law and order and security.

6.18. Details of Court cases: The Hon'ble National Green Tribunal Judgment dated 6th November, 2023 in the matter of Tejah file:///Users/amardeeppraju/Downloads/NGT_Judgement.pdf Balantrapu file:///Users/amardeeppraju/Downloads/NGT_Judgement.pdf et.al. Vs. Union of India and NHA 6th November, 2023 in Original Application No.242 of 2021(SZ) I.A. Nos.17 & 75 of 2023 (SZ) directed as following:

- (i) *The NHAI (Respondent No.2) is directed to undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.*
- (ii) *The MoEF&CC (Respondent No.1) is directed to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months time.*

6.19. During the EAC, the Committee observed the following:

- (i) *During the meeting PP mentioned that about 759 Banyan trees existing on either side of the road and as far as the alignment and realignment is concerned, it was decided to lay the road in such a manner on account of the eccentric laying where ever possible to save the trees and this has now resulted in saving 209 number of trees.*
- (ii) *The Committee also observed that the alignment seems to be passing through ESZ of Mrugavani National Park and forest area.*
- (iii) *Alignment in forest area has already been examined by the competent authority in state forest department and MoEFCC in the process of granting Forest Clearance*
- (iv) *Committee also desired to know the complete alignment and understand the issue comprehensively since expansion of existing road(s) in will be influencing cutting of large no of trees as well as passing through forest area.*
- (v) *The EAC was of the opinion that after seeing the presentation prima facie there is some more scope for saving the trees, especially banyan trees*
- (vi) *The Committee opined that Banyan tree can be translocate and having the very good survival rate.*
- (vii) *Considering the sensitive nature of the alignment a sub-committee will make a site visit before finalisation of the EIA/EMP report. The alignment shall be finalized once the site visit report is submitted.*

6.20. The EAC based on the information submitted and clarifications provided by the project proponent and detailed discussions held on all the issues during 353rd meeting held on 10th & 12th January, 2024 and **recommended** the project for grant of Terms of Reference (ToR) with stipulated specific conditions along with other Standard ToR Conditions.

- i. Alignment of road and its design in non-forest area shall be revised so as to avoid cutting of trees, especially the banyan trees.
- ii. Alignment in Forest area is already examined by SFD and MOEFCC while granting Forest Clearance. However, PP shall explore the possibility of reducing the width of median as well as adding animal underpasses for facilitating the free movement of wildlife.
- iii. Subcommittee of the EAC shall make the site visit before the end of January 2024 for finding out possible changes in the alignment and road design and submit report and recommendations so as to enable the EAC to issue an additional TOR if required.

- iv. The proponent, with the help of an independent institution of national repute shall carry out the impact studies of proposed alignment (once finalized after the sub-committee visit) on biodiversity with focus on fauna and flora 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 of Chief Wildlife Warden of Telangana.
- v. After finalisation of alignment and road design the PP shall, in consultation with concerned Divisional Forest Officers of the state forest department, shall identify and translocate the banyan trees to suitable site through an expert tree translocation agency.
- vi. 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.
- vii. Project alignment should be such that felling of the Heritage/old trees are avoided as far as possible. All such trees should be geo-tagged.
- viii. The proponent, with the help of an independent institution 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.
- ix. 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.
- x. The proponent, with the help of an independent institute 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.
- xi. 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.
- xii. Rain water harvesting structures to be constructed at the either sides of the road with special precaution of oil filters and de-silting chambers.

- xiii. 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.
- xiv. Trees with heronry (breeding ground for herons, egrets, etc), pelicanary or community nesting of birds like Painted Storks, Ibis, Egrets, Pelican, etc will not be allowed to fell. In case of presence of such, alignment will be required to be changed to save such trees.
- xv. 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.
- xvi. 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 studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.
- xvii. 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.
- xviii. 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.
- xix. 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.

Agenda Sr. No.7

Development of 4 lane Ring Road for Jabalpur city starting from village Manegaon, Design Ch. 19+100 and ends near Barela, Design Ch. 117+000 in Jabalpur district in the state of

Madhya Pradesh (Total length = 97.900 km) by M/s National Highways Authority of India- Environmental Clearance-reg.

Proposal No: IA/MP/INFRA1/423280/2023; File No:10/38/2022-IA.III.

7.1. The above mentioned proposal was earlier considered by the Expert Appraisal Committee (EAC) in its 324th meeting on 19th– 21st April, 2023. The EAC, has already recommended the proposal for grant of Environmental Clearance. However, due to technical glitch, the proposal was not visible in the MS login. The issue was discussed with the NIC team and it was suggested that to bring back the thread, the proposal will have to be again placed in agenda so that it can be processed in regular way; accordingly the proposal has been considered before the EAC.

7.2. The Committee recommended the proposal and requested the Ministry that the proposal may be processed as per the earlier recommendations of the 324th EAC meeting held on 19th – 21st April, 2023.

Agenda Sr. No.8

Subject: Construction of Gobindpur - Tangi (Capital Region Ring Road) for Six Laning with Paved shoulder NH Configuration under Bharatmala Scheme - in the State of Odisha (Lot-3/Odisha & Jharkhand- Package - 3). The proposed stretch starts from Gobindpur village in Dhenkanal district from km 70+540 and ends at km 110.870 in Tangi near Bandalo Toll Plaza in Cuttack district. The total length of the road is 40.33 km by M/s National Highway Authority of India.-Terms of References reg.

[Proposal No: IA/OR/INFRA1/444879/2023; File No:10/74/2023-IA.III].

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

8.1. The above proposal was considered by the Expert Appraisal Committee (EAC) for Infra-I Sector, in its 349th Expert Appraisal Committee held on 15th December, 2023. The EAC after detailed deliberations deferred the proposal for want of additional information. At this instance, the aforementioned proposal was placed before the EAC during its 353rd meeting held on 10th-12th January, 2024. NHAI, the project proponent and EIA consultant M/s Chaitanya Projects Consultancy Pvt. Ltd., Ghaziabad made presentation in the Ministry and submitted the following:

S.no	ADS raised during the 349 th EAC meeting held on 15 th December, 2023	Reply submitted by PP during the 353 rd meeting held on 10 th -12 th January, 2024
1	The proposed road alignment is passing through a landscape which have Kapilash WLS. The sanctuary area at many places is in patches interspersed with the non forest/PA area and few roads network including highways area are already existing in this landscape. Addition of proposed new alignment in the landscape will further functionally bisect the sanctuary area which may lead to more disruption in the movement of wildlife. In initial stretch of road approximately between chainage 000+000 to 80+700 there is possibility of using an existing highway whose alignment can be improved to avoid new alignment From chainages 85+100 to 86+500 are expected for possible wildlife movement PP shall explore the elevated road corridors with appropriate length. While deciding the length of the elevated road corridors general principles of maintaining habitat connectivity mentioned in WII guidelines shall be followed.	The Capital Region Ring Road is proposed to reduce the traffic and city congestion of existing 6 lane NH-16 highway which passes through 3 major towns/cities i.e. Cuttack, Bhubaneswar and Khurda in the state of Odisha. The existing traffic on the NH-16 is 49000 PCU. However, in the Bhubaneswar city the recent traffic studies conducted in the month of November'23 noticed that the traffic volume is 1,70,889 (One lakh Seventy thousand eight hundred eighty-nine) which is beyond the Traffic Capacity of Six lane. To avoid the traffic congestion, the 6 lane Greenfield ring road alignment is proposed on this NH-16 as these cities pose a major traffic congestion, since further widening of NH-16 is not feasible due to ROW constraint.
2	The alignment between chainage 00+000 to 80+700 shall be revised by way of following the alignment of existing highway (particularly between Gobindpur and Kulailo villages) and improving the existing highway with due provisions for elevated corridors for wildlife	An alternate alignment was presented to PCCF Nodal (Wild life), Odisha Forest Department, Bhubaneswar, using the existing NH-55 which bifurcates the reserve forest and ESZ boundary of Kapilash WLS two times and its cumulative length in forest area is about 2.5 km which is nearly 2.5 times of the proposed alignment passing through

	crossing.	the sanctuary forest area.
3	Since at many places alignment is passing through the patches of WLS provisions of wildlife underpasses/ elevated corridors shall be made for facilitating the wildlife movement. Especially from chainages 85+100 to 86+500 provisions for elevated corridors with appropriate length shall be ensured. While deciding the length of the elevated road corridors general principles of maintaining habitat connectivity mentioned in WII guidelines shall be followed.	The PCCF Nodal (Wild life), Bhubaneswar was apprised about the alignment by the NHAI and the PCCF Nodal (Wildlife) has expressed that the NHAI proposed alignment is the best alignment and also convinced about the proposed 1.05 Km Elephant Elevated Corridor. Further it was also informed that the Animal under passes will be suggested as a part of Site Specific Wild Life Conservation Plan. The said plan would also be got approved by the PCCF (WL) office. It was also discussed that there is Elephant movement on the realignment area also which was suggested by the Hon'ble EAC committee. The Odisha State Government agreed to share the 50% of Land Acquisition cost and accordingly Rs. 200 Cr. out of the agreed amount of Rs. 600 Cr has been released. Further the balance Rs. 400 Cr. is also going to be released in this current financial year. At the intersection of NH 55 and NH 655 it is not possible to design the curve joining for the interchange at/near Khuntuni village as per IRC code provisions for the proposed EAC alignment for designed speed of 80-100kmph. Also, habitations on both sides will limit the interchange design. In light of the above it is submitted that; as the subject project is a very important project of the NHAI and also the Government of Odisha, it is requested to kindly consider the same for grant of ToR.

8.2. CWLW Odisha, who was present in the meeting, stated that original alignment proposed by the NHAI involve less forest area of Kapilash WLS and therefore more feasible. On being asked whether existence of two highways within WLS and ESZ will not be more obstructive for

movement of elephants and wildlife CWLW was of the opinion that Elephant movement on existing NH 55 is sporadic now which can be facilitated by adding elephant underpasses at appropriate places.

8.3. The EAC based on the information submitted and clarifications provided by the project proponent and detailed discussions held on all the issues during 353rd meeting held on 10th & 12th January, 2024 **recommended** the project for grant of Terms of Reference (ToR) with stipulated specific conditions along with other Standard ToR Conditions.

- i. Since at many places alignment is passing through the patches of WLS provisions of wildlife underpasses/ elevated corridors shall be made for facilitating the wildlife movement. Especially from chainages 85+100 to 86+500 provisions for elevated corridors with appropriate length shall be ensured. While deciding the length of the elevated road corridors general principles of maintaining habitat connectivity mentioned in WII guidelines shall be followed in consultation with CWLW of the state.
- ii. The proposed highway lead to fragmentation of the animal movements path connectivity, to ensure connectivity of the forest for ensuring animal movement between existing 4 lane NH-55 and proposed new highway shall be retro fitted by providing the overpass/underpasses for Elephants. Locations of these underpasses shall be decided in consultation with concerned APCCF and Chief Wildlife Warden.
- iii. The proponent, with the help of an independent institution of national repute like WII/ZSI, shall carry out the impact studies (covering minimum two season) of proposed alignment on biodiversity with focus on mammals, birds and endemic flora and wetlands/water bodies 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 of Chief Wildlife Warden of Odisha.
- iv. All animal underpasses/elevated corridors proposed above shall be constructed with provision of guiding barriers of sufficient length and height along both side of the roads on both sides of underpasses.
- v. The proponent, with the help of an independent institution 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.
- vi. 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.

- vii. The proponent, with the help of an independent institute 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.
- viii. 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.
- ix. Cumulative impact assessment study to be carried out along the entire stretch including the other packages in the same stretch.
- x. Rain water harvesting structures to be constructed at the either sides of the road with special precaution of oil filters and de-silting chambers.
- xi. 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.
- xii. 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.
- xiii. Trees with heronry (breeding ground for herons, egrets, etc), pelicanary or community nesting of birds like Painted Storks, Ibis, Egrets, Pelican, etc will not be allowed to fell. In case of presence of such, alignment will be required to be changed to save such trees.
- xiv. 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.
- xv. 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 studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.
- xvi. 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.

- xvii. 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.
- xviii. 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.

Agenda Sr. No.9

Subject: Amendment in Environmental Clearance for change in Land use patterns in internal sectors of the Industrial complex area for Development of Khushkhera Bhiwadi Neemrana Investment Region (KBNIR) in Rajasthan-Amendment in EC reg.

[Proposal No: IA/RJ/INFRA1/457332/2024; File No:21-18/2011-IA.III].

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

9.1. The project proponent along with the EIA consultant M/s. Ecomen Laboratories Pvt. Ltd made a presentation in the Ministry and provided the following information:-

9.2. The proposal is for Amendment in Environmental Clearance for change in Land use patterns in internal sectors of the Industrial complex area for Development of Khushkhera Bhiwadi Neemrana Investment Region (KBNIR) in Rajasthan by M/s Rajasthan Industrial Corridors Development Corporation Limited (RICDC).

9.3. Initially Environmental Clearance vide letter F.No.21-18/2011-IA.III dated 13th October, 2014 granted for development of Khushkhera Bhiwadi-Neemrana Investment Region (KBNIR) in Rajasthan by M/s Delhi Mumbai Industrial Corridor Development Corporation Limited. Thereafter the EC vide letter dated 13th October, 2014 has been transferred from M/s Delhi Mumbai Industrial Corridor Development Corporation Limited to M/s Rajasthan Industrial Corridors Development Corporation Limited (RICDC) vide letter no. F.No.21-18/2011-IA.III

dated 20th June, 2023.

9.4. The proposed project activity is listed at schedule no. 7(c) Under Category “A” Of the schedule of the EIA Notification, 2006 and attracts general condition due to state boundary and appraised at Central Level. The total cost of the project is Rs. 22612 Crores.

9.5. Now M/s. Rajasthan Industrial Corridors Development Corporation Limited has made an online application vide proposal No.IA/RJ/INFRA1/457332/2024 Dated 01/10/2024 seeking Amendment in Environment Clearance (EC) under the provisions of the EIA Notification, 2006 for the project mentioned above.

9.6. As per the EC vide letter dated 13th October, 2014 the total Land area was 165.62 km². After amendment the industrial sector is added by 2.14 km² and river area 0.01 km² within a total area. whereas in place of increased industrial area following land use area will be adjusted with the following Sectors like Residential land (0.16 Km²), Commercial land (0.76 Km²), Knowledge City land (0.92 Km²) and Facilities & Utilities land (0.31 Km²). There will be no change in the overall area of 165.62 km².the details are as following:

Detailed land use	Area under original planning (of part land) as per EC Order	Area under revised planning (of part land)	Total area after revised planning for which EC amendment Sought		Percentage (%) changes
	Area in ha	Area in ha	Amended area(Ha)	Percentage (%)	
Industrial		214.01	3018.01	18.22	1.29
Knowledge City	134.31	42.52	1136.21	6.86	-0.55
Commercial	118.44	42.82	241.38	1.46	-0.46
Residential	42.19	26.27	2301.08	13.89	-0.10
Aabadi Development Area	13.52	13.52	1767	10.67	0.00
Facilities & Utilities (Recreational+Govt Office)*	158.65	127.43	69.78	0.42	-0.19
Green			1103	6.66	0.00
NH& Green Buffer	8.68	8.68	601	3.63	0.00
Road (Transportation+Road)*	83.16	83.16	1186	7.16	0.00
Aabadi Area			815	4.92	0.00

Agriculture & Hi-Tech Agriculture			2840	17.15	0.00
Natural Conservation			689	4.16	0.00
River (Pond/Lake)*		0.54	794.54	4.80	0.00
	558.95	558.95	16562	100	

9.7. Details of Amendment in Land Use

S.no	Land use	Land use Detail as per Notified SNB UC Master Plan /EC	As per Environmental Clearance (%)	As per Notified SNB UC Master Land use Plan 2041 development plan for KBNIR(%)	Final Proposed Land use Plan 2041 (after Modification/Changes by RIDCO) (%)	Land use Difference after Amendment (B-A)
1	Residential Use Zone	Abadi/Abadi Area	8.15	10.06	8.15	0.00
		Abadi Development area	17.67	13.47	17.67	0.00
		Residential	23.17	20.64	23.01	-0.16
2	Industrial Use Zone	Industry	-	25.34	-	
		RICCO Industrial Area	28.04	1.81	30.18	2.14
3	Commercial Use Zone	Commercial	3.17	3.92	2.41	-0.76
4	Tourism Use Zone	Tourism	-	6.31	-	
5	Public/Semi Public Use Zone	PSP/Knowledge City	12.28	11.94	11.36	-0.92

6	Government Use Zone	Government	-	0.69	-	
SN	Land use	Land use Detail as per Notified SNB UC Master Plan /EC	As per Environmental Clearance (%)	As per Notified SNB UC Master Land use Plan 2041 development plan for KBNIR (%)	Final Proposed Land use Plan 2041 (after Modification/Changes by RIDCO) percentage(%)	Land use Difference after Amendment (B-A)
1	Residential Use Zone	Abadi/Abadi Area	8.15	10.06	8.15	0.00
		Abadi Development area	17.67	13.47	17.67	0.00
		Residential	23.17	20.64	23.01	-0.16
2	Industrial Use Zone	Industry	-	25.34	-	
		RICCO Industrial Area	28.04	1.81	30.18	2.14
3	Commercial Use Zone	Commercial	3.17	3.92	2.41	-0.76
4	Tourism Use Zone	Tourism	-	6.31	-	
5	Public/Semi Public Use Zone	PSP/Knowledge City	12.28	11.94	11.36	-0.92
6	Government Use Zone	Government	-	0.69	-	

9.8. Changes in EC amendment Details

EC amendment proposed description	Details EC amendment proposed
Land use pattern change in internal Sectors by addition Change in of increased in industrial area following the land use area will be adjusted with the following Sectors like Residential land, Commercial land, Knowledge City land and Facilities & Utilities land.	Industry: 2.14 Km ² (increase) Residential: -0.16 Km ² (decrease) Commercial: -0.76 Km ² (decrease) Knowledge city: -0.92 Km ² (decrease) Facilities & Utilities: -0.31 Km ² (decrease) River: 0.01 Km ² (increase)
Increase in water requirement	7.21 MLD
Increase in wastewater generation	2.887 MLD
Hazardous waste	Additional hazardous waste from additional Industrial sector 2.14 Km ² 1.07 TPD
Total Solid Waste Generation	35 TPD
Biodegradable Waste	16.6 TPD
Recyclable Waste	9.6 TPD
Industry sectors to be proposed in the Industrial area of 2.14km ²	<u>1 Automobiles and Ancillary</u> • Manufacturing of motor vehicles and other transport equipment <u>2 Electricals</u> • Manufacturing of electrical consumer goods such as switches, fans, wires, etc. <u>3. Metals & Minerals</u> • Manufacturing of metal products such as metal pipes, sheets, rods, etc • Other products like cements, tiles, stones, etc. <u>4. Rubbers & Plastics</u> • Manufacturing of rubber & plastics products such as tyres, tubes, polymers, etc. <u>5. Chemicals</u> • Manufacturing of chemical products, thinner, paints, etc. <u>6. Pharmaceuticals</u> • Manufacturing of medical equipment and medicinal chemicals. <u>7. Others</u> • Manufacturing of food & agro based products, • Manufacturing of wood & paper- based products

	• Manufacturing of Electronics • Manufacturing of Textiles • Manufacturing of machinery & equipment • Other small industries to support the industrial ecosystem like printing and packaging

9.9. During the EAC the committee observed the following:

- i. *The Environmental Consultant M/s. Ecomen Laboratories Pvt. Ltd has mentioned that the instant proposal is for the amendment and no change in the scope, however the committee noted that the residential area, Public/Semi Public Use Zone and other areas are converting in to the Industrial area and the scope of the project is changed. EAC noted that the consultant is trying to mislead the committee. The Committee warned M/s. Ecomen Laboratories Pvt. Ltd and advised to thoroughly examine the matter before appearing to the EAC.*

9.10. The EAC, after examining the documents submitted by the project proponent had a detailed deliberation in its 353rd meeting held on 10th & 12th January, was of the view that the instant proposal cannot be considered for amendment in EC as the proposed project scope has changed and increased the industrial area. Thus, the Committee advised the PP that they shall apply under para 7(ii) of the EIA notification, 2006 along with the following information.

- i. Comparative statement covering the all facilities as per the existing EC and proposed amendment shall be submit.
- ii. Changes occurred due to Amendment in the existing facilities and their impacts assessment along with the EIA/EMP report.
- iii. The revised proposal should clearly provide impact analysis of the existing and proposed developments along with the mitigation measures.
- iv. Latest Certified EC compliance report duly certified by the IRO, MOEF&CC.

Accordingly, the proposal is returned in the present form

Agenda Sr. No.10

Subject: Amendment in ToR vide letter No.10-24/2019-1A-III dated 17th May, 2019 granted for Expansion of Waterfront Development Plan for Mundra Port by APSEZ,

Mundra, Gujarat by M/s Adani Ports and Special Economic Zone Limited - Terms of Reference

[Proposal No. IA/GJ/INFRA1/457274/2024; F. No. 10-24/2019-IA-III]

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

10.1. The project proponent made a presentation in the Ministry and submitted the following information.-

10.2. The ToR Proposal was considered by the Expert Appraisal Committee in its 40th Meeting of Expert Appraisal Committee (Infra-2) held on 23rd April 2019, 43rd Meeting of Expert Appraisal Committee (Infra-2) held on 20th August 2019, 45th Meeting of Expert Appraisal Committee (Infra-2) held on 17th October 2019 and Terms of Reference (ToR) was accorded vide File No: 10-24/2019-IA-III dated 17th May 2019 and subsequent amendments dated 27th September, 2019 and 10th April, 2020.

10.3. The proposal is for amendment in the ToR granted for granted for Expansion of Waterfront Development Plan for Mundra Port by APSEZ, Mundra, Gujarat by M/s Adani Ports and Special Economic Zone Limited vide letter no. 10-24/2019-IA-III dated 17th May 2019 and subsequent amendments dated 27th September, 2019 and 10th Apr 2020.

10.4. Now M/s Adani Ports and Special Economic Zone Limited has made an online application no. IA/GJ/INFRA1/457274/2024 in Form-3, seeking amendment in the ToR accorded by the Ministry vide letter no. 10-24/2019-IA-III dated 17th May 2019 under the provisions of the EIA Notification, 2006 for the project mentioned above.

10.5. The following amendments are sought:

S.no	Description	Approved as per ToR issued 2019	Proposed Amendment in ToR	Remark
1	Total Area (ha)	5170	3335	No Change except the exclusion of East Port area of 1835 Ha.
2	Cargo Capacity (MMTPA)	610	514	No change in cargo type from the earlier approved ToR.

3	Quay Length (m)	22340	16760	No change from the earlier approved ToR except exclusion of East Port quay length (5580 m)
4	Dredging (MCuM)	350	120	No change except exclusion of east port dredging quantity.
5	Effluent Treatment Plant (KLD)	1265	1065	No change from the earlier approved ToR except proportionate reduction of ETP capacity for East Port.
6	Sewage Treatment Plant (KLD)	50055	50055	No Change.
7	Desalination Plant (MLD)	447	447	No Change.
8	Sea Island Jetty	1	1	No Change.
9	Single Point Mooring (SPM)/ Single buoy Mooring	4	3	No Change except the exclusion of East Port (1 SPM).

10.6. Reason for Amendment: East port development plan is still not finalised and will take some time, APSEZ has decided to take a phased approach for the WFD. Therefore, APSEZ is making this application for the ToR amendment.

10.7. The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in its 353rd meeting of Expert Appraisal Committee held on 10th& 12th January, 2024 and observed that the proposal involve the reduction in activities and area and accordingly **recommended** the project for grant of Amendment in Terms of Reference (ToR) as per amendment proposed at para 10.5 above with all the terms and conditions mentioned in the ToR letter no.10-24/2019-IA-III dated 17th May 2019.

Agenda Sr. No.11

Subject: Development of Sarathi – Kurubarahalli Industrial Area (Phase-II) over an extent of 136.03 Ha at Villages Sarathi and Kurubarahalli, Taluk Harihar, District Davanagere, Karnataka by M/s Karnataka Industrial Areas Development Board –Environmental Clearance regarding.

Proposal No: IA/KA/INFRA1/455943/2023; File No:10/11/2023-IA.III.

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/ misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

11.1. The project proponent along with the EIA consult M/s J.M. EnviroNetPvt.Ltd made a presentation in the Ministry and provided the following information:

11.2. Karnataka Industrial Areas Development Board (KIADB) proposes to establish an Industrial area in the name of Sarathi-Kurubarahalli Industrial Area Phase-II in an area of 136.03 Ha (336Acres-5 Guntas) at Sarathi and Kurubarahalli villages, HariharTaluk, Davanagare District, Karnataka State by M/s Karnataka Industrial Areas Development Board. The Geo-coordinates of project site: 14°35'28.39"N; 75°49'49.53"E.

11.3. The proposed project falls under 7(C)-Industrial Park, Category A as general conditions applicable to the proposed site due to Ranebennur Blackbuck Sanctuary Core Boundary is located at a distance of 3.98 Km (W), and Ecologically Sensitive Zone (ESZ) is at a distance of 2.63 Km (W) and the project will be appraised in MoEF&CC.

11.4. Terms of References (ToR): The ToR proposal was considered in the 322nd EAC meeting held during 21st-22nd March, 2022 in the Ministry of Environment Forest and Climate Change and the Committee recommended for grant of ToR. Ministry granted the ToR vide letter no.10/11/2023-IA.III on 09th May, 2023.

11.5. Public Hearing: Public hearing was conducted The Public Hearing was held on 04.11.2023 at Project Site of Sarathi Kurubarahalli Industrial Area Phase-II, Sarathi & Karlahalli villages, Harihara Taluk, District, Karnataka, Karnataka Presided by Deputy Commissioner.

11.6. Landuse/Landcover of project site:

S.No	Landuse/Land cover	Area(Ha)	Percentage(%)	Remarks, if any
1	Industrial Plot	214.59	63.84	-
2	Commercial	2.74	0.82	-
3	Utilities	10.68	3.18	-
4	Amenities	6.36	1.89	-
5	Parking	16.81	5.0	-
6	Parks/ Buffer Zone	43.97	13.08	-
7	Roads	40.97	12.19	-
TOTAL		336.12	100%	-

11.7. List to industries to be housed with the proposed project site:

Sl. No	Type of industry	Categorization of industry as per EIA notification	Anticipated Types of industries / activities	Categorization as per CPCB
1	Engineering and Fabrication industries	Not Applicable	Manufacturing of steel doors, window frames, furniture, grill gates, steel bench, hooks etc. with painting	Orange
2	Glue manufacturing industries	Not Applicable	Glue from starch (physical mixing) with Gas/ electrically operated oven/ boiler	Orange
3	Paint blending industries	Nil	Blending and mixing	Orange
4	Soaps, detergents and cosmetics manufacturing industries	Nil	Synthetic detergents and soaps manufacturing, Handmade soaps ,Detergents Formulation	Green
5	Textile spinning industries	Nil	Textile printing	Green
6	Reprocessing of waste plastics	Nil	Flakes from rejected PET bottles Reprocessing of waste plastics including PVC	Orange
7	Food Industry	Nil	Processing etc	Orange
8	Ceramics and refractories	Nil	Ceramics & Refractories	Orange
9	Fertilizers formulation and bio fertilizers manufacturing	Nil	Granulation, formulation and blending only	Orange

		Nil	Bio fertilizers and bio pesticides without using inorganic chemicals	White
10	Electrical and electronics items assembling industries	Nil	Electrical and electronics assembling	Green
11	Electrical lamps, lenses manufacturing	Nil	Electric lamps and CFL manufacturing by assembling only	Green

11.8. Terrain and Topographical features: The district Davanagere is characterized by vast stretches of undulating places interspersed by low ranges of hilly rocks. The district is comprised of middle and upper Tungabhadra valley, ChikkaHagari Valley, Davanagere and Channagiri plateaus and uplands of Jagalur and Harapanahalli. The general elevation above the mean sea level varies between 500 and 1000 meters.

11.9. Details of water bodies, impact on drainage: Two water bodies namely DuggavattiHalla and Karala Halla are adjacent to the site towards the North & south of project site. ZLD is proposed. So there will not be any impact on the drainage.

11.10. Water requirements: The total fresh water requirement for the proposed project is estimated to be around 903 KLD. The wastewater generated from domestic of about 91 KLD and primary treated industrial effluent quantity of about 387 KLD that can be treated 500 KLD capacity Common Sewage Treatment Plant (CSTP) that can be utilized for gardenin.

11.11. Diversion of forest land: the proposed project doesn't having the forest land and no forest diversion is involved. Ranebennur Blackbuck Sanctuary Core Boundary is located at a distance of 3.98 Km (W), and Ecologically Sensitive Zone (ESZ) is at a distance of 2.63 Km (W).

11.12. Tree cutting and green belt development: The proposed project does not involve any tree cutting. The Greenbelt area proposed is 43.97 Acres (13.08% of total area). KIADB has earmarked 43.97 Acres (13.08%) and balance 66.92 Acres (19.92% of total area) will be developed by individual industries and total overall green belt area proposed will be 33%. The individual industries are mandated to develop the remaining percentage of the green belt development. KIADB also proposes to develop 15m width of green belt buffer along the periphery of the project site. It is proposal to plant indigenous native species which can further

control pollution load. Greenbelt development to promote integration of environmental issues with industrial development projects. A capital cost of Rs. 75 Lakhs shall be earmarked for this greenbelt development and Rs. 15 Lakhs/annum will be allotted for recurring cost towards greenbelt development and maintenances. It is proposed plant 67,320 1500 trees/Ha for 33% of total 136.023 ha 44.88 ha.

11.13. Municipal Solid Waste Generation and Management: n the construction phase, Municipal Solid and constructional wastes will be generated is about 50 kg/day. This will be collected and segregated at site. Organic wastes will be composted at site and the manure will be used for green belt development during construction phase. Operational Phase: During the operational phase, Municipal Solid Wastes will be generated. These wastes can be segregated by individual industries and organic wastes will be sent to common MSW processing area. This will be composted at site in an area allocated for municipal waste processing. Sewage generated during construction phase will be treated in smaller size or packaged (portable type) Common Sewage Treatment Plant (CSTP). During operation phase sewage and primary treated industrial effluent will be treated in the CSTP. The CSTP capacity is 500 KLD. The treated wastewater will be reused for gardening etc. and the wastewater generated from the industries is 387 KLD, primary treatment will be each individual industry which shall be treated in their industrial premises. The treated water can reused for the industrial activities like boilers, cleaning equipments etc. The total fresh water requirement for the proposed project is estimated to be around 903 KLD. The wastewater generated from domestic of about 91 KLD and primary treated industrial effluent quantity of about 387 KLD that can be treated 500 KLD capacity Common Sewage Treatment Plant (CSTP) that can be utilized for gardening.

11.14. Land acquisition and R&R issues: No R&R procedures required/involved in the proposed project site and land has been acquired and Developed by Govt. of Karnataka, in control by KIADB.

11.15. Employment potential: the proposed project will generate the employment of total 2,250 members out of which 2000 persons will be Permanent employees and 250 persons will be Contractual.

11.16. Benefits of the project: There will be an opportunity for job at different cadres and work force. This project will have positive impact on the socio economic status of the surrounding human environment and increased inflow of revenue to the Karnataka Government. Proposed Industrial Area will help in revenue generation for the State as well as to the Country.

11.17. Details of Court cases: No court case is pending against the proposed project.

11.18. The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in its 353rd meeting of Expert Appraisal Committee held on 10th& 12th January, 2024 and **recommended** the proposal for grant of Environmental Clearance with

the specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects.

- i. The Environmental Clearance to the project is primarily under provisions of EIA Notification, 2006. 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.
- iv. Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- v. The proponent has to comply with the Ministry's OM no. J-11011/321/2016-IA.II(I), dated 27.04.2018 which made it mandatory for certain type of industries to conduct public hearing irrespective of their location within Industrial Area or outside the industrial area.
- vi. The proposed individual units need to take Environmental Clearance separately as per the applicability of the schedule of EIA Notification, 2006.
- ix. The company shall construct a garland drain all around the industrial estate to prevent runoff of any contaminants/ waste into the nearby water bodies. Effluent shall be properly treated and treated wastewater shall conform to CPCB standards.
- x. National Emission Standards for Organic Chemicals Manufacturing Industry issued by the Ministry vide G.S.R.608(E) dated 21st July, 2010 and amended from time to time shall be followed.
- xi. Processed effluents/any wastewater shall not be allowed to mix with storm water, storm water drain shall be provided on tank farm, and solvent transfer through pumps.
- xii. Proponent shall install the Zero Liquid System (ZLD). The Industrial complex shall achieve Zero Liquid Discharge and to achieve the Zero Liquid Discharge, waste water generated from various industrial operations shall be properly collected, treated to the prescribed standards and then recycled or reused for the identified uses.
- xiii. As proposed by the KIADB 43.97 Acres (13.08% of total area) of the total area will be developed by the KIADB and rest of 19.92 % and balance 66.92 Acres (19.92% of total area) green belt shall be developed by the individual industrial units. The greenbelt over not less than 33% of the total land of the proposed Industrial Area shall be developed which shall include the green belt in plots of individual industries as well as green belt in common areas of the KIADB.

- xiv. Minimum 50 meter width of Green belt with the thick plantation inside the park from the boundary shall be maintained all along the Duggavatti Halla and Karala Halla and around the stream.
- xiii. The industrial unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.
- xiv. Training shall be imparted to all employees on safety and health aspects of Chemicals handling.
- xv. The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM₁₀ and PM_{2.5} in reference to PM emission, and SO₂ and NO_x in reference to SO₂ and NO_x emissions) within and outside the industrial estate at least at four locations (one within and three outside the port area at an angle of 120° each), covering upwind and downwind directions.
- xvi. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed fugitive emission standards.
- xvii. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
- xviii. Garland drains and collection pits of adequate capacity shall be provided for each stock pile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface run off.
- xix. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high level of particulate matter such as around loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- xx. Spillage of fuel/engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
- xxi. Necessary approvals be taken during implementation and commissioning from statutory bodies concerned.

- xxii. The ecological and biodiversity conservation study conducted by the consultant, PP shall get approval/recommendations of the concern state forest department and all commitments made in the biodiversity Management & Conservation Plan shall be implemented in letter and spirit. The status of implementation of Wildlife Management & Conservation Plan shall be submitted to the Regional Office of the Ministry along with 6 monthly compliance report.
- xxiii. All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.
- xxiv. All the mitigation measures to reduce pollution as mentioned in EIA/EMP report shall be implemented in toto.
- xxv. Ground water abstraction shall be as prescribed by the CGWA. A clearance/permission of the CGWA shall be obtained in this regard.
- xxvi. Sufficient number of Piezometer wells shall be installed in and around the project site to monitor the ground water quality in consultation with the State Pollution Control Board / CPCB. Trend analysis of ground water quality shall be carried out each season and information shall be submitted to the SPCB and the Regional Office of MoEF&CC.
- xxvii. All the recommendation of the EMP shall be complied with in letter and spirit. 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 RO, MoEF&CC along with half yearly compliance report.
- xxviii. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
- xxix. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.
- xxx. Any hazardous waste generated during development/ construction phase, should be disposed off as per applicable rules and norms with necessary approvals of the Karnataka State Pollution Control Board.
- xxxi. Rain water harvesting for roof run-off and surface run-off, should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.
- xxxii. Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water. Treated affluent emanating from STP shall be

recycled/reused to the maximum extent possible. Treatment of 100% grey water by decentralized treatment should be done.

xxxiii.Storm water control and its re-use as per CGWB and BIS standards for various applications.

xxxiv.The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of firefighting equipments, etc. as per National Building Code including protection measures from lightening etc.

xxxv.All the topsoil excavated during development/ construction activities should be stored for use in horticulture/landscape development within the project site.

xxxvi.Disposal of muck during development/ construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority

xxxvii.Detailed plan of expenditure with implementation schedule to address issues raised during Public Hearing shall be prepared and submitted to the Regional Office of this Ministry within three months. The proponent shall adhere the strict compliance of above plan to utilize funds as per schedule.

xxxviii.As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Aforestationetc, either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.

Agenda Sr. No.12

Subject: Environmental and CRZ Clearance for development of LNG Import Terminal Bhakodar Village near Pipavav at Taluka Rajula, District Amreli, Gujarat by M/s Swan Energy Limited. -Validity Extension of EC.

Proposal No: IA/GJ/INFRA1/457685/2024 File No: 11-36/2010-IA.III.

The PP did not attend the meeting. The proposal shall be considered only after a written request by the PP.

Annexure-A

List of the Expert Appraisal Committee (Infra-I) Members participated during 353rd Meeting(Hybrid Mode) held on 10th and 12th January, 2024.

S.no	Name	Designation	10 th January, 2024.	12 th January, 2024.
1	Shri.Manmohan Singh Negi	Chairman	Present	Present
2	Shri.S.Jeyakrishnan	Member	Present	Present
3	Prof.V.K Jain	Member	Present	Present
4	Dr. Jaya Kumar Seelam	Member	Present	Present
5	Dr.P.K.Dinesh Kumar	Member	Present	Present
6	Shri. PrakashTewari	Member	Present	Present
7	Dr. M.V. Ramana Murthy	Member	Present	Present
8	Shri. Sharan Deep Singh	Member	Present	Present
9	Shri Ashok Kumar Patre	Member	Absent	Absent
10	Ms.BinduManghat	Member	Present	Present
11	Dr. Niraj Sharma	Member	Present	Present
12	ShriAmardeepRaju	Member Secretary	Present	Present



सत्यमेव जयते

File No: 10/78/2023-IA.III

Government of India

Ministry of Environment, Forest and Climate

Change

IA Division



Dated 17/02/2024



To,

M/s National Highway Authority of India
D.NO. 331/2RT, 2nd Floor, P.S. Nagar, Masab Tank, Hyderabad , Telangana-500057
nhaihyd@gmail.com

Subject:

The project is widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Telangana State. The total Length is 45.5 km in the State of Telangana under NH (O) on Hybrid Annuity Mode by M/s National Highway Authority of India -regarding.

Sir/Madam,

This is in reference to your application for Grant of Terms of Reference under the provision of the EIA Notification 2006-regarding in respect of project Four laning of NH-163 from Hyderabad [ORR near Appa Junction at design Km.14+000 (existing Km.14+000)] to Manneguda [design Km.60+405 (existing Km.59+500)] in the State of Telangana under NH(O) on Hybrid Annuity Mode submitted to Ministry vide proposal number IA/TG/INFRA1/457022/2024 dated 15/02/2024.

2. The particulars of the proposal are as below :

(i) TOR Identification No.	TO23A3604TG5148457N
(ii) File No.	10/78/2023-IA.III
(iii) Clearance Type	TOR
(iv) Category	A
(v) Project/Activity Included Schedule No.	7(f) Road
(vi) Sector	INFRA-1
(vii) Name of Project	Four laning of NH-163 from Hyderabad [ORR near Appa Junction at design Km.14+000 (existing Km.14+000)] to Manneguda [design Km.60+405 (existing Km.59+500)] in the State of Telangana under NH(O) on Hybrid Annuity Mode
(viii) Name of Company/Organization	PIU HYDERABAD
(ix) Location of Project (District, State)	RANGA REDDY, TELANGANA

(x) Issuing Authority	MoEF&CC
(xii) Applicability of General Conditions	no
(xiii) Applicability of Specific Conditions	no

3.3. The above mentioned proposal was considered by the Expert Appraisal Committee (EAC) for Infrastructure, CRZ and other miscellaneous projects in its 353rd meeting held on 10th and 12th January, 2024. In the Ministry of Environment Forest and Climate Change, New Delhi. The project proponent made a presentation in the Ministry and provided the following information:-

I. The project is widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Telangana State. The total Length is 45.5 km in the State of Telangana under NH(O) on Hybrid Annuity Mode by M/s National Highway Authority of India.

II. The proposed widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Rangareddy district of Telangana State. Total length of the project is 46.4 km. The alignment start at 17°20'56.61"N 78°21'29.30"E and ends at longitudes of 17°17'53.21"N 77°59'30.74"E.

III. The Hon'ble National Green Tribunal Judgment dated 6th November, 2023 in the matter of Balantrapu Vs. Union of India and NHA 6th November, 2023 in Original Application No.242 of 2021(SZ) I.A. Nos.17 & 75 of 2023 (SZ) directed as following:

(i) *The NHA (Respondent No.2) is directed to undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.*

(ii) *The MoEF&CC (Respondent No.1) is directed to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months time.*

IV. Accordingly the M/s NHA on 02/01/2024 submitted the online application on PARIVESH Portal. The proposal was considered in the 353rd EAC meeting held on 10th & 12th January, 2024.

V. As directed by the Hon'ble NGT, The proposed project considered under Schedule 7(f), Highways, Category "A" of EIA Notification 2006. Total estimated civil cost of the project is about Rs. 928.41 Cr.

VI. Land use pattern of 10 km radius of the project road is contributed by the agricultural, forest, vegetation built up and barren land.

VII. Terrain and topographical features: The project mostly follows 'plain and rolling' terrain. The elevation varies from ~565 m to ~687 m above MSL at different locations. Average elevation of the project stretch is ~626 m above MSL.

VIII. Right of Way (RoW): The proposed RoW is 45m on existing road and 60m in bypasses RoW except Rest Areas, and entry/exit toll plazas).

IX. Details of water bodies, impact on drainage: The project stretch passes through 2 Nalla. Minor Bridges shall be provided at all the crossings.

X. Water requirements: About 2000 KLD of water for 24 months shall be required for construction of the project. Water shall be sourced from surface water bodies through Tanker after necessary approval. No groundwater extraction is proposed. However, if potable water is required same shall be extracted after necessary permission from appropriate authority.

XI. Tree cutting: About 11669 trees are falling within PROW. The tree enumeration for affected trees shall be undertaken during detailed EIA Study. The inventory will include tree species, girth and height.

XII. Diversion of forest land: 42.74 Ha of forest land is required for the project. Stage-II approval has been obtained from the IRO, MoEF&CC vide letter no.4-TSB132/2018-CHN/93 dated 20th October, 2021.

XIII. The existing road is passing through along the boundary of Murgavani National Park. However, there is no widening proposed along the Murgavani National Park. The project is passing through the ESZ area of Mrugavani National Park. However, there is no widening proposed along the boundary of Murgavani National Park.

XIV. Land acquisition and R&R issues involved: Approx. 257.41 ha. land is required for the project. The land acquisition has been done as per NH Act, 1956 and RFCT LARR Act, 2013.

XV. Employment potential: Project shall provide employment opportunities for ~300 population (including permanent and temporary) based on Ministry of Road Transport & Highways Press.

XVI. Benefits of the project: Will provide easy access to commuters of the settlement located along the road; Will provide easy accessibility for school, medical facilities, etc. for the nearby settlements with urban centres (Hyderabad, Moinabad and Chevella; Project Road would bring about all-round development activities in the region, such as movement of people and goods, agriculture, commerce, education, health and social welfare, or even maintenance of law and order and security.

During the meeting, EAC observed the following

(i) During the meeting PP mentioned that about 759 Banyan trees existing on either side of the road and as far as the alignment and realignment is concerned, it was decided to lay the road in such a manner on account of the eccentric laying where ever possible to save the trees and this has now resulted in saving 209 number of trees.

(ii) The Committee also observed that the alignment seems to be passing through ESZ of Mrugavani National Park and forest area.

(iii) Alignment in forest area has already been examined by the competent authority in state forest department .

(iv) Committee also desired to know the complete alignment and understand the issue comprehensively since expansion of existing road(s) in will be influencing cutting of large no of trees as well as passing through forest area.

(v) The EAC was of the opinion that after seeing the presentation prima facie there is some more scope for saving the trees, especially banyan trees

(vi) The Committee opined that Banyan tree can be translocate and having the very good survival rate.

(vii) Considering the sensitive nature of the alignment a sub-committee will make a site visit before finalisation of the EIA/EMP report. The alignment shall be finalized once the site visit report is submitted.

4. The EAC based on the information submitted and clarifications provided by the project proponent and detailed discussions held on all the issues during 353rd meeting held on 10th and 12th January, 2024 and **recommended** the project for grant of Terms of Reference (ToR) with stipulated specific conditions along with other Standard ToR Conditions.

5. The Ministry of Environment, Forest and Climate Change has considered the proposal based on the recommendations of the Expert Appraisal Committee (Infrastructure, CRZ and other Miscellaneous projects) and hereby decided to grant Terms of Reference for the 'project is widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Telangana State. The total Length is 45.5 km in the State of Telangana under NH (O) on Hybrid Annuity Mode by M/s National Highway Authority of India' and for preparation of EIA/EMP report with public consultations under the EIA Notification, 2006 as amended, subject to strict compliance of the following specific conditions, in addition to all standard ToR conditions applicable for such projects.

4. 6. This issues with the approval of the Competent Authority.

Copy To

1. The Member Secretary, Telangana State Pollution Control, Paryavarana Bhavan, A-3, I.E., Sanath Nagar, Hyderabad - 500 018.
2. Inspector General of Forests, Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Hyderabad 3rd Floor, Aranya Bhawan, Opp. RBI, Safiabab – 500004, Hyderabad, Telangana.
3. Parivesh Portal
4. Guard File.

Annexure 1

Specific Terms of Reference for (Road)

1. Specific Conditions

S. No	Terms of Reference
1.1	1. Alignment of road and its design in non-forest area shall be revised so as to avoid cutting of trees, especially the banyan trees. 2. Alignment in Forest area is already examined by SFD and MOEFCC while granting Forest Clearance. However, PP shall explore the possibility of reducing the width of median as well as adding animal underpasses for facilitating the free movement of wildlife. 3. Subcommittee of the EAC shall make the site visit before the end of January 2024 for finding out possible changes in the alignment and road design and submit report and recommendations so as to enable the EAC to issue an additional TOR if required. 4. The proponent, with the help of an independent institution of national repute shall carry out the impact studies of proposed alignment (once finalized after the sub-committee visit) on biodiversity with focus on fauna and flora 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 of Chief Wildlife Warden of Telangana. 5. After finalisation of alignment and road design the PP shall, in consultation with concerned Divisional Forest Officers of the state forest department, shall identify and translocate the banyan trees to suitable site through an expert tree translocation agency. 6. The alignment of road should be such that the cutting of trees is kept at bare minimum and for this the proponent shall obtain permission from the competent authorities. 7. Project alignment should be such that felling of the Heritage/old trees are avoided as far as possible. All such trees should be geo-tagged. 8. The proponent, with the help of an independent institution 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

S. No	Terms of Reference
	fertile agricultural land, socio-economic spectrum, impact of the project at local and regional levels. 9. 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. 10. The proponent, with the help of an independent institute 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. 11. 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. 12. Rain water harvesting structures to be constructed at the either sides of the road with special precaution of oil filters and de-silting chambers. 13. 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. 14. Trees with heronry (breeding ground for herons, egrets, etc), pelicanary or community nesting of birds like Painted Storks, Ibis, Egrets, Pelican, etc will not be allowed to fell. In case of presence of such, alignment will be required to be changed to save such trees. 15. 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. 16. 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 studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent. 17. 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. 18. 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. 19. 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.

Standard Terms of Reference for (Road)

1. Project Details

S. No	Terms of Reference
1.1	Examine and submit a brief description of the project, project name, nature, size, its importance to the region/state and the country.
1.2	Submit detailed alignment plan, with details such as nature of terrain (plain, rolling, hilly), land use pattern, habitation, cropping pattern, forest area, environmentally sensitive places, mangroves, notified industrial areas, sand dunes, sea, river, lake, details of villages, teshils, districts and states, latitude and longitude for important locations falling on the alignment by employing remote sensing techniques followed by ground truthing and also through secondary data sources.
1.3	Describe various alternatives considered, procedures and criteria adopted for selection of the final alternative with reasons.
1.4	If the proposed route is passing through a city or town, with houses and human habitation on the either side of the road, the necessity for provision of bypasses/diversions/under passes shall be examined and submitted. The proposal should also indicate the location of wayside amenities, which should include petrol station/service centre, rest areas including public conveyance, etc. Noise reduction measures should also be indicated.
1.5	Submit details about measures taken for the pedestrian safety and construction of underpasses and foot-over bridges along with flyovers and interchanges. If any.
1.6	Assess whether there is a possibility that the proposed project will adversely affect road traffic in the surrounding areas (e.g. by causing increases in traffic congestion and traffic accidents). Specific care be also taken to ensure that by passes have a sufficient buffer to prevent unwanted obstructions defying the purpose of the by pass
1.7	If the proposed route involves cutting of earth, the details of area to be cut, depth of cut, locations, soil type, volume and quantity of earth and other materials to be removed with location of disposal/ dump site along with necessary permission.
1.8	If the proposed route is passing through low lying areas, details of fill materials and initial and final levels after filling above MSL, should be examined and submit.
1.9	Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project.
1.10	Examine and submit the details of use of fly ash in the road construction, if the project road is located within the 100 km from the Thermal Power Plant.
1.11	Explore the possibilities of utilizing the debris/ waste materials available in and around the project area.

2. Forest

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

3. Court Matters

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

4. Land Environment

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

5. Wildlife

S. No	Terms of Reference
5.1	The projects is located within 10km. of the sanctuary a map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon should be furnished at the stage of EC.
5.2	Details of blasting if any, methodology/technique adopted, applicable regulations/permissions, timing of blasting, mitigation measures proposed.keeping in view mating season of wild life.

S. No	Terms of Reference
5.3	Explore the possibilities of relocating the existing trees. Animal and wild life crossings to be provided in areas inhabited by wild life.
5.4	Study regarding the Animal bypasses / underpasses etc. across the habitation areas shall be carried out. Adequate cattle passes for the movement of agriculture material shall be provided at the stretches passing through habitation areas.
5.5	Provide compilation of road kill data on the wildlife on the existing roads (national and state highways) in the vicinity of the proposed project. Provide measures to avoid road kills of wildlife by the way of road kill management plan.

6. Soil Quality Analysis

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

7. Climate And Meteorology

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

8. Air Environment

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

9. Noise Environment

S. No	Terms of Reference
9.1	Identify project activities during construction and operation phases, which will affect the noise levels and the potential for increased noise resulting from this project.
9.2	Discuss the effect of noise levels on near by habitation during the construction and operational phases of the proposed highway
9.3	Identify noise reduction measures and traffic management strategies to be deployed for reducing the negative impact if any.
9.4	Prediction of noise levels should be done by using mathematical modeling at different representative locations.
9.5	Also examine and submit the details about the protection to existing habitations from dust, noise, odour etc. during construction stage.

10. Water Environment

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

11. Drainage

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

12. Rain Water Harvesting

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

13. Road And Traffic

S. No	Terms of Reference
13.1	Submit the details of road safety, signage, service roads, vehicular under passes, accident prone zone and the mitigation measures.
13.2	IRC guidelines shall be followed for widening & upgradation of road.
13.3	IRC guidelines to be followed for traffic safety while passing through the habitat.
13.4	Provision of speed breakers, safety signals, service lanes and foot paths should be examined at appropriate locations throughout the proposed road to avoid the accidents.
13.5	In case of bye passes, the details of access control from the nearby habitation/habitation which may come up after the establishment of road.
13.6	Submit details of social impact assessment due to the proposed construction of road.
13.7	Examine road design standards, safety equipment specifications and Management System training to ensure that design details take account of safety concerns and submit the traffic management plan.
13.8	Accident data and geographic distribution should be reviewed and analyzed to predict and identify trends - in case of expansion of the existing highway and provide Post accident emergency assistance and medical care to accident victims.
13.9	The proponent shall carry out a detailed traffic flow study to assess inflow of traffic from adjoining areas like airport/urban cities. The detailed traffic planning studies shall include complete design, drawings and traffic circulation plans (taking into consideration integration with proposed alignment and other state roads etc.). Wherever required, adequate connectivity in terms of VUP (vehicle underpass)/ PUP (Pedestrian underpass) needs to be included.

14. Land Acquisition And R&R

S. No	Terms of Reference
14.1	Details of the properties, houses, businesses religious and social places etc. activities likely to be effected by land acquisition and their financial losses annually.
14.2	Detailed R&R plan with data on the existing socio-economic status of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternative livelihood concerns/employment and rehabilitation of the displaced people, civil and housing amenities being offered, etc and the schedule of the implementation of the project specific.

S. No	Terms of Reference
14.3	whether governmental or on the basis of BOT etc and provide details of budget provisions (capital & recurring) for the project specific R&R Plan.
14.4	Examine and submit the details of sand quarry, borrow area and rehabilitation
14.5	If the proposed project involves any land reclamation, details to be provided for which activity land to reclaim and the area of land to be reclaimed.

15. Socio-economic Environment

S. No	Terms of Reference
15.1	The proponent shall carry out a comprehensive socio-economic assessment and also impact on biodiversity with emphasis on impact of ongoing land acquisition on the local people living around the proposed alignment. The Social Impact Assessment should have social indicators which can reflect on impact of acquisition on fertile land. The Social Impact Assessment shall take into consideration of key parameters like people's dependency on fertile agricultural land, socio-economic spectrum, impact of the project at local and regional levels.
15.2	As per the Ministry's Office Memorandum F.No.22-65/2017-IA.III dated 30th September, 2020, the project proponent, based on the commitments made during the public hearing, shall include all the activities required to be taken to fulfil these commitments in the Environment Management Plan along with cost estimates of these activities in addition to the activities proposed as per recommendations of EIA Studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.

16. Environmental Monitoring and Management

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

17. Alignment, Esz & Crz

S. No	Terms of Reference
17.1	In case of alignment passing through coastal zones

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

18. Employment

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

19. Miscellaneous

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

Signature Not Verified

Digitally Signed by : Dr. Amardeep Raju
Member Secretary, MoEFCC (EC)

Date: 19/02/2024



सत्यमेव जयते

Government of India
Ministry of Environment, Forest and Climate Change
IA Division
(INFRA-1)



Minutes of 363rd meeting of Expert Appraisal Committee to be held on 25th-26th April, 2024 for Projects related to Infrastructure Development, All Ship breaking yards including ship breaking units 7(b); Industrial Estate/Parks/Complexes/Areas, Export Processing Zones meeting INFRA-1 held from 25/04/2024 to 26/04/2024

Date: 17/05/2024

MoM ID: EC/MOM/EAC/147961/4/2024

Agenda ID: EC/AGENDA/EAC/147961/4/2024

Meeting Venue: Narmada Conference Hall, Jal Wing, Ground Floor, Indira paryawaran bhawan, Ministry of Environment Forest and Climate Change, Jorbhag Roa, New Delhi

Meeting Mode: Hybrid

Date & Time:

25/04/2024	10:30 AM	05:30 PM
26/04/2024	10:30 AM	05:30 PM

1. Opening remarks

At the outset, Shri. Manmohan Singh Negi, 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 previous meeting

The Committee confirmed the Minutes of 360th EAC meeting held on 21st March, 2024.

3. Details of proposals considered by the committee

Day 1 -25/04/2024

3.1. Agenda Item No 1:

3.1.1. Details of the proposal

Revamping of old jetty. (4.00 million tonnes per annum) by SHREE DIGVIJAY CEMENT COMPANY LTD located at JAMNAGAR, GUJARAT

Proposal For		Fresh ToR	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/GJ/INFRA1/438395/2023	10/57/2023-IA.III	28/07/2023	Ports, harbors, breakwaters, dredging (7(e))

3.1.2. Project Salient Features

3.1.3. Deliberations by the committee in previous meetings

Date of EAC 1 :24/08/2023 Deliberations of EAC 1 : 1. During the EAC, observed the following: 2. <i>Expansion of Existing Lighterage Jetty to increase capacity of cargo mix from 0.56 million tonnes per annum to 5.00 million tonnes per annum and also proposed in other project that M/s SDCCL is now in the process of enhancing its cement plant capacity and is desirous of handling third party cargoes. SDCCL envisages to increase cargo handling rate of the existing berth at Old deep water Jetty to the capacity of approximately 4.00 MTPA using existing old piles.</i> 3. <i>Coal will be main cargo (2 MMTPA) besides other cargo such as Cement, Clinker, Gypsum, Limestone, Pet coke, Fly ash, Bauxite, Sandstone, Iron Ore, Sulphur, Fertilizer, Soda ash, Containers, Refractory Bricks, Bentonite, Alternate Fuels & Raw materials (AFR) and Other bulk materials.</i> 4. <i>EAC observed that the proposal aims to use both mechanical as well as lighterage operations. Committee was concerned about the increased pollution risks in several manners and especially considering that the boundary of Marine National Park and Sanctuary in a very close proximity of the proposed project. Therefore it has been decided that a EAC sub-committee will visit the site before grant of the ToR.</i> 5. <i>EAC also could not understand the logic of handling less cargo i.e. 4 MMTPA on more modern and mechanical operation facilities as proposed at this facility than proposed expansion of existing lighterage jetty of 5 MMTPA as per agenda item 3.5.</i> 6. <i>The Sub-committee will evaluate the cumulative impact of agenda item no. 3.5 and 3.6 considering that these are inter-dependent projects.</i> 7. <i>Committee also noted that EIA-EMP should be done in a cumulative fashion considering that both projects are inter-linked and are in very close proximity.</i> 8. <i>The EAC, after examining the documents submitted by the project proponent and detailed deliberations in its 368th meeting on 24th August, 2023 and deferred the proposal and recommended for conducting a site visit.</i>

3.1.4. Deliberations by the EAC in current meetings

3.1.5. Recommendation of EAC

Recommended

3.1.6. Details of Terms of Reference

3.1.6.1. Specific

Specific Conditions

1.	

3.1.6.2. Standard

7(e)	Ports, harbors, breakwaters, dredging
Project details	
1.	Reasons for selecting the site with details of alternate sites examined/rejected/selected on merit with comparative statement and reason/basis for selection.
2.	The examination should justify site suitability in terms of environmental angle, resources sustainability associated with selected site as compared to rejected sites.
3.	The analysis should include parameters considered along with weightage criteria for short-listing selected site.
4.	Submit the status of shore line change at the project site
5.	A detailed draft EIA/EMP report should be prepared in accordance with the above additional TOR and should be submitted to the Ministry in accordance with the Notification.
6.	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
7.	Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry.
Land use, Land Acquisition and R&R	
1.	Details of the land use break-up for the proposed project. Details of land use around 10 km radius of the project site.
2.	Submit details regarding R&R involved in the project
ESZ, CRZ, International Boundary and Acts	
1.	Examine and submit detail of land use around 10 km radius of the project site and map of the project area and 10 km area from boundary of the proposed/existing project area, delineating project areas notified under the wild life (Protection) Act, 1972/critically polluted areas as identified by the CPCB from time to time/notified eco-sensitive areas/interstate boundaries and international boundaries.
2.	Erosion and accretion study at the mouth of the creek which is adjacent to the proposed site be carried out and submitted
3.	Detailed modelling studies to understand whether the selected site can withstand severe cyclones and develop design in accordance to due safety measures.
4.	Submit superimposing of latest CZMP as per CRZ Notification (2011) on the CRZ map. And also submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scales.
5.	Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011.
6.	Hydrodynamics study on impact of dredging on flow characteristics shall be carried out.

7.	A detailed study on the impact of proposed activity on marine ecology and marine biodiversity with specific focus on the corals, mangroves and Mud flats in the proximity of the site should be conducted and required mitigation plan be submitted.
8.	A management plan for the area under which mangroves are or likely to be removed and compensatory mangrove plantation plan be submitted.
Remote Sensing & GIS	
1.	Analysis should be made based on latest satellite imagery for land use with raw images.
Forest and Wildlife	
1.	Submit the present land use and permission required for any conversion such as forest, agriculture etc.
2.	land acquisition status, rehabilitation of communities/ villages and present status of acquiring Forest and Agricultural activities.
3.	Submit details of the trees to be cut including their species and whether it also involves any protected or endangered species.
4.	Measures taken to reduce the number of the trees to be removed should be explained in detail.
5.	Submit the details of compensatory plantation.
6.	Explore the possibilities of relocating the existing trees.
7.	Examine the details of afforestation measures indicating land and financial outlay
8.	Landscape plan, green belts and open spaces may be described. A thick green belt should be planned all around the nearest settlement to mitigate noise and vibrations.
9.	The identification of species/ plants should be made based on the botanical studies.
Water Environment/Quality Analysis/ Hydrology and Water Bodies	
1.	Examine the details of water requirement, impact on competitive user, treatment details, use of treated waste water. Prepare a water balance chart.
2.	Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project.
3.	Submit the details of fishing activity and likely impacts on the fishing activity due to the project.
4.	Specific study on effects of construction activity and pile driving on marine life
Waste Management, Drainage and STPs	
1.	Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area
2.	Examine details of Solid waste generation treatment and its disposal.
3.	Details of oil spill contingency plan.
4.	Details of the layout plan including details of channel, breakwaters, dredging, disposal and reclamation.

Terrain and Topography	
1.	Submit the details of terrain, level with respect to MSL, filling required, source of filling materials and transportation details etc.
2.	Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scale along with the recommendation of the SCZMA.
3.	Details of bathymetry study.
4.	Details of ship tranquillity study.
5.	The ecologically fragile area including CRZ 1A area etc. shall be demarcated and superimposed on the layout plan and submitted.
Road/Transport Connectivity and Traffic measures	
1.	Examine road/rail connectivity to the project site and impact on the existing traffic network due to the proposed project/activities
2.	A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.
3.	Details of handling of each cargo, storage, transport along with spillage control, dust preventive measures.
4.	In case of coal, mineral cargo, details of storage and closed conveyance, dust suppression and prevention filters.
5.	An assessment of the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA.
Rain Water Harvesting	
1.	Details of rainwater harvesting and utilization of rain water.
Baseline data	
1.	Examine baseline environmental quality along with projected incremental load due to the proposed project/activities.
Air Environment	
1.	The air quality monitoring should be carried out according to the notification issued on 16th November, 2009.
Environment Management/ Monitoring, Mitigative Measures and Risk Assessment details	
1.	Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.
2.	Submit details of a comprehensive Risk Assessment and Disaster Management Plan including emergency evacuation during natural and man-made disasters.
3.	Details of desalination plant and the study for outfall and intake

Court/ Litigation records	
1.	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
Environment Responsibility	
1.	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, specific studies 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 Studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

Development of Harohalli - 5th Phase Industrial Area of 369.19 Ha (912.31 Acres) by KARNATAKA INDUSTRIAL AREAS DEVELOPMENT BOARD located at RAMANAGARA, KARNATAKA			
Proposal For		Fresh EC	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/KA/INFRA1/450902/2023	10/39/2022-IA.III	02/11/2023	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (7(c))

3.2.2. Project Salient Features

S. no	Query raised during 358 th EAC meeting held on 16.03.2024	Reply submitted in the 360 th Expert appraisal Committee meeting held on 25 th -26 th April, 2024.
1.	NOC from the Karnataka forest department stating that the project site does not involve any forest land.	KIADB has submitted the No Objection Certificate (NOC) vide No.A5/bhoomi/Abhipraya/CR-135/2023-24/1988 dated 07.03.2024 from the Deputy Conservator of Forests stating that as per the site verification report the KIADB proposed Harohalli 5 th Phase of Kanchugarnahalli & Kanchuganhalli Kaval village Bidadi Hobli Ramnagar District & Yarehalli Mudenhalli Village, Harohalli Hobli, Kankapura Taluk, Ramnagar District does not fall under any reserve forest, protected forest and Declared Forest, Dominance forest under Section 4.
2.	Considering the proximity of the project to the Bannerghatta National Park Wildlife conservation plan, as prescribed	"Department of Wildlife and Management, Kuvempu University carried out the detailed biodiversity study in consultation with CWLW/FD of the Bannerghatta National Park and as per the study the following 15 schedule-1 spe

the Specific TOR-I stating that at 'Detailed biodiversity studies be undertaken by a reputed institute or university of academic institution', shall be prepared in consultation with the CWLW/FD of the Bannerghatta National Park.

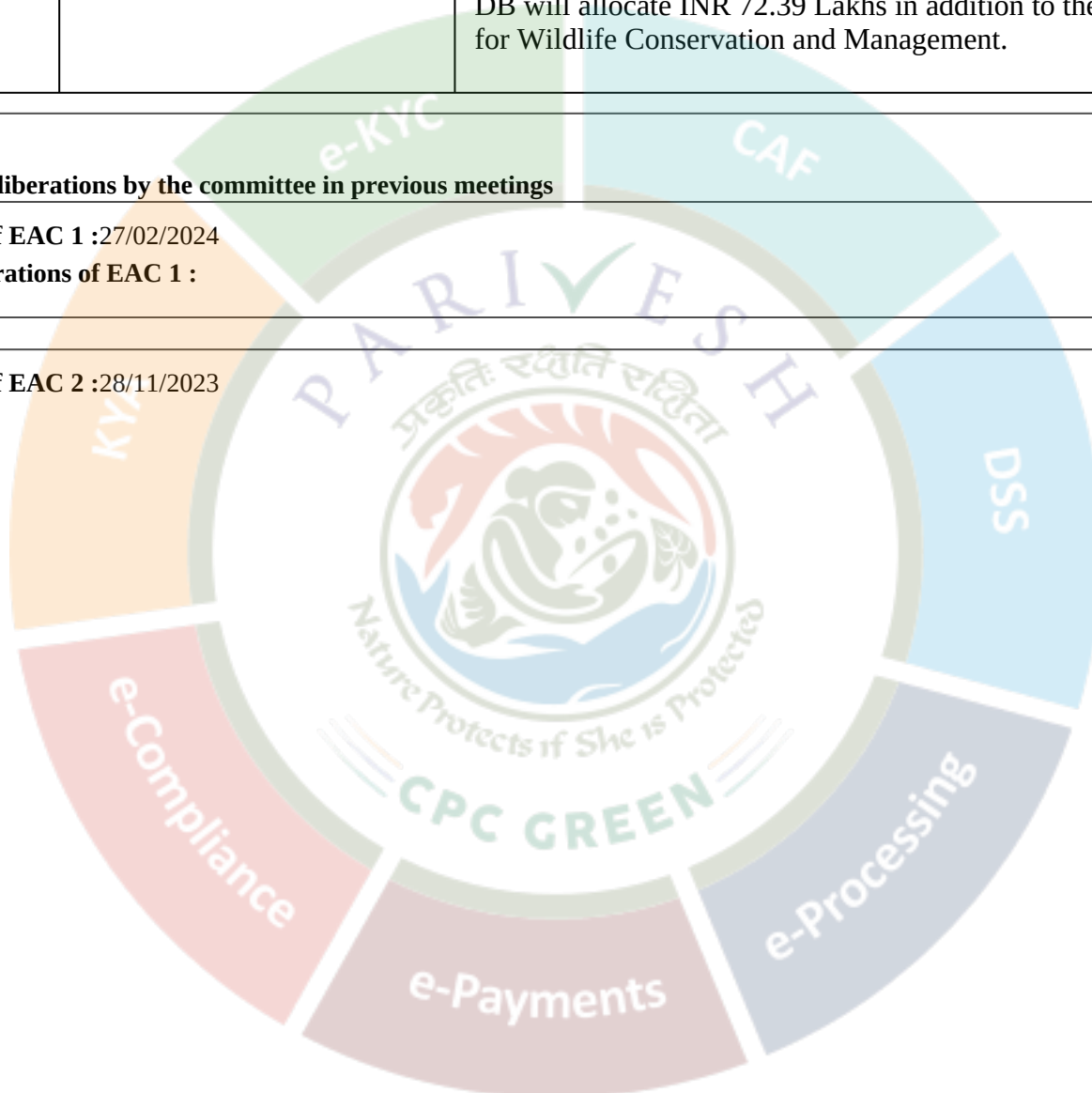
species are identified (i) Sloth Bear, (ii) Shikra, (iii) Bonelli's Eagle, (iv) Black-winged kite, (v) Brahminy Kite, (vi) Black Eagle, (vii) Rufous-bellied Eagle, (viii) Black kite, (ix) Changeable Hawk Eagle, (x) Oriental Honey Buzzard, (xi) Shaheen Falcon, (xii) Indian peafowl, (xiii) Common Crow, (xiv) Plain tiger, (xv) Jezebel, (xvi) Common Silver line based on the identified species made a conservation strategies and recommendations for schedule-I species with the budget of INR 72.39 Lakhs is earmarked for Wildlife Conservation and its Management. Accordingly, KIA DB will allocate INR 72.39 Lakhs in addition to the EMP for Wildlife Conservation and Management.

3.2.3. Deliberations by the committee in previous meetings

Date of EAC 1 : 27/02/2024

Deliberations of EAC 1 :

Date of EAC 2 : 28/11/2023



Deliberations of EAC 2 :

1. During the EAC, the committee observed the following:
2. PP has to clarify legal validity of the public hearing under the provisions of EIA notification, 2006 vide amendment dated 9th May 2022 that whether the public hearing conducted for the project covering the villages in different taluks/subdivisions under same administrative control of single SDM? The clarification of the same shall be submitted duly endorsed by the Member Secretary/RO of SPCB.
3. Specific ToR point-1 studies related to impact assessment and mitigation measures w.r.t. specific ToR given as below is incomplete.

“Detailed biodiversity studies be undertaken by a reputed institute or university of academic institution”

1. Therefore, as prescribed by the specific ToR, PP shall conduct the specific biodiversity studies and prepare the conservation plan ESZ in synchronization with the local biodiversity of the species within the study area including flagship species, authenticated/certified by CWLW/field director of the said national park.
2. On seeing the google images it appears that still there are some forest patches inside the project area. PP claims them as non-forest areas. As already submitted by the PP there are quite a large number of trees (about 23271 nos) which are to be felled for project. This creates a doubt about the legal status of the forest patches inside the project area. Therefore there is need for no objection certificate from the state forest department.
3. The water requirement for Phase-5 is not clear whether it is from the BWSSB or additional supplies from the nearby river. The PP shall indicate infrastructure facilities for supply of water from BWSSB and including its project cost and ROW etc in the revised prefeasibility. Permission for utilization of the same for the expansion of the project for the phase-5 (from phase-2) shall also be obtained from BWSSB.
4. Adequate water supply water requirement and water balance diagram shall be clearly mentioned and presented in the additional information to clear know how of the project in respect of water requirement and supply.
5. The EAC, taking into account the submission made by the project proponent, had a detailed deliberation in its 347th meeting of Expert Appraisal Committee held on 28th November, 2023 and **defer** the proposal for want of following information.
6. PP has to clarify legal validity of the public hearing under the provisions of EIA notification, 2006 vide amendment dated 9th May, 2022 that whether the public hearing conducted for the project covering the villages in different taluks/subdivisions under same administrative control of single SDM? The clarification of the same shall be submitted duly endorsed by the Member Secretary/RO of SPCB.
7. NOC from the Karnataka forest department stating that the project site does not involve any forest land.
8. Considering the proximity of the project to the Bannerghatta National Park Wildlife conservation plan, as prescribed the Specific TOR-I stating that ‘Detailed biodiversity studies be undertaken by a reputed institute or university of academic institution’, shall be prepared in consultation with the CWLW/FD of the Bannerghatta National Park.
9. Since the green belt development plan involves the creation of multilayered forests using indigenous species of trees and bushes around the lakes and waterbodies as well as around the boundary it shall be prepared in consultation with State Forest Department and accordingly EMP cost for green belt development shall be revised.
10. Details of water requirement and its sources along with the Permission/approval from the concern authority.
11. PP shall submit the revised zonation map considering not providing the red category industries near the water bodies.
12. There are few canals/nallas are passing/abutting or passing through project site the details measures drawn for the protecting them shall submit and accordingly the layout shall be revised.

3.2.4. Deliberations by the EAC in current meetings

3.2.5. Recommendation of EAC

Recommended

3.2.6. Details of Environment Conditions

3.2.6.1. Specific

	Specific Conditions
1.	i. The Environmental Clearance to the project is primarily under provisions of EIA Notification, 2006. 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. iv. Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974. v. The proponent has to comply with the Ministry's OM no. J-11011/321/2016-IA.II(I), dated 27.04.2018 which made it mandatory for certain type of industries to conduct public hearing irrespective of their location within Industrial Area or outside the industrial area. vi. The proposed individual units need to take Environmental Clearance separately as per the applicability of the schedule of EIA Notification, 2006. vii. The ecological and biodiversity conservation study conducted by the Kuvempu University, PP shall get approval/recommendations of the concern state forest department and all commitments made in the biodiversity Management & Conservation Plan shall be implemented in letter and spirit. The status of implementation of Wildlife Management & Conservation Plan shall be submitted to the Regional Office of the Ministry along with 6 monthly compliance report. xi. As proposed Proponent shall install the Zero Liquid Discharge System (ZLD). The Industrial complex shall achieve Zero Liquid Discharge and to achieve the Zero Liquid Discharge, waste water generated from various industrial operations shall be properly collected, treated to the prescribed standards and then recycled or reused for the identified uses. xii. As proposed by the KIADB Green belt over 82.001 Ha (22.2% of total area) out of 369.19 ha of the total area industrial estate shall be developed by the KIADB and rest of 39.87 Ha (10.8% of total area) shall be developed by individual industries to achieve total overall green space of the 33%. Open Spaces and lawns shall not be taken into account for the purpose of area of the green belt. a. 15m wide multi-layered green belt of indigenous native species shall be developed along the periphery of the project site. b. At least 50 meter wide multilayered green belt shall be created and maintained around the Suvernmukhi Reservoir. c. At least 20-meter-wide green belt shall be maintained around the tank/pond present within the project side xiii. The company shall construct a garland drain all around the industrial estate and also around the Suvernmukhi Reservoir as well as around the tank/pond within the project boundary to prevent runoff of any contaminants/ waste into the Swater bodies. Effluent shall be properly treated and treated wastewater shall conform to CPCB standards. xiv. Processed effluents/any wastewater shall not be allowed to mix with storm water, storm water drain shall be provided on tank farm, and solvent transfer through

pumps.

- xv. Garland drains and collection pits of adequate capacity shall be provided for each stock pile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface run off.
- xvi. Rain water harvesting for roof run-off and surface run-off, should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.
- xvii. Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water. Treated affluent emanating from STP shall be recycled/reused to the maximum extent possible. Treatment of 100% grey water by decentralized treatment should be done.
- xviii. Storm water control and its re-use as per CGWB and BIS standards for various applications.
- xix. The industrial unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.
- xiii. Training shall be imparted to all employees on safety and health aspects of Chemicals handling.
- xiv. The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the industrial estate at least at four locations (one within and three outside the port area at an angle of 120°each), covering upwind and downwind directions.
- xv. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed fugitive emission standards.
- xvi. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
- xvii. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high level of particulate matter such as around loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- xviii. Spillage of fuel/engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
- xix. Necessary approvals be taken during implementation and commissioning from statutory bodies concerned.
- xx. All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.

- xxi. All the mitigation measures to reduce pollution as mentioned in EIA/EMP report shall be implemented in toto.
- xxii. Ground water abstraction shall be as prescribed by the CGWA. A clearance/permission of the CGWA shall be obtained in this regard.
- xxiii. Sufficient number of Piezometer wells shall be installed in and around the project site to monitor the ground water quality in consultation with the State Pollution Control Board / CPCB. Trend analysis of ground water quality shall be carried out each season and information shall be submitted to the SPCB and the Regional Office of MoEF&CC.
- xxiv. All the recommendation of the EMP shall be complied with in letter and spirit. 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 RO, MoEF&CC along with half yearly compliance report.
- xxv. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
- xxvi. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.
- xxvii. Any hazardous waste generated during development/ construction phase, should be disposed off as per applicable rules and norms with necessary approvals of the Karnataka State Pollution Control Board.
- xxviii. The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of firefighting equipment's, etc. as per National Building Code including protection measures from lightening etc.
- xxix. All the topsoil excavated during development/ construction activities should be stored for use in horticulture/landscape development within the project site.
- xxx. Disposal of muck during development/ construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority
- xxxi. Detailed plan of expenditure with implementation schedule to address issues raised during Public Hearing shall be prepared and submitted to the Regional Office of this Ministry within three months. The proponent shall adhere the strict compliance of above plan to utilize funds as per schedule.

As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Aforestation etc, either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.

3.2.6.2. Standard

7(c)	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones
Statutory compliance	
1.	The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan / Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (incase of the presence of schedule-I species in the study area).
2.	The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water / from the competent authority concerned in case of drawl of surface water required for the project.
3.	All excavation related dewatering shall be as duly authorized by the CGWA. A NOC from the CGWA shall be obtained for all dewatering and ground water abstraction
4.	A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
5.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Coast Guard, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.
Air quality monitoring and preservation	
1.	The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the project area at least at four locations (one within and three outside the project area at an angle of 120°each), covering upwind and downwind directions.
2.	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed emission standards.
3.	Dust collectors shall be deployed in all areas where surface cleaning and painting operations are to be carried out, supplemented by stacks for effective dispersion.
4.	Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
5.	A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.
Water quality monitoring and preservation	

1.	Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
2.	Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression.
3.	A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.
4.	No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.

Noise monitoring and prevention

1.	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
2.	Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.
3.	Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.
4.	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.

Energy Conservation measures

1.	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
2.	Provide LED lights in their offices and project areas.

Waste management

1.	Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.
2.	The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
3.	Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.
4.	A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
5.	Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.

Green Belt

1.	An overall green area of at-least 33% of the Industrial Area should be developed with native species. The green area shall be 40% in case of critically polluted area. The project proponent of the Industrial Area shall comply with the additional commitment made by them in the EIA report regarding the development of green belt.

2.	The Industrial Areas are directed to accordingly allocate the area, to be developed as green cover, to respective individual industrial units so as to achieve the above mentioned condition.
3.	The individual industrial unit, at the time of obtaining EC, shall bring a letter from the Industrial Area, specifying the area allocated to them to be developed as green cover, as a part of obligation from the Industrial Area.
4.	Wherever possible, plantations around the periphery of the Industrial Area, in the downwind direction and along the road sides shall be provided for containment of pollution and for formation of a screen between the industrial area and the outer civil area. The choice of plants should include shrubs of height 1 to 1.5 m and tree of 3 to 5 m height. The intermixing of trees and shrubs should be such that the foliage area density in vertical is almost uniform.
5.	The parameters like selection of plant species, procedure for plantation, density of tree plantation etc shall be as per the CPCB guidelines.
Public hearing and human health issues	
1.	Workers shall be strictly enforced to wear personal protective equipments like dust mask, ear muffs or ear plugs, whenever and wherever necessary/ required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration.
2.	Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/ accidents.
3.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
4.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
5.	Occupational health surveillance of the workers shall be done on a regular basis.
Environment Responsibility	
1.	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
2.	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
3.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
4.	Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
Miscellaneous	

1.	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
2.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
3.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
4.	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
5.	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
6.	The criteria pollutant levels namely; PM2.5, PM10, SO2, NOx (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
7.	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
8.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
9.	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
10.	No further expansion or modifications in the Industrial Area shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
11.	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
12.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
13.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
14.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
15.	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.

1 6.	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010
Specific Conditions	
1.	The green belt of 5-10 m width shall be developed in more than 33% of the total project area, mainly along the plant periphery, in downward wind direction, and along road sides etc. Selection of plant species shall be as per the CPCB guidelines in consultation with the State Forest Department.

3.3. Agenda Item No 3:

3.3.1. Details of the proposal

Amendment in Environmental Clearance w.r.t change in Land use pattern sector zones for Development of Industrial Park at Guttapadu Village, Orvakal Mandal, Kurnool District, Andhra Pradesh by M/S ANDHRA PRADESH INDUSTRIAL INFRASTRUCTURE CORPORATION by ANDHRA PRADESH INDUSTRIAL INFRASTRUCTURE CORPORATION located at KURNOOL, ANDHRA PRADESH			
Proposal For		Amendment in EC	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/AP/INFRA1/467108/2024	21/74/2018-IA.III	26/03/2024	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (7(c))

3.3.2. Project Salient Features

S l. No	Description	As Per EC Area in Acres	Percentage (%)	After Amendment Plan Area in Acres	Percentage (%)	Remarks
1	Secondary Steel & Specialty Steel					(-) 1.13 acers
2	Electrical & Electronic Components	920.44	21.95%	138.52	3.30%	(-) 96.71 acers
3	Instrument & Equipments			270.27	6.44%	
4	Auto Components			272.66	6.50%	
5	Non-Metallic	408.34	9.74%	172.10	4.10%	(-) 95.6 acers

	Mineral Industries					
6	Aerospace Defence Hardware	153.72	3.67%	148.86	3.55%	(-) 1.97 acers
7	Gems & Jewellers					(-) 5.98 acers
8	Renewable Energy					(-) 2.73 acers
9	Textile & Apparel	120.56	2.87%	177.57	4.23%	(+) 32.95 acers
10	Wearing Apparel					
11	e-Waste					
12	Drug formulations [Orange Category]	0.00	0.00%	264.22	6.30%	Change in industry type and change in project area (+) 264.22 acers
13	Logistics & Warehousing And Parking					
14	Residential					
15	Road Area					
16	Open Space And Green Belt					
17	Green Buffer					
18	Common Amenities-I (Saleable)					(+) 46.23 acers

[illegible]

6.	Fire Demand	0	0	0	0	550	0	550	0	One Time
7.	UFW losses	0	0	0	0	330	4370	4700	0	Increase in quantity
		11460	7540	19000	7940	2499	29143	31642	13886	

3.3.3. Deliberations by the committee in previous meetings

N/A

3.3.4. Deliberations by the EAC in current meetings

3.3.5. Recommendation of EAC

Deferred for ADS

3.4. Agenda Item No 4:

3.4.1. Details of the proposal

Gowribidanuru 3rd Phase Industrial Area by KARNATAKA INDUSTRIAL AREAS DEVELOPMENT BOARD located at CHIKKABALLAPURA, KARNATAKA			
Proposal For		Fresh EC	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/KA/INFRA1/461140/2024	10/13/2023-IA.III	14/03/2024	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (7(c))

3.4.2. Project Salient Features

S.No.	Landuse/Landcover	Area (Ha)	Percentage (%)
1	Barren Rocky	114.7	34.75
2	Residential/Commercial	5.10	1.55
3	Industrial	1.37	0.42
4	Crop Land	200.60	60.83

5	Waterbody	8.18	2.48
Total		330.00	100.00

1. Engineering

A. Secondary Metallurgical units: Covered under EIA Notification under Category 3(a) (Rolling Mills, Induction furnaces, Electric arc furnaces, Open hearth, Forging, Foundry, Blast furnace)

B. Not covered under EIA Notification:

- a. Surface Treatment (Plating, Pickling, Galvanizing)
- b. Automobile/ bicycle/ locomotive manufacturing
- c. Fabrication of various types, Utensils/furniture making
- d. Engineering, Electrical and Electronic manufacturing

2. Pharmaceutical and Formulations (Not covered under EIA Notification)

- a. Formulations
- b. Biotech industries
- c. Ayurvedic products manufacturing
- d. Non – API and non-intermediates manufacturing

3. Food (Not covered under EIA Notification)

- a. Agro processing, Dairy and Dairy processing, Fish processing,
- b. Fish feed, Poultry feed, Cattle feed,
- c. Dal mills, Rice mills, Poha mills, Salt mills,
- d. Alcoholic and non-alcoholic beverages, Tobacco products, Vegetable oils,
- e. Manufacture of edible products – starch, sugar, tea/coffee processing, cashew, ground nut and others,
- f. Flour mills, Grain mills, Cereals, Bakery and confectionary products,
- g. Processed food/packaged food industry, Mineral water etc.

Industries to be setup in the red/orange/green/white category as per CPCB classification.

3.4.3. Deliberations by the committee in previous meetings

N/A

3.4.4. Deliberations by the EAC in current meetings

The EAC, after examining the documents submitted by the project proponent and detailed deliberations in its 363rd meeting held on 25th-26th April, 2024, **deferred** the proposal with advice to submit following information.

3.4.5. Recommendation of EAC

Deferred for ADS

3.5. Agenda Item No 5:

3.5.1. Details of the proposal

Expansion of Existing Lighterage Jetty to increase capacity from 0.56 million tonnes per annum to 5.00 million tonnes per annum at P.O.: Digvijaygram, Sikka-361140, District : Jamnagar (Gujarat) by Shree Digvijay Cement Company Limited by SHREE DIGVIJAY CEMENT COMPANY LTD located at JAMNAGAR,GUJARAT			
Proposal For		Fresh ToR	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/GJ/INFRA1/438303/2023	10/59/2023-IA.III	27/07/2023	Ports, harbors, breakwaters, dredging (7(e))

3.5.2. Project Salient Features

3.5.3. Deliberations by the committee in previous meetings

Date of EAC 1 :24/08/2023 Deliberations of EAC 1 : 1. During deliberation, EAC observed and noted the following: 2. <i>M/s. Shree Digvijay Cement Co. Ltd. (SDCCL) owns and operates a state of art modern technology cement plant at Digvijaygram (Sikka) in Jamnagar District since 1944. Presently, the cement plant, operates a captive port facility through lighterage jetty near the cement plant to aid its plant operations. SDCCL is now in the process of enhancing its cement plant capacity and is desirous of handling third party cargoes. SDCCL envisages Expansion of Existing Lighterage Jetty to increase capacity of cargo mix from 0.56 million tonnes per annum to 5.00 million tonnes per annum and also proposed in other project that M/s SDCCL is now in the process of enhancing its cement plant capacity and is desirous of handling third party cargoes. SDCCL envisages to increase cargo handling rate of the existing berth at Old deep water Jetty to the capacity of approximately 4.00 MTPA using existing old piles.</i> 3. <i>Coal will be main cargo (2 MMTPA) besides other cargo such as Cement, Clinker, Gypsum, Limestone, Pet coke, Fly ash, Bauxite, Sandstone, Iron Ore, Sulphur, Fertilizer, Soda ash, Containers, Refractory Bricks, Bentonite, Alternate Fuels & Raw materials (AFR) and Other bulk materials.</i> 4. <i>EAC observed that the proposed expansion will also continue to follow lighterage operations. Committee was concerned about the increased pollution risks especially due to handling of coal in several manners, therefore it has been decided that a EAC sub-committee will visit the site before grant of the ToR.</i> 5. <i>EAC also advised to evaluate feasibility of more modern operation technology instead of lighterage operations for such a large capacity enhancement.</i> 6. <i>The EAC, after examining the documents submitted by the project proponent and detailed deliberations in its 368th meeting on 24th August, 2023 and deferred the proposal and recommended for conducting a site visit.</i>

3.5.4. Deliberations by the EAC in current meetings

3.5.5. Recommendation of EAC

Recommended

3.5.6. Details of Terms of Reference

3.5.6.1. Specific

Specific Conditions	
1.	

3.5.6.2. Standard

7(e)	Ports, harbors, breakwaters, dredging
Project details	
1.	Reasons for selecting the site with details of alternate sites examined/rejected/selected on merit with comparative statement and reason/basis for selection.
2.	The examination should justify site suitability in terms of environmental angle, resources sustainability associated with selected site as compared to rejected sites.
3.	The analysis should include parameters considered along with weightage criteria for short-listing selected site.
4.	Submit the status of shore line change at the project site
5.	A detailed draft EIA/EMP report should be prepared in accordance with the above additional TOR and should be submitted to the Ministry in accordance with the Notification.
6.	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
7.	Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry.
Land use, Land Acquisition and R&R	
1.	Details of the land use break-up for the proposed project. Details of land use around 10 km radius of the project site.
2.	Submit details regarding R&R involved in the project
ESZ, CRZ, International Boundary and Acts	
1.	Examine and submit detail of land use around 10 km radius of the project site and map of the project area and 10 km area from boundary of the proposed/existing project area, delineating project areas notified under the wild life (Protection) Act, 1972/critically polluted areas as identified by the CPCB from time to time/notified eco-sensitive areas/interstate boundaries and international boundaries.
2.	Erosion and accretion study at the mouth of the creek which is adjacent to the proposed site be carried out and submitted
3.	Detailed modelling studies to understand whether the selected site can withstand severe cyclones and develop

	design in accordance to due safety measures.
4.	Submit superimposing of latest CZMP as per CRZ Notification (2011) on the CRZ map. And also submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scales.
5.	Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011.
6.	Hydrodynamics study on impact of dredging on flow characteristics shall be carried out.
7.	A detailed study on the impact of proposed activity on marine ecology and marine biodiversity with specific focus on the corals, mangroves and Mud flats in the proximity of the site should be conducted and required mitigation plan be submitted.
8.	A management plan for the area under which mangroves are or likely to be removed and compensatory mangrove plantation plan be submitted.
Remote Sensing & GIS	
1.	Analysis should be made based on latest satellite imagery for land use with raw images.
Forest and Wildlife	
1.	Submit the present land use and permission required for any conversion such as forest, agriculture etc.
2.	land acquisition status, rehabilitation of communities/ villages and present status of acquiring Forest and Agricultural activities.
3.	Submit details of the trees to be cut including their species and whether it also involves any protected or endangered species.
4.	Measures taken to reduce the number of the trees to be removed should be explained in detail.
5.	Submit the details of compensatory plantation.
6.	Explore the possibilities of relocating the existing trees.
7.	Examine the details of afforestation measures indicating land and financial outlay
8.	Landscape plan, green belts and open spaces may be described. A thick green belt should be planned all around the nearest settlement to mitigate noise and vibrations.
9.	The identification of species/ plants should be made based on the botanical studies.
Water Environment/Quality Analysis/ Hydrology and Water Bodies	
1.	Examine the details of water requirement, impact on competitive user, treatment details, use oftreated waste water. Prepare a water balance chart.
2.	Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project.
3.	Submit the details of fishing activity and likely impacts on the fishing activity due to the project.
4.	Specific study on effects of construction activity and pile driving on marine life

Waste Management, Drainage and STPs	
1.	Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area
2.	Examine details of Solid waste generation treatment and its disposal.
3.	Details of oil spill contingency plan.
4.	Details of the layout plan including details of channel, breakwaters, dredging, disposal and reclamation.
Terrain and Topography	
1.	Submit the details of terrain, level with respect to MSL, filling required, source of filling materials and transportation details etc.
2.	Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scale along with the recommendation of the SCZMA.
3.	Details of bathymetry study.
4.	Details of ship tranquillity study.
5.	The ecologically fragile area including CRZ 1A area etc. shall be demarcated and superimposed on the layout plan and submitted.
Road/Transport Connectivity and Traffic measures	
1.	Examine road/rail connectivity to the project site and impact on the existing traffic network due to the proposed project/activities
2.	A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.
3.	Details of handling of each cargo, storage, transport along with spillage control, dust preventive measures.
4.	In case of coal, mineral cargo, details of storage and closed conveyance, dust suppression and prevention filters.
5.	An assessment of the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA.
Rain Water Harvesting	
1.	Details of rainwater harvesting and utilization of rain water.
Baseline data	
1.	Examine baseline environmental quality along with projected incremental load due to the proposed project/activities.
Air Environment	
1.	The air quality monitoring should be carried out according to the notification issued on 16th November, 2009.

Environment Management/ Monitoring, Mitigative Measures and RiskAssessment details	
1.	Examine separately the details for construction and operation phases both for EnvironmentalManagement Plan and Environmental Monitoring Plan with cost and parameters.
2.	Submit details of a comprehensive Risk Assessment and Disaster Management Plan includingemergency evacuation during natural and man-made disasters.
3.	Details of desalination plant and the study for outfall and intake
Court/ Litigation records	
1.	Details of litigation pending against the project, if any, with direction /order passed by any Court ofLaw against the Project should be given.
Environment Responsibility	
1.	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, specific studies 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 Studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.

3.6. Agenda Item No 6:

3.6.1. Details of the proposal

Fresh/New EC and CRZ Clearance of Simar Port, Chhara (entailing construction of Solid Cargo Jetty within available waterfront (as approved under earlier EC dated 6th January 2014 for the approved cargo of 8 MTPA), use of construction jetties for transshipment (as early start phase), construction of island breakwater of 4500 m (as approved under EC dated 5th March 2019), no increase in port land area) under the framework of EIA Notification, 2006 (amended) by SIMAR PORT PRIVATE LIMITED located at GIR SOMNATH, GUJARAT			
Proposal For		Fresh ToR	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/GJ/INFRA1/468021/2024	10/7/2024-IA.III	12/04/2024	Ports, harbors, breakwaters, dredging (7(e))

3.6.2. Project Salient Features

i. Cargo: 8 MTPA of Coal ii. Maximum vessel size 180,000 DWT iii. Berthing area water depth – 20 m CD iv. Island breakwater 1700 m v. Berth 1 no. - 350 m, trestle 2265 m vi. Capital dredging 1.5 MCum vii. Maintenance dredging 150,000 Cum viii. Coal stockyard 32 ha i. Cargo: 05 MTPA LNG ii. LNG Import Terminal over 47 ha land

- iii. 1200 m LNG jetty
- iv. Two shore-based full containment tanks of 200,000 CuM each
- v. Commissioning activities of the Terminal are going on at present.
- i. Cargo: 5 MTPA LPG, 3.5 MTPA POL, 1.5 MTPA Veg Oil.
- ii. Terminal over 39.4 ha.
- iii. Jetty 34 m x 35 m, trestle length 1900 m.
- iv. No construction has been initiated on account of this project at the site.
 - i. Solid cargo jetty approved in the EC of 2014 is now proposed to be shifted east ward on the available shoreline. Jetty length 350 m width 25 m is not proposed to change. Approach trestle length will be reduced to 826 m (from earlier 2265 m), width of trestle at 12 m will be same.
 - ii. Two construction jetties (Temporary Load Out Jetties) built to enable construction of Island Breakwater are proposed to be used as trans-shipment jetties as an early start phase of the Project while the deep water Jetty is built and commissioned. Cargo shall be lightered at deep sea and brought to the Temporary Load Out Jetties by barges, and unloaded at the Jetties by mechanized means.
- i. Cargo: 8 MTPA overall cargo volume (volume unchanged), now diversified comprising of Coal, limestone, clinker, fly ash, soda ash, bulk chemicals, other minerals, agro-products, other dry bulk/ break bulk cargo).
- ii. Maximum vessel size 180,000 DWT – no change
- iii. Island breakwater 1700 m, extended to 4500 m - no further change
- iv. Berth 1 no. - 350 m, trestle 2265 m, trestle length now reduced to 826 m
- v. Capital dredging 1.5 MCum – no change
- vi. Maintenance dredging 150,000 Cum – no change
- vii. Coal stockyard 32 ha - no change
- viii. No further land acquisition than earlier proposed
- ix. No change in approach channel

Sr.no	Landuse/ landcover	Area ha	Remark, if any
1.	LNG terminal existing	55.66	Commissioned in April, 2024
2.	LPG, POL and Veg Oil	38.82	Construction not initiated
3.	Land acquired for the project	409.94	Land shall be utilized for Port back up in phased manner.

S.no	Date of Receipt of Notice	Particular	Brief about the Case	Applicant/Defendant	Respondent	Status of case
1	11-Mar-24	NGT Appeal No. Appeal No.30/2019(WZ)	All the OA's & appeals have been clubbed by the NGT as they are of similar nature. In the last hearing held on 11-March-2024 it was considered that all pra	Mr. Sayyed Mohammed Sabir Usman	Union of India & Ors.	Next hearing Date 31-July-2024
2		NGT Appeal No. Appeal No.31/2019(WZ)		Mr. Sayyed Mohammed Sabir Usman	Union of India & Ors	
3		NGT No.49/		Protection of	Union of Ind	

		2019(WZ) (I.A. No.59/ 2019)	yers are vagu e. Therefore, t his applicatio n does not des erve to be ad mitted. But th e applicant pr ayed for last o pportunity to be allowed to convince	Environment a nd Public Serv ice Committee	ia & Ors.	
4		NGT OA. A ppeal No.50/ 2019(WZ)		Protection of Environment a nd Public Serv ice Committee	Simar Port P rivate Limite d	
5		Appeal No.6 2/2019(WZ)	this Tribunal after obtainin g NOC from t he earlier cou nsel. Hence, t he matters on hold until nex t hearing to be held on 31-Jul y-2024.	ParyavaranBa chavSamity	of India thro ugh Secretar y MoEF&Or s.	

3.6.3. Deliberations by the committee in previous meetings

N/A

3.6.4. Deliberations by the EAC in current meetings

3.6.5. Recommendation of EAC

Recommended

3.6.6. Details of Terms of Reference

3.6.6.1. Specific

Specific Conditions	
1.	xix. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent, based on the commitments made during the public hearing, shall include all the activities required to be taken to fulfil these commitments in the Environment Management Plan along with cost estimates of these activities, in addition to the activities proposed as per recommendations of EIA Studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent. 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.

3.6.6.2. Standard

7(e)	Ports, harbors, breakwaters, dredging
Project details	
1.	Reasons for selecting the site with details of alternate sites examined/rejected/selected on merit with comparative statement and reason/basis for selection.
2.	The examination should justify site suitability in terms of environmental angle, resources sustainability associated with selected site as compared to rejected sites.
3.	The analysis should include parameters considered along with weightage criteria for short-listing selected site.
4.	Submit the status of shore line change at the project site
5.	A detailed draft EIA/EMP report should be prepared in accordance with the above additional TOR and should be submitted to the Ministry in accordance with the Notification.
6.	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
7.	Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry.
Land use, Land Acquisition and R&R	
1.	Details of the land use break-up for the proposed project. Details of land use around 10 km radius of the project site.
2.	Submit details regarding R&R involved in the project
ESZ, CRZ, International Boundary and Acts	
1.	Examine and submit detail of land use around 10 km radius of the project site and map of the project area and 10 km area from boundary of the proposed/existing project area, delineating project areas notified under the wild life (Protection) Act, 1972/critically polluted areas as identified by the CPCB from time to time/notified eco-sensitive areas/interstate boundaries and international boundaries.
2.	Erosion and accretion study at the mouth of the creek which is adjacent to the proposed site be carried out and submitted
3.	Detailed modelling studies to understand whether the selected site can withstand severe cyclones and develop design in accordance to due safety measures.
4.	Submit superimposing of latest CZMP as per CRZ Notification (2011) on the CRZ map. And also submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scales.
5.	Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011.
6.	Hydrodynamics study on impact of dredging on flow characteristics shall be carried out.

7.	A detailed study on the impact of proposed activity on marine ecology and marine biodiversity with specific focus on the corals, mangroves and Mud flats in the proximity of the site should be conducted and required mitigation plan be submitted.
8.	A management plan for the area under which mangroves are or likely to be removed and compensatory mangrove plantation plan be submitted.
Remote Sensing & GIS	
1.	Analysis should be made based on latest satellite imagery for land use with raw images.
Forest and Wildlife	
1.	Submit the present land use and permission required for any conversion such as forest, agriculture etc.
2.	land acquisition status, rehabilitation of communities/ villages and present status of acquiring Forest and Agricultural activities.
3.	Submit details of the trees to be cut including their species and whether it also involves any protected or endangered species.
4.	Measures taken to reduce the number of the trees to be removed should be explained in detail.
5.	Submit the details of compensatory plantation.
6.	Explore the possibilities of relocating the existing trees.
7.	Examine the details of afforestation measures indicating land and financial outlay
8.	Landscape plan, green belts and open spaces may be described. A thick green belt should be planned all around the nearest settlement to mitigate noise and vibrations.
9.	The identification of species/ plants should be made based on the botanical studies.
Water Environment/Quality Analysis/ Hydrology and Water Bodies	
1.	Examine the details of water requirement, impact on competitive user, treatment details, use of treated waste water. Prepare a water balance chart.
2.	Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project.
3.	Submit the details of fishing activity and likely impacts on the fishing activity due to the project.
4.	Specific study on effects of construction activity and pile driving on marine life
Waste Management, Drainage and STPs	
1.	Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area
2.	Examine details of Solid waste generation treatment and its disposal.
3.	Details of oil spill contingency plan.
4.	Details of the layout plan including details of channel, breakwaters, dredging, disposal and reclamation.

Terrain and Topography	
1.	Submit the details of terrain, level with respect to MSL, filling required, source of filling materials and transportation details etc.
2.	Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scale along with the recommendation of the SCZMA.
3.	Details of bathymetry study.
4.	Details of ship tranquillity study.
5.	The ecologically fragile area including CRZ 1A area etc. shall be demarcated and superimposed on the layout plan and submitted.
Road/Transport Connectivity and Traffic measures	
1.	Examine road/rail connectivity to the project site and impact on the existing traffic network due to the proposed project/activities
2.	A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.
3.	Details of handling of each cargo, storage, transport along with spillage control, dust preventive measures.
4.	In case of coal, mineral cargo, details of storage and closed conveyance, dust suppression and prevention filters.
5.	An assessment of the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA.
Rain Water Harvesting	
1.	Details of rainwater harvesting and utilization of rain water.
Baseline data	
1.	Examine baseline environmental quality along with projected incremental load due to the proposed project/activities.
Air Environment	
1.	The air quality monitoring should be carried out according to the notification issued on 16th November, 2009.
Environment Management/ Monitoring, Mitigative Measures and Risk Assessment details	
1.	Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.
2.	Submit details of a comprehensive Risk Assessment and Disaster Management Plan including emergency evacuation during natural and man-made disasters.
3.	Details of desalination plant and the study for outfall and intake

Court/ Litigation records	
1.	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
Environment Responsibility	
1.	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, specific studies 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 Studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.

Day 2 -26/04/2024

3.1. Agenda Item No 1:

3.1.1. Details of the proposal

Amendment in EC & CRZ Clearance for the modification of marine side activities of REDI Port Layout. by REDI PORT LIMITED located at SINDHUDURG, MAHARASHTRA			
Proposal For		Amendment in EC	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/MH/INFRA1/467335/2024	11-15/2010-IA.III	26/03/2024	Ports, harbors, breakwaters, dredging (7(e))

3.1.2. Project Salient Features

Parameter	Approved Facilities (As per EC/CRZ Clearance)	Facilities (After Amendment)	Remarks
Cargo Handling Capacity			
Existing cargo handling capacity	1 MTPA	No Change	Existing cargo handling capacity
Proposed cargo handling capacity upto Phase II	13.74 MTPA	No Change	Proposed cargo handling capacity upto Phase II
Type of cargo proposed to be handled	Coal, Iron ore and General Cargo	No Change	Type of cargo proposed to be handled
Total cargo handling capacity after commissioning of Expansion facility	14.74 MTPA	No Change	Total cargo handling capacity after commissioning of Expansion facility

ility				acity	
Existing Facilities					
Number of jetties	Two (02) Nos		Two (02) Nos		No Change
Backup area	8 ha		8 ha		No Change
Cargo handling capacity	1 MTPA		1 MTPA		No Change
Type of cargo being handled	Iron Ore		Iron Ore		No Change
Proposed Expansion Facilities (Phase I and II)					
Length of Northern Breakwater	Phase I - 0 m Phase II – 100m		Phase I - 0 m Phase II – 615 m		Increased
Length of Southern Breakwater	Phase I - 860 m Phase II – 1800m		Phase I - 1375 m Phase II – 3795 m		Increased
	Phase I	Phase II	Phase I	Phase II	
Rock Bund	2150 m	Phase I facility will suffice Phase II requirement.	2150 m	Phase I facility will suffice Phase II requirement.	No Change
Diameter of Turning Circle	460 m		460 m		
Depth of Turning Circle (below CD)	(-) 14.5 m		(-) 14.5 m		
Number of Berths	Two (02)	Three (03) (Cumulative)	Two (02)	Three (03) (Cumulative)	No change
Depth at berthing Area	(-) 13.9 m	(-) 13.9 m	(-) 13.9 m	(-) 13.9 m	No change
Dredging Quantity	3.36 MCM	-	5.49 MCM	-	Increased
Reclamation Quantity	5.5 MCM (0.93 MCM of dredged material and remaining will be sourced from borrow material).		4.5 MCM (3.06 MCM of dredged material and remaining will be sourced from borrow material).		Reduced (dredge material for reclamation was increased)
Dredge Spoil Disposal	2.43 MCM will be disposed at identified offshore dredge spoil disposal site located in (-) 25m to (-) 30 m.		2.43 MCM will be disposed at identified offshore dredge spoil disposal site located in (-) 25m to (-) 30 m.		No change

Approach Channel					
Length	4565 m	Phase I facility will suffice Phase II requirement.	4410 m		Slightly Reduced Phase I facility will suffice Phase II requirement.
Width	165 m		165 m		
Depth	(-) 15.1 m		(-) 15.1 m		
Description	CRZ-Classification		Area in Sq.m		Total Area in Sq.m
Proposed Admin Area	CRZ-III (200m to 500m from HTL)		87664.25		192306.84
	CRZ-IVA		1267.03		
	CRZ-IB		4746.04		
	CRZ-III(NDZ)		98629.52		
Proposed Berths	CRZ-IVA		100090.69		18343.00
Proposed Reclamation Area	CRZ-IVA		157494.79		161950.67
	CRZ-IB		4455.88		
Proposed Reclamation bund	CRZ-IVA		21426.81		33619.61
	CRZ-IB		10881.99		
	CRZ-III(NDZ)		1310.81		
Proposed Road	CRZ-III(200m to 500m from HTL)		4265.57		39073.95
	CRZ-IVA		9651.76		
	CRZ-IB		2300.62		
	CRZ-III(NDZ)		22856.00		
Proposed Storage Area	CRZ-III(200m to 500m from HTL)		7514.90		164547.16

	CRZ-IB	7273.85	
	CRZ-III(NDZ)	149758.41	
Proposed Break water	CRZ-IVA	39282.21	39282.21
Description	CRZ-Classification	Area in Sq.m	Total Area in Sq.m
Proposed Admin Area	CRZ—III(200m to 500m from HTL)	87664.25	192306.84
	CRZ-IVA	1267.03	
	CRZ-IB	4746.04	
	CRZ-III(NDZ)	98629.52	
Proposed Berths	CRZ-IVA	100090.69	100090.69
Proposed North Breakwater	CRZ-IVA	30304.91	30304.91
Proposed Operational Area	CRZ-IVA	46589.53	51585.14
	CRZ-IB	4995.61	
Proposed Reclamation Area	CRZ-IVA	157980.64	162436.52
	CRZ-IB	4455.88	
Proposed Reclamation Bund	CRZ-IVA	48751.31	61447.42
	CRZ-IB	11385.3	
	CRZ-III(NDZ)	1310.81	
Proposed Road	CRZ-III(200m to 500m from HTL)	4265.57	126152.64
	CRZ-IVA	95026.9	
	CRZ-IB	3567.02	
	CRZ-III(NDZ)	23293.15	
	CRZ-IVA	167863.01	

Proposed South Breakwater	CRZ- IB	447.23	168384.84
	CRZ-III(NDZ)	74.6	
Proposed Storage Area	CRZ-III(200mto500mfromHTL)	7514.9	366942.94
	CRZ-IVA	202395.78	
	CRZ-IB	7273.85	
	CRZ-III(NDZ)	149758.41	

Reason for seeking amendment: RPL obtained the environmental and CRZ clearance for the expansion upto Phase II development from Ministry of Environment, Forests & Climate Change (MoEF&CC) through vide F.No.11-15/2010-IA-II dated September 06, 2018. Home Department, Government of Maharashtra issued Redi port limits through vide notification no. MIS-0512/C.R-164/R.F.20/PRT.I dated January 30, 2013. In 2018, Home Department, Government of Maharashtra revised port limits vide Sankirn -0318/C.R.09/PRT-1 dated 26th April, 2018. Due to revision in Port limits, the phase II marine side activities for which environmental/CRZ clearance was obtained is falling beyond the port limits declared in 2018. In order to accommodate the marine side activities within new port limits, it is proposed to move the marine side activities towards north.

3.1.3. Deliberations by the committee in previous meetings

N/A

3.1.4. Deliberations by the EAC in current meetings

3.1.5. Recommendation of EAC

Recommended

3.1.6. Details of Environment Conditions

3.1.6.1. Specific

Specific Conditions

1.	i. All other terms and Conditions mentioned in the EC and CRZ clearance vide letter No.11-15/2010-IA-II dated 06th September, 2018 shall remain unchanged. ii. Construction activity shall be carried out strictly according to the provisions of the CRZ Notification, 2019. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area. iii. All the recommendations and conditions specified by the Maharashtra State Coastal Zone Management Authority (MCZMA) vide letter No CRZ2023/CR171/TC4 dated 9th January, 2024 shall be complied with. iv. As proposed storage area shall be 4km away from the CRZ area. No storage is permitted within the CRZ

- area.
- v. In phase-II Materials are transported to and from the jetty with the help of conveyors connecting jetty and stockyard. The completely covered (Closed type gallery) shall be used for preventing the material from ingress caused by wind and rain.
 - vi. PP shall ensure the loading and unloading process shall not cause any spillage in the water and storm water drains should be built to collect spillage, if any.
 - vii. Storage of the Coal, Iron Ore., shall be under covered shed accommodated with a Stacker reclaimed inside provided with DFS (Atomized Automatic Sprinkling System) including peripheral drainage system, internal roads, firefighting system etc.
 - viii. Coal handling area shall be provided with the adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
 - ix. The approach road shall be constructed strictly follow the Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area and road should be built on stilts.
 - x. The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the port area at least at four locations (one within and three outside the port area at an angle of 120°each), covering upwind and downwind directions.
 - xi. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed fugitive emission standards.
 - xii. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
 - xiii. Garland drains and collection pits of adequate capacity shall be provided for each stock pile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface run off and disposed only after treatment.
 - xiv. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high level of particulate matter such as around loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
 - xv. Risk assessment for spill scenarios and Disaster Management Plan as prepared shall be in place in the environment Management cell of VPT with all SOP's for various scenarios.
 - xvi. Spillage of fuel/engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
 - xvii. Records of regular dredging shall be maintained with periodic survey data.
 - xviii. Sediment analysis of harbor at identified locations shall be analyzed and records for past and present period shall be maintained.
 - xix. 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.
 - xx. No underwater blasting is permitted.
 - xxi. Necessary approvals be taken during implementation and commissioning from statutory bodies concerned.
 - xxii. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring report.
 - xxiii. A continuous monitoring programme covering all the seasons on various aspects of the coastal and marine environs need to be undertaken by a competent organization available in

	the State or by entrusting to the National Institutes/renowned Universities/accredited Consultant with rich experiences in marine science aspects. Monitoring should include sea weeds, sea grasses, mudflats, sand dunes, fisheries, mangroves and other marine biodiversity components as part of the management plan. xxiv. Sediment concentration should be monitored fortnightly at source and disposal location of dredging while dredging. xxv. The PP as promised in EAC meeting, should give a written undertaking that there are no court cases/ government orders on this proposal, which impede its execution

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

Development of Bichoon Industrial Area, Bichoon Village, Mozamabad Tehasil, Jaipur District, Rajasthan State by RAJASTHAN STATE INDUSTRIAL DEVELOPMENT & INVESTMENT CORPORATION LTD. (RIICO) JAIPUR located at JAIPUR, RAJASTHAN			
Proposal For		Fresh ToR	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/RJ/INFRA1/467586/2024	10/8/2024-IA.III	29/03/2024	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (7(c))

3.2.2. Project Salient Features

S.no	Description of activity/ facility /plant/others	Land requirement in Hectare	Percentage (%)
1	Industrial area	84.39	44.3
2	Area under commercial	5.02	2.60
3	Area under open	1.916	1.00
4	Area under services	6.619	3.47
5	Area Under Residential use	5.511	2.89
6	Area under road	28.334	14.89
7	Greenbelt	58.42	30.71
Total		190.21	100
	Secondary Metallurgical processing Industries (Toxic and Heavy)	3(a)	

Details of Court cases: The proposed project does not involve any court cases.

N/A

Downloaded from <http://www.jstor.org/stable/2346292> by University of California, San Diego on Tue, 20 Jun 2017 12:04:05 UTC

Recommended	

3.2.6.1. Specific	
Specific Conditiins	
1.	

Specific Conditins	
1.	

7(c)	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones
Project details	
1.	Reasons for selecting the site with details of alternate sites examined/rejected/selected on merit with comparative statement and reason/basis for selection. The examination should justify site suitability in terms of environmental damage, resources sustainability associated with selected site as compared to rejected sites.
2.	The analysis should include parameters considered along with weightage criteria for shortlisting selected site.

3.	Zoning of the area in terms of 'type of industries' coming-up in the industrial area based on the resource requirement along with likely pollutants with quantity from the various industries.
4.	Submit Roles and responsibility of the developer etc for compliance of environmental regulations under the provisions of EP Act.
5.	Examine the details of National Highways/State Highways/ expressways falling along the corridor and the impact of the development on them.
6.	Submit the details of the infrastructure to be developed.
7.	Justification of the parameters, frequency and locations shall be discussed in the EIA.
Environment Status/Baseline Data Methodology	
1.	Examine baseline environmental quality along with projected incremental load due to the project taking into account of the existing developments nearby. (ii) Environmental data to be considered in relation to the project development would be (a) land, (b) groundwater, (c) surface water, (d) air, (e) bio-diversity, (f) noise and vibrations, (g) socio economic and health.
2.	Site justification of the identified industry sectors from environmental angle and the details of the studies conducted if any.
3.	Identify, predict and assess the environmental and sociological impacts on account of the project.
Remote Sensing/ GIS	
1.	Analysis should be made based on latest satellite imagery for land use with raw images.
2.	Check on flood plain of any river.
Land Use, Land Acquisition, R&R	
1.	Submit the details of the land use break-up for the proposed project. Details of land use around 10 km radius of the project site.
2.	Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/villages and present status of such activities.
3.	Examine the impact of proposed project on the nearest settlements.
4.	Submit details regarding R&R involved in the project
5.	The project boundary area and study area for which the base line data is generated should be indicated through a suitable map.
ESZ, CRZ Details	
1.	Details regarding project boundary passing through any eco- sensitive area and within 10 km from eco- sensitive area.
Forest and Wildlife Related Details	
1.	An overall green area of at-least 33% of the Industrial Area should be developed with native species. The green area shall be 40% in case of critically polluted area. Green buffer in the form of green belt to a width of 15 meters should be provided all along the periphery of the industrial area.

2.	Submit the details of the trees to be felled for the project.
3.	Submit the present land use and permission required for any conversion such as forest, agriculture etc.
Court/ Litigation Related	
1.	Submit Legal frame work for the implementation of Environmental Clearance conditions - to be clearly spelt out in the EIA report.
2.	Details of litigation pending against the project, if any, with direction /order passed by any Court of Law against the Project should be given.
Water Environment/Quality/Hydrology	
1.	Ground water classification as per the Central Ground Water Authority
2.	Submit the source of water, requirement vis-à-vis waste water to be generated along with treatment facilities, use of treated waste water along with water balance chart taking into account all forms of water use and management.
Rain Water Harvesting	
1.	Rain water harvesting proposals should be made with due safeguards for ground water quality
2.	Maximize recycling of water and utilization of rain water. Examine details.
3.	Examine soil characteristics and depth of ground water table for rainwater harvesting.
Waste Management, Drainage and STPs Details	
1.	Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area, and any obstruction of the same by the project.
2.	Examine details of solid waste generation treatment and its disposal.
Soil Environment	
1.	Examine soil characteristics and depth of ground water table for rainwater harvesting.
Energy and Resources	
1.	Examine and submit details of use of solar energy and alternative source of energy to reduce the fossil energy consumption.
Air Environment	
1.	In case DG sets are likely to be used during construction and operational phase of the project. emissions from DG sets must be taken into consideration while estimating the impacts on air environment. Examine and submit details.
Road/Transport Safety and Traffic Aspects	
1.	Examine road/rail connectivity to the project site and impact on the traffic due to the proposed project.
2.	Present and future traffic and transport facilities for the region should be analysed with measures for preventing traffic congestion and providing faster trouble free system to reach different destinations in the city.

3.	A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.
4.	Examine the details of transport of materials for construction which should include source and availability.
Noise Environment	
1.	Examine noise levels - present and future with noise abatement measures.
Environmental Management Plans and Mitigative Measures	
1.	Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.
2.	Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster.
3.	Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, project proponent can refer to the model ToR available on Ministry.

3.3. Agenda Item No 3:

3.3.1. Details of the proposal

RIICO - Shree Ashok Nagar (Babai) Industrial Area by AJIT DWIVEDI located at JHUNJHUNU, RAJASTHAN			
Proposal For		Fresh ToR	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/RJ/INFRA1/46 8057/2024	10/8/2024-IA.III	02/04/2024	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (7(c))

3.3.2. Project Salient Features

S. no.	Particular	Area in ha.	Area in %
1	Area under Industrial Plots	96.145	65.52
2	Area under Commercial	3.783	2.58
3	Area under Hospital Plot	0.723	0.49
4	Area under Residential Plot	1.064	0.72
5	Area under Services(Including Duping Yard)	8.627	5.88
6	Area under open (Water Harvesting + Greenbelt)	8.004	5.45
7	Area under Roads	28.404	19.36

S. no.	Particular	Area in ha.	Area in %
Total		146.75	100.00

Details of Court Case: There is no court case is involved in the proposed project.

3.3.3. Deliberations by the committee in previous meetings

N/A

3.3.4. Deliberations by the EAC in current meetings

3.3.5. Recommendation of EAC

Deferred for ADS

3.4. Agenda Item No 4:

3.4.1. Details of the proposal

Construction of 4-lane Greenfield Highway from Morbi to Navlakhi Port (connectivity for Navlakhi Port) in the State of Gujarat by National Highways Authority of India located at MORBI, GUJARAT			
Proposal For		Fresh ToR	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/GJ/INFRA1/469171/2024	10/6/2024-IA.III	13/04/2024	Road (7(f))

3.4.2. Project Salient Features

3.12.1. The aforementioned proposal was placed before the EAC during its 363rd meeting of Expert Appraisal Committee held on 25th-26th April, 2024. The project proponent made a presentation in the Ministry and submitted the following information. 3.12.2. The proposal is for 'Construction of 4-lane Greenfield Highway from Morbi to Navlakhi Port (connectivity for Navlakhi Port) alignment which starts from Morbi bypass near Amreli village and terminates at Navlakhi Port Total length of the proposed project road is 41.819 km Morbi District, Gujarat by the M/s National Highway Authority of India'. 3.12.3. The proposed project road Morbi to Navlakhi is a 4 lane greenfield alignment which starts from Morbi bypass near Amreli village and terminates at Navlakhi Port Total length of the proposed project road is 41.819 km. The alignment is passing through 13 villages, 2 talukas (Maliya&Morbi) of Morbi District in Gujarat. Starting point of project road (Km. 0+000) – 22°51'02.74"N 70°49'04.43"E, End point of project road (Km. 41+819) – 22°57'16.03"N 70°27'34.56"E. This will provide connectivity to the Navlakhi Port through National Highway. 3.12.4. Project falls under project/activity "7 (f) Highways" as per the EIA notification, 2006 and falls under category-A-project Appraised at MoEF&CC due to applicability of general conditions. The total cost of the project is Rs.1547.95 Cr. 3.12.5. Land-use / Land-cover of project site: Agriculture land occupied major part (80.05%) of the total area, followed by open land (8.75%), bare ground (4.65%), forest land (5.68%), water body and

settlement (0.87%).

3.12.6. Right of Way (RoW):

S.no	Chainage	Proposed Right of way
1	0+000 to 31+220 (outside CRZ area)	60 m in general
2	31+220 to 35+996 (in CRZ area)	45 m
3	35+996 to 41+006 (in CRZ area)	30 m (elevated section)
4	41+006 to 41+819 (in CRZ area)	45 m

At Grade Separated locations having 6-Lane structure, additional ROW beyond 60m is to be acquired to accommodate all cross-sectional elements like 6-Lane structure, slip/service roads, unlined drain, utility etc. The Proposed ROW in such locations varies from 60-70m, which is outside the CRZ area.

3.12.7. Terrain and Topographic Features: The alignments pass through plain terrain with elevation ranging from 3 m to 40 m above MSL.

3.12.8. Details of water bodies: Alignment of the proposed Morbi to Navlakhi Port highway crosses Machchhu River at Ch. 1+670, Phulku River at Ch. 27+930, creek at Ch. 30+400 and streams & local Nalas at several locations. To minimize the impact drainage & hydrological flow, 5 major bridges, 14 minor bridges and 72 culverts are proposed to be constructed along the project road.

3.12.9. Water requirement: Construction Phase: Water demand of the project is approx. 7034 KL per day. In compliance to the Sub-Clause 111.8.3 of MoRTH Specifications, the Contractor will identify the nearest source of water body at plant and camp site and shall source the water preferably from surface water bodies in the project area. Only at locations where surface water sources are not available, the Contractor shall contemplate extraction of ground water, after intimation and consent from the CGWB. Operation Phase: During the operations phase the water would be required primarily for domestic use at the toll plaza and landscaping which is approx. 100 KL per day. No Groundwater extraction is proposed.

3.12.10. Tree cutting: total 1,343 trees are falling under the Morbi to Navlakhi Port stretch. The details will be submitted along with the EIA/EP report.

3.12.11. Diversion of forest land: The proposed project involves diversion of 15.1106 ha of forest land (6.0946 ha Protected Forest and 9.0160 ha Reserved Forest). Forest proposal is under preparation. 8.961 km stretch (Chainage 32+858 to 41+819) is passing through the Wild Ass Sanctuary. Hence, Wildlife Clearance will be required. Marine National Park is located at a distance of 0.6 km from proposed Highway.

3.12.12. Details of CRZ area: Approx. 10.419 km stretch of Morbi to Navlakhi Port highway (between Chainage 30+700 to 41+819) is passing through CRZ area (235 m stretch in CRZ-IB & 10.169 km stretch in CRZ-III-NDZ). This entire CRZ stretch of the project road is located with the Navlakhi Port Limit, which was notified vide Notification dated 21.11.1955. National Centre for Sustainable Coastal Management (NCSCM) has been engaged for preparation of CRZ Map and will be submitted at the time EC.

3.12.13. Land Acquisition and R&R issues involved: Tentatively, 280.7075ha land is to be acquired for the project and total number of affected structure is 36. Socio-economic and census survey of the affected population is under progress. The compensation amount for the acquisition of land and structures will be determined by the CALA (Competent Authority for Land Acquisition) in accordance with the provisions of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCTLARR) Act, 2013 under the National Highways Act, 1956.

3.12.14. Employment potential: due the proposed project total 520 persons will get an employment out of which 300(100 Permanent and 200 temporary) persons will get employment during the construction phase and 120 (20Permanent and 100 temporary) persons will get an employment during operational phase.

3.12.15. Benefits of the project: The sole purpose to develop a Greenfield highway from Morbi to

Navlakhi port is for the transportation of imported and exported materials in & out from the Navlakhi Port and connectivity of the port with National Highway.

3.12.16. Details of Court cases: No court case is involved in the proposed project.

3.12.17. During presentation the PP intimated that the present proposal was already the part of a combined proposal no IA/GJ/INFRA 1/427477/2023 for construction of Maliya- Pipaliya road and Norbi-Navalakhi road which was recommended for TOR by EAC in its 326th meeting held on 10th May 2023 and subsequently TOR were issued on 3rd July 2023. However, on 9th November 2023 in EAC's 245th meeting PP proposed for amendment of TOR for removal of the Norbi-Navalakhi road from the proposal on the ground that due to some administrative reason it was not possible to take the Norbi – Navalakhi Road immediately. Accordingly the TOR was amended. Now PP has requested to issued TOR for this road.

3.4.3. Deliberations by the committee in previous meetings

N/A

3.4.4. Deliberations by the EAC in current meetings

3.12.1. The EAC, taking into account the submission made by the project proponent has a detailed deliberation in its 363rd meeting on 26th-27th April, 2024 and **recommended** the proposal for grant of Terms of Reference with specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

3.4.5. Recommendation of EAC

Recommended

3.4.6. Details of Terms of Reference

3.4.6.1. Specific

Specific Conditions	
1.	i. In the proposed alignment Approx. 10.419 km stretch of Morbi to Navlakhi Port highway (between Chainage 30+700 to 41+819) is passing through CRZ area (235 m stretch in CRZ-IB & 10.169 km stretch in CRZ-III-NDZ). PP shall design the port highway as per the regulatory provisions of CRZ Notification, 2011. ii. The categorization CRZ areas for the proposed facilities should be detailed out. The ecologically fragile area including CRZ IA area etc. shall be demarcated and superimposed on the layout plan and submitted. iii. RoW in the CRZ area to be restricted to 35 m to avoid damage to saltpans. iv. The road in the CRZ areas will only be on stilt and accordingly design be developed Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scales as per latest approved CZMP. v. Recommendation of the Gujarat CZMA shall be obtained and submitted. Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011. vi. Public hearing shall be conducted as per the EIA notification, 2006 after including the CRZ component and recommendations. vii. NHA will design the alignment as per the suggestions of the concerned Forest Department of Govt. of Gujarat with necessary structural provisions for avoiding damage to the saltpans. viii. Cumulative impact assessment study should be carried out along the entire stretch including

	the other packages and the current stretch under consideration. ix. The proponent shall carry out a detailed traffic flow study to assess inflow of traffic from adjoining areas like airport/urban cities. The detailed traffic planning studies shall include complete design, drawings and traffic circulation plans (taking into consideration integration with proposed alignment and other state roads etc.). Wherever required adequate connectivity in terms of VUP (vehicle underpass)/ PUP (Pedestrian underpass) needs to be included. x. Road safety audit (along with accident/black spots analysis) by any third-party competent organization need to be carried out 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. xi. Provide compilation of road kill data on the wildlife on the existing roads (national and state highways) in the vicinity of the proposed project. Provide measures to avoid road kills of wildlife by the way of road kill management plan. xii. The alignment of road should be such that the cutting of trees is kept at bare minimum and for this the proponent shall obtain permission from the competent authorities. Alignment also should be such that it will avoid cutting old and large and heritage trees if any. All such trees should be geo-tagged, photographed and details be submitted in the EIA –EMP report. xiii. The proponent shall carry out a comprehensive socio-economic assessment and also impact on biodiversity with emphasis on impact of ongoing land acquisition on the local people living around the proposed alignment. The Social Impact Assessment should have social indicators which can reflect on impact of acquisition on fertile land. The Social Impact Assessment shall take into consideration of key parameters like people's dependency on fertile agricultural land, socio-economic spectrum, impact of the project at local and regional levels. xiv. Biodiversity studies and conservation plan will be carried out by Zoological Survey of India or any organization of repute. xv. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent, based on the commitments made during the public hearing, shall include all the activities required to be taken to fulfil these commitments in the Environment Management Plan along with cost estimates of these activities, in addition to the activities proposed as per recommendations of EIA Studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent. xvi. 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. xvii. 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. xviii. Passage for animal movement has to be detailed in the report. xix. 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.

3.4.6.2. Standard

7(f)	Road
Project Details	
1.	Examine and submit a brief description of the project, project name, nature, size, its importance to the region/state and the country.

2.	Submit detailed alignment plan, with details such as nature of terrain (plain, rolling, hilly), land use pattern, habitation, cropping pattern, forest area, environmentally sensitive places, mangroves, notified industrial areas, sand dunes, sea, river, lake, details of villages, teshils, districts and states, latitude and longitude for important locations falling on the alignment by employing remote sensing techniques followed by ground truthing and also through secondary data sources.
3.	Describe various alternatives considered, procedures and criteria adopted for selection of the final alternative with reasons.
4.	If the proposed route is passing through a city or town, with houses and human habitation on the either side of the road, the necessity for provision of bypasses/diversions/under passes shall be examined and submitted. The proposal should also indicate the location of wayside amenities, which should include petrol station/service centre, rest areas including public conveyance, etc. Noise reduction measures should also be indicated.
5.	Submit details about measures taken for the pedestrian safety and construction of underpasses and foot-over bridges along with flyovers and interchanges. If any.
6.	Assess whether there is a possibility that the proposed project will adversely affect road traffic in the surrounding areas (e.g. by causing increases in traffic congestion and traffic accidents). Specific care be also taken to ensure that by passes have a sufficient buffer to prevent unwanted obstructions defying the purpose of the by pass
7.	If the proposed route involves cutting of earth, the details of area to be cut, depth of cut, locations, soil type, volume and quantity of earth and other materials to be removed with location of disposal/ dump site along with necessary permission.
8.	If the proposed route is passing through low lying areas, details of fill materials and initial and final levels after filling above MSL, should be examined and submit.
9.	Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project.
10.	Examine and submit the details of use of fly ash in the road construction, if the project road is located within the 100 km from the Thermal Power Plant.
11.	Explore the possibilities of utilizing the debris/ waste materials available in and around the project area.
Forest	
1.	In case the project involves diversion of forests land, guidelines under OM dated 20.03.2013 may be followed and necessary action taken accordingly.
2.	The information should be provided about the details of the trees to be cut including their species and whether it also involves any protected or endangered species. Measures taken to reduce the number of the trees to be removed should be explained in detail. Submit the details of compensatory plantation.
3.	Necessary green belt shall be provided on both sides of the highway with proper central verge and cost provision should be made for regular maintenance
4.	If there is a possibility that the construction/widening of road will cause impact such as destruction of forest, poaching, reductions in wetland areas, if so, examine the impact and submit details.
Court Matters	
1.	Details of any litigation(s) pending against the project and/or any directions or orders passed by any court of law/any statutory authority against the project to be detailed out.

Land Environment	
1.	Submit Land use map of the study area to a scale of 1: 25,000 based on recent satellite imagery delineating the crop lands (both single and double crop), agricultural plantations, fallow lands, waste lands, water bodies, built-up areas, forest area and other surface features such as railway tracks, ports, airports, roads, and major industries etc.
2.	submit a detailed ground surveyed map on 1:2000 scale showing the existing features falling within the right of way namely trees, structures including Archeological& religious, monuments etc. if any.
3.	If the proposed route is passing through any hilly area, examine and submit the stability of slopes, if the proposed road is to pass through cutting or embankment / control of soil erosion from embankment. Landslide, rock fall protection measures to be indicated.
Wildlife	
1.	The projects is located within 10km. of the sanctuary a map duly authenticated by Chief Wildlife Warden showing these features vis-à-vis the project location and the recommendations or comments of the Chief Wildlife Warden thereon should be furnished at the stage of EC.
2.	Details of blasting if any, methodology/technique adopted, applicable regulations/permissions, timing of blasting, mitigation measures proposed.keeping in view mating season of wild life.
3.	Explore the possibilities of relocating the existing trees. Animal and wild life crossings to be provided in areas inhabited by wild life.
4.	Study regarding the Animal bypasses / underpasses etc. across the habitation areas shall be carried out. Adequate cattle passes for the movement of agriculture material shall be provided at the stretches passing through habitation areas.
5.	Provide compilation of road kill data on the wildlife on the existing roads (national and state highways) in the vicinity of the proposed project. Provide measures to avoid road kills of wildlife by the way of road kill management plan.
Soil Quality Analysis	
1.	Submit the details on compliance with respect to Research Track Notification of MoRTH 20) Examine and submit the details of sand quarry and borrow area as per OM no.2-30/2012-IA-III dated 18.12.2012 on 'Rationalization of procedure for Environmental Clearance for Highway Projects involving borrow areas for soil and earth as modified vide OM of even no. dated March 19, 2013.
Climate and Meteorology	
1.	Climate and meteorology (max and min temperature, relative humidity, rainfall, frequency of tropical cyclone and snow fall); the nearest IMD meteorological station from which climatological data have been obtained to be indicated.
Air Environment	
1.	The air quality monitoring should be carried out as per the new notification issued on 16th November, 2009.
2.	Examine the impact during construction activities due to generation of fugitive dust from crusher units, air emissions from hot mix plants and vehicles used for transportation of materials and prediction of impact on ambient air quality using appropriate mathematical model.
3.	Description of model, input requirement and reference of derivation, distribution of major pollutants and presentation in tabular form for easy interpretation shall be carried out.

Noise Environment	
1.	Identify project activities during construction and operation phases, which will affect the noise levels and the potential for increased noise resulting from this project.
2.	Discuss the effect of noise levels on near by habitation during the construction and operational phases of the proposed highway
3.	Identify noise reduction measures and traffic management strategies to be deployed for reducing the negative impact if any.
4.	Prediction of noise levels should be done by using mathematical modeling at different representative locations.
5.	Also examine and submit the details about the protection to existing habitations from dust, noise, odour etc. during construction stage.
6.	If the proposed route is passing through low lying areas, details of fill materials and initial and final levels after filling above MSL, should be examined and submit.
Water Environment	
1.	Examine and submit the water bodies including the seasonal ones within the corridor of impacts along with their status, volumetric capacity, quality likely impacts on them due to the project.
2.	Examine and submit details of water quantity required and source of water including water requirement during the construction stage with supporting data and also categorization of ground water based on the CGWB classification
3.	Examine and submit the details of measures taken during constructions of bridges across river/ canal/major or minor drains keeping in view the flooding of the rivers and the life span of the existing bridges.
4.	In case of river/ creek crossing, details of the proposed bridges connecting on either banks, the design and traffic circulation at this junction with simulation studies.
5.	Details to ensure free flow of water in case the alignment passes through water bodies/river/ streams etc.
Drainage	
1.	If there will be any change in the drainage pattern after the proposed activity, details of changes shall be examined and submitted.
2.	If the proposed route involves tunneling, the details of the tunnel and locations of tunneling with geological structural fraction should be provided. In case the road passes through a flood plain of the river, the details of micro drainage, flood passages and information on high levels flood periodicity at least of last 50 years in the area should be examined.
Rain Water Harvesting	
1.	Rain water harvesting pit should be at least 3 - 5 m. above the highest ground water table.
2.	Provision shall be made for oil and grease removal from surface runoff
Road and Traffic	
1.	Submit the details of road safety, signage, service roads, vehicular under passes, accident prone zone and the mitigation measures.

2.	IRC guidelines shall be followed for widening & upgradation of road.
3.	IRC guidelines to be followed for traffic safety while passing through the habitat.
4.	Provision of speed breakers, safety signals, service lanes and foot paths should be examined at appropriate locations throughout the proposed road to avoid the accidents.
5.	In case of bye passes, the details of access control from the nearby habitation/habitation which may come up after the establishment of road.
6.	Submit details of social impact assessment due to the proposed construction of road.
7.	Examine road design standards, safety equipment specifications and Management System training to ensure that design details take account of safety concerns and submit the traffic management plan.
8.	Accident data and geographic distribution should be reviewed and analyzed to predict and identify trends - in case of expansion of the existing highway and provide Post accident emergency assistance and medical care to accident victims.
9.	The proponent shall carry out a detailed traffic flow study to assess inflow of traffic from adjoining areas like airport/urban cities. The detailed traffic planning studies shall include complete design, drawings and traffic circulation plans (taking into consideration integration with proposed alignment and other state roads etc.). Wherever required, adequate connectivity in terms of VUP (vehicle underpass)/ PUP (Pedestrian underpass) needs to be included.

Land Acquisition and R&R

1.	Details of the properties, houses, businesses religious and social places etc. activities likely to be effected by land acquisition and their financial losses annually.
2.	Detailed R&R plan with data on the existing socio-economic status of the population in the study area and broad plan for resettlement of the displaced population, site for the resettlement colony, alternative livelihood concerns/employment and rehabilitation of the displaced people, civil and housing amenities being offered, etc and the schedule of the implementation of the project specific.
3.	whether governmental or on the basis of BOT etc and provide details of budget provisions (capital & recurring) for the project specific R&R Plan.
4.	Examine and submit the details of sand quarry, borrow area and rehabilitation
5.	If the proposed project involves any land reclamation, details to be provided for which activity land to reclaim and the area of land to be reclaimed.

Socio-Economic Environment

1.	The proponent shall carry out a comprehensive socio-economic assessment and also impact on biodiversity with emphasis on impact of ongoing land acquisition on the local people living around the proposed alignment. The Social Impact Assessment should have social indicators which can reflect on impact of acquisition on fertile land. The Social Impact Assessment shall take into consideration of key parameters like people's dependency on fertile agricultural land, socio-economic spectrum, impact of the project at local and regional levels.
2.	As per the Ministry's Office Memorandum F.No.22-65/2017-IA.III dated 30th September, 2020, the project proponent, based on the commitments made during the public hearing, shall include all the activities required to be taken to fulfil these commitments in the Environment Management Plan along with cost estimates of these activities in addition to the activities proposed as per recommendations of EIA Studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.

Environmental Monitoring and Management	
1.	Estimated cost of the project including environmental monitoring cost and funding agencies. Submit environmental management and monitoring plan for all phases of the project viz. construction and operation.
2.	The cost of the Project (capital cost and recurring cost) as well as the cost towards implementation of EMP should be clearly spelt out.
3.	Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure.
Alignment, ESZ & CRZ	
1.	In case of alignment passing through coastal zones
2.	HTL/LTL map prepared by authorized agencies superimposed with alignment and recommendation of Coastal Zone Management Authority
3.	Details of CRZ-I areas, mangroves required to be removed for the project along with the compensatory afforestation, area and location with budget
4.	Details of road on stilt in CRZ-I areas, design details to ensure free tidal flow
Employment	
1.	Details of Labour camps, machinery location.
Miscellaneous	
1.	The Action Plan on the compliance of the recommendations of the CAG as per Ministry's Circular No. J-11013/71/2016-IA. I (M), dated 25th October, 2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.

3.5. Agenda Item No 5:

3.5.1. Details of the proposal

Amendment in Environmental Clearance w.r.t. change in Land use pattern sector zones for development of Khushkhera Bhiwadi Neemrana Investment Region (KBNIR) in Rajasthan State by M/s RIDCO with no change in the total Industrial Complex area of 165.62 km² as per EC by RAJASTHAN INDUSTRIAL CORRIDORS DEVELOPMENT CORPORATION LIMITED located at ALWAR, RAJASTHAN			
Proposal For		Amendment in EC	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/RJ/INFRA1/46651/0/2024	21-18/2011-IA.III	19/03/2024	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (7(c))

3.5.2. Project Salient Features

Detailed land use		Area under original planning (of part land) as per EC Order	Area under revised planning (of part land)	Total area after revised planning for which EC amendment Sought
		Area in 558.95ha	Area in 558.95ha	Amended area(Ha)
Industrial			214.01	3018.01
Knowledge City		134.31	42.52	1136.21
Commercial		118.44	42.82	241.38
Residential		42.19	26.27	2301.08
Aabadi Development Area		13.52	13.52	1767
Facilities & Utilities (Recreational+Govt Office)*		158.65	127.43	69.78
Green				1103
NH& Green Buffer		8.68	8.68	601
Road (Transportation+Road)*		83.16	83.16	1186
Aabadi Area				815
Agriculture & Hi-Tech Agriculture				2840
Natural Conservation				689
River (Pond/Lake)*			0.54	794.54
Total		558.95	558.95	16562
S.no	Type of Industries	Category of Industries as per EIA notification, 2006		Category of Industries as per CPCB Classification
1	Automobiles and Ancillary: Manufacturing of Motor vehicles and other transport equipment	Not covered		Red
2	Electricals: Manufacturing of electrical consumer goods such as switches, fans, wires, etc.	Not covered		Orange

3(i)	Metals & Minerals; Manufacturing of metal products such as metal pipes, sheets, rod, etc by fabrication Units.	Not Covered	Red
(ii)	Metals & Minerals; foundries	3(a) Category A & B	Red
(iii)	Cement admixtures, tiles, stones, etc	Not covered	Orange
4	Rubbers & Plastics; Manufacturing of rubber & plastic products such as tyres, tubes, polymers, etc by moulding and extrusion etc	Not covered	Red
5	Chemicals: Manufacturing of chemical products thinner, paints, etc.	5(f), 5(a) & 5(b) Category A& B	Red
6	Medical Equipment's: Manufacturing of Medical Equipment and medicinal chemicals.	Not covered	Orange
7	Others		
a	Manufacturing of food & agro based products	Not covered	Orange
b	Manufacturing of wood & paper-based products	5(i)- Category B	Red
c	Manufacturing of Electronics	Not Covered	Orange
d	Manufacturing of machinery & equipment	Not Covered	Orange
e	Other small industries to support the industrial ecosystem like printing and packaging	Not covered	Orange

S.No	Description	Criteria	Area as per EC (sq.km)	Water Demand as per EC (in MLD)	Area after proposed amendment (sqkm)	Revised water demand as per proposed amendment (in MLD)

	Industrial Portable	45 lpcd	28	3.80	29.29	3.98
	Industrial Process	45 kld/ha/day	28	126.05	29.29	131.86
	Residential		23	123.82	20.48	110.25
	Commercial		3.20	4.87	3.16	4.81
	Institution	45 lpcd	12.30	28.03	11.4	25.98
	Abadi Development Area		17.60	60.76	13.47	46.50
	Unaccounted for Water			52.10		48.50
				399.43		371.88

3.5.3. Deliberations by the committee in previous meetings

N/A

3.5.4. Deliberations by the EAC in current meetings

3.5.5. Recommendation of EAC

Recommended

3.5.6. Details of Environment Conditions

3.5.6.1. Specific

Specific Conditions	
1.	

3.6. Agenda Item No 6:

3.6.1. Details of the proposal

Widening and Improvement of existing 2-lane to 4/6 lane with paved shoulders from existing km 124.488 (Ch: 12+200) to existing km 223.860 (Ch: 214+535) of Kushalnagar to Mysore section of NH-275 in the state of Karnataka (Total length-92.335km) by National Highways Authority of India located at MYSURU,KARNATAKA

Proposal For		Fresh EC	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/KA/INFRA1/464856/2024	10/21/2022-IA.III	07/03/2024	Road (7(f))

3.6.2. Project Salient Features

	Venue	District and State	Chaired by
20/12/2023	Sri AnjaneyaSwamy Community Bhavan, Belagola Village, SrirangapatnaTaluk	Mandya District, Karnataka	Deputy Commissioner
13.12.2023	Guddehosuru Gram PanchayatSamudayaBhavana, Guddehosuru Village, Kushalnagar Taluk, ,	Kodagu District, Karnataka	Assistant Commissioner
21.12.2023	Dr.B.R. AmbedkarBhavana, Hunsur	Mysuru District, Karnataka	Additional Deputy Commissioner
3.6.2.1 Deliberations by the committee in previous meetings	Waste Land	9.82	1.70
	Forest	55.64	9.64
	Agriculture Land	493.12	85.4
	Built-Up	7.51	1.30
	Water body	5.16	0.89
	Road & Rail	6.17	1.07
	Total Area (ha.)	577.42	100.00

the committee in previous meetings

Date of EAC 1 :21/03/2024
Deliberations of EAC 1 :

3.6.4. Deliberations by the EAC in current meetings

3.6.5. Recommendation of EAC

Recommended

3.6.6. Details of Environment Conditions**3.6.6.1. Specific**

Specific Conditions	
1.	

3.6.6.2. Standard

7(f)	Road
null	
1.	Cut and fill works shall be carried out strictly in accordance with the design drawings proposed at the time of appraisal of the project.
2.	Sidewalk shall be provided along the bridges.
3.	The drain shall be at least 1m away from the toe of the embankment of the road adopting IRC guidelines. Longitudinal drains shall be provided all along the project road to ensure proper drainage of the area. In addition, adequate number of under passes and culverts to act as cross drainage structures shall also be provided.
4.	Blasting shall be carried out during fixed hours (preferably during mid-day) or as permitted by the concerned authority. The timing shall be made known to all the people within 1000m (200m for pre-splitting) from the blasting site in all directions.
5.	Rain water harvesting including oil and grease trap shall be provided as prescribed by CGWB guidelines. Water harvesting structures shall be located at every 500m along the road. Vertical drain type rainwater harvesting structures shall be set up to minimize surface runoff losses of rainwater.
6.	The embankments/slopes and the slopes left after cutting shall be provided with vegetative growth to avoid soil erosion.
7.	Construction spoils including bituminous material and other hazardous materials must not be allowed to contaminate water courses and the dump sites for such materials must be secured so that they shall not leach into the ground water. The non-usable bitumen spoils shall be disposed off in a deep trench providing clay lining at the bottom and filled with soil at the top (for at least 0.5m)
8.	Construction camps shall be proposed 500 m away from the nearest settlements to avoid conflicts and stress over the infrastructure facilities with the local community. Location for stockyards for construction materials shall be identified at least 1000m from water sources. Garbage tanks and sanitation facilities will be provided at camps.
Compliance Reporting	
1.	The project proponent shall submit online six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change and also upload the same, including results of monitored data, on their company website.

2.	For compliance of conditions during operation phase, PP shall either itself undertake the responsibility of compliance or ensure setting up institutional mechanism for compliance of conditions under intimation on the website of the Ministry of Environment, Forest and Climate Change.
3.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
4.	The Ministry reserves the right to stipulate additional conditions, if found necessary.
5.	Beside fulfilling obligations under Corporate Social Responsibilities as per Company's Act, 2013, the proponent has to adhere to the followings Environment Responsibilities: i.The Company shall have a well laid down Environment Policy approved by the Board of Directors. ii.The Environment Policy shall prescribe for standard operating process/ procedures to bring into focus any infringements/ deviation/violation of the environmental or forest norms/ conditions. iii.The hierarchical system or Administrative Order of the company to deal with environmental issues and for ensuring compliance with the environmental clearance conditions shall be furnished. iv.To have proper checks and balances, the company shall have a well laid down system of reporting of non-compliances/ violations of environmental norms to the Board of Directors of the company and/or shareholders or stakeholders at large.
Note	
1.	The above conditions shall be enforced in a time bound manner
2.	The Environmental Clearance to the aforementioned project is under provisions of EIA Notification, 2006. 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.
3.	The PP is under obligation to implement commitments made in the to the issues raised during public hearing Conceptual Plan/ Environment Management Plan, which forms the part of this EC.
4.	Further attention of project proponent is drawn towards the following Acts/ Regulations/ Statutes/ Guidelines issued from time to time: (a)All the Indian Road Congress (IRC) guidelines wherever applicable may be followed. (b)Provisions related to tree cutting as contained in the Forest (Conservation) Act, 1980 and related rules of the respective state. (c)Dust Mitigation Measures stipulated for Construction and Demolition Activities as provided in the amendment Notification GSR 94(E) dated 25.01.2018 of MoEF&CC. (d)Provisions for use of Fly ash as building material in the construction as per stipulated under Fly Ash Notification of September, 1999 and amended as on 27th August, 2003 and 25th January, 2016. (e)Provisions for management of construction and demolition activities related thereto as contained in Construction and Demolition Waste Management Rules, 2016.
General Instructions (Part A)	
1.	Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources.
2.	The proponent shall obtain permission from the competent authorities for tree felling along the proposed alignment.
3.	As per MoEF&CC's circular no. J-11013/41/2006-IA.II (I) dated 22.09.2008, provision shall be made for supply of kerosene or cooking gas and pressure cooker to the labourers, mobile toilets, mobile STP, safe drinking water, medical health care, Crèche and temporary structures for living during construction phase.
4.	The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to MoEF&CC and its concerned Regional Office.
General Instructions (Part B)	

1.	The project proponent shall prominently advertise it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days indicating that the project has been accorded environment clearance and the details of MoEF&CC/SEIAA website where it is displayed.
2.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
3.	The project proponent shall have a well laid down environmental policy duly approved by the Board of Directors (in case of Company) or competent authority, duly prescribing standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest / wildlife norms / conditions.
4.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the project proponent (during construction phase) and authorized entity mandated with compliance of conditions (during operational phase) shall be prepared. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Six monthly progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six-Monthly Compliance Report.
5.	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
6.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
Specific Conditions	
1.	Continuous online (24x7) monitoring system for stack emissions shall be installed for measurement of flue gas discharge and the pollutants concentration, and the data to be transmitted to the CPCB and SPCB server. In case of the treated effluent to be utilized for irrigation/gardening, real time monitoring system shall be installed at the ETP outlet.

4. Any Other Item(s)

4.1.1. Details of the proposal

Project Name :Four laning of NH-163 from Hyderabad [ORR near Appa Junction at design Km.14+000 (existing Km.14+000)] to Manneguda [design Km.60+405 (existing Km.59+500)] in the State of Telangana under NH(O) o n Hybrid Annuity Mode by M/s National Highway Authority of India located at N/A,N/A,N/A		
Proposal For		N/A
Proposal No	File No	
IA/TG/INFRA1/457022/2024	10/78/2023-IA.III	

4.1.2. Project Salient Features

3.13.1. The above mentioned proposal is for 'widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Rangareddy district of Telangana State. Total length of the project is 46.4 km. The

alignment start at 17°20'56.61"N 78°21'29.30"E and ends at longitudes of 17°17'53.21"N 77°59'30.74"E.

3.13.2. The Hon'ble National Green Tribunal vide Judgment dated 6th November, 2023 in the matter of Balantrapu Vs. Union of India and NHAI 6th November, 2023 in Original Application No.242 of 2021(SZ) I.A. Nos.17 & 75 of 2023 (SZ) directed as following:

(i) The NHAI (Respondent No.2) is directed to undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.

(ii) The MoEF&CC (Respondent No.1) is directed to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months' time.

3.13.3. Accordingly, M/s NHAI on 02/01/2024 submitted the online application on PARIVESH Portal. The proposal was placed in the 353rd EAC meeting held on 10th & 12th January, 2024 and as directed by the Hon'ble NGT, the ToR was granted by the Ministry on 17/02/2024 along with the Public Consultation.

3.13.4. Further to the grant of ToR along with a specific condition to conduct public hearing, a representation dated 22.04.2024 has been received from the NHAI mentioning that the Hon'ble National Green Tribunal vide its Judgment dated 6th November, 2023 directed the NHAI to undertake only Environmental Impact Assessment (EIA) Study specific to minimize the loss to the trees before proceeding further. NGT further directed MoEF&CC to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months' time. It has been mentioned by the NHAI that the present proposal, as such, does not fall under the ambit of EIA Notification, 2006, however, it is because of the directions of NGT, an application has been made requesting the Ministry to grant ToR specific to the undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.

3.13.5. In view of the above judgment, NHAI requested the Ministry to exempt the conduct of Public Hearing, since the project does not fall under the ambit of EIA Notification, 2006 and also there is no additional acquisition of land envisaged for the project and the project shall be completed within the same ROW.

3.13.6. The EAC also went through the site visit report of the subcommittee constituted by the EAC for the purpose of making suggestions to PP for minimizing the loss of trees and was of the view that recommendations made by the subcommittee will help in minimizing the loss of trees and in saving considerable number of heritage trees especially of old Banyan trees.

4.1.3. Deliberations by the EAC in current meetings

3.13.1. The EAC, taking into account the submission made by the project proponent has a detailed deliberation in its 363rd meeting on 26th-27th April, 2024 and accepted the request made by NHAI and exempted the conduct of Public Hearing for the project with an advice to include the recommendations of the subcommittee submitted in its site visit report as additional terms of reference (Report Annexed) for conducting EIA.

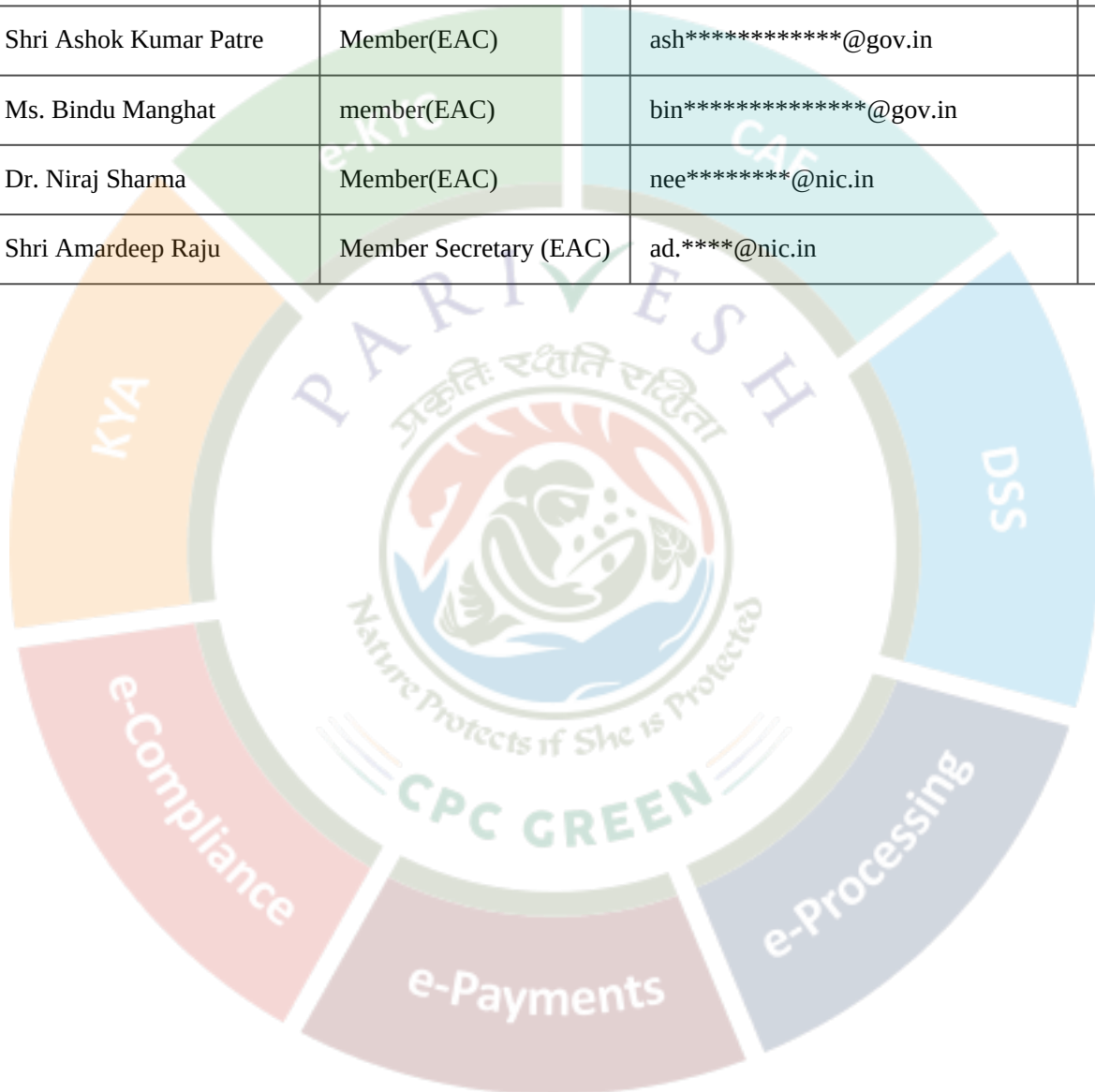
4.1.4. Recommendation of EAC

Recommended

5. List of Attendees

Sr. No.	Name	Designation	Email ID	Remarks
1	Shri Manmohan Singh Negi	Chairman(EAC)	neg*****@hotmail.com	
2	Shri S.Jeyakrishnan	Member(EAC)	suk*****@gmail.com	
3	Prof.V.K.Jain	Member(EAC)	drv*****@hotmail.com	

4	Dr. Jaya Kumar Seelam	Member(EAC)	see*****@gmail.com	
5	Dr. P.K.Dinesh Kumar	Member(EAC)	pkd*****@gmail.com	
6	Shri PrakashTewari	Member(EAC)	pra*****@gmail.com	
7	Dr. M.V. Ramana Murthy	Member(EAC)	ram*****@gmail.com	
8	Dr B Kishore	Member(EAC)	kis*****@gmail.com	
9	Shri Sharandeep Singh	Member(EAC)	sha*****@nic.in	Absent
10	Shri Ashok Kumar Patre	Member(EAC)	ash*****@gov.in	Absent
11	Ms. Bindu Manghat	member(EAC)	bin*****@gov.in	Absent
12	Dr. Niraj Sharma	Member(EAC)	nee*****@nic.in	
13	Shri Amardeep Raju	Member Secretary (EAC)	ad.*****@nic.in	



Minutes of the 363rd meeting of Expert Appraisal Committee held on 25th-26th April, 2024 at Narmada Conference Hall, Ground Floor, Jal Wing, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bhag Road, New Delhi 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, Harbors, Breakwaters, Dredging 7(e) and National Highways 7(f).

The 363rd Meeting of Expert Appraisal Committee (EAC) of Infra-1(IA-III) at Narmada Conference Hall, Ground Floor, Jal Wing, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bhag Road, New Delhi held on 25th-26th April, 2024 under the Chairmanship of Shri. Manmohan Singh Negi. The list of participants is annexed as Annexure-A. Site visit report for M/s. Shree Digvijay Cement Company Limited is enclosed as Annexure B.

1. OPENING REMARKS OF THE CHAIRMAN.

At the outset, Shri. Manmohan Singh Negi, 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 360th EAC meeting held on 21st March, 2024.

3. AGENDA WISE CONSIDERATION OF PROPOSALS

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

Agenda Sr. No.3.1

Subject: Expansion of Existing Lighterage Jetty to Increase Capacity of Cargo Mix from 0.56 Million Tonnes Per Annum to 5.00 Million Tonnes Per Annum at P.O.: Digvijaygram, Sikka-361140, District: Jamnagar (Gujarat) by M/s. Shree Digvijay Cement Company Limited.-Terms of Reference-Reg.

Proposal no: IA/GJ/INFRA1/438303/2023; File No. 10/59/2023- IA.III.

The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.¶

3.3.1 The above mentioned proposals was placed before the EAC in its 338th meeting of Expert Appraisal Committee held on 24th August, 2023 and the EAC deferred the proposal for want of requisite documents/information.

- i. Expansion of Existing Lighterage Jetty to increase capacity of cargo mix from 0.56 million tonnes per annum to 5.00 million tonnes per annum and also proposed in other project that M/s SDCCL is now in the process of enhancing its cement plant capacity and is desirous of handling additional cargo. SDCCL envisages to increase cargo handling rate of the existing berth at Old deep water Jetty to the capacity of approximately 4.00 MTPA using existing old piles.
- ii. Coal will be main cargo (2 MMTPA) besides other cargo such as Cement, Clinker, Gypsum, Limestone, Pet coke, Fly ash, Bauxite, Sandstone, Iron Ore, Sulphur, Fertilizer, Soda ash, Containers, Refractory Bricks, Bentonite, Alternate Fuels & Raw materials (AFR) and other bulk materials.
- iii. EAC observed that the proposal aims to use both mechanical as well as lighterage operations. Committee was concerned about the increased pollution risks in several manners and especially considering that the boundary of Marine National Park and Sanctuary is in a very close proximity of the proposed project. Therefore, it has been decided that a EAC sub-committee will visit the site before grant of the ToR.
- iv. EAC also advised to evaluate feasibility of more modern operation technology instead of lighterage operations for such a large capacity enhancement.

3.3.2 A site visit by the Sub-committee was conducted on 17th-19th March, 2024 for the proposed project. The Site visit report of the Sub-Committee was presented before the EAC in the 360th EAC Meeting Held on 21st March, 2024. The EAC Approved the Sub-Committee report. At this instance, the aforementioned proposal was placed before the EAC during its 363rd meeting of Expert Appraisal Committee held on 25th-26th April, 2024, The EAC, taking into account the submission made by the project proponent and the recommendations of the subcommittee had a detailed deliberation in its 363th meeting during 25th-26th April, 2024 and recommended the proposal for grant of Terms of References as per following specific conditions (including the recommendations made by the EAC-Sub-committee - Report annexed) in addition to the general standard conditions.

- i. The committee noticed that the Marine National Park & Sanctuary (MNPS) Jamnagar is located approximately 3 km away from the project site. In view of the existence of marine national park, a study on impact of dredging and dumping on marine ecology is suggested along with a management plan in consultation with management authority of MNPS/ forest department.
- ii. The Committee also advised to conduct a cumulative impact assessment on pollution load, by taking into consideration of both projects, including spillage during

transshipment, loading/unloading operations at both jetties. A suitable material handling system to be designed to minimise pollution.

- iii. The health assessment of existing jetties to be made and replaced with new open sea jetty and strengthening of old road and jetty.
- iv. PP shall prepare a separate mangrove conservation plan in consultation with the state forest department for the areas including the restoration of degraded mangrove areas identified in the CRZ and implement it at the project cost. The Plan shall be submitted to IRO of MoEFCC for monitoring of its implementation
- v. As committed during discussion in site visit, approach road for existing lighterage Jetty shall be strengthened. In the layout plan/conceptual plan the road shall be clearly demarked with dimensions.
- vi. Revamping and development of existing berth, inter alia include new piling followed by construction of berth. The same shall be clearly mentioned in the project description of EIA/EMP along with the components which shall be part project including dismantling of old piles and structures.
- vii. The details of cargo handling and its quantity shall be included in the EIA/EMP report.
- viii. The storage area shall be outside the CRZ area.
- ix. The Committee also observed during the presentation that the storage area is included in the proposed Greenbelt Area, therefore, the committee advised that, the land allotted for the greenbelt and storage shall be drawn separately and same shall be demarcated in the layout plan/conceptual plan.
- x. Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scale.
- xi. Recommendation of the Gujarat CZMA shall be obtained and submitted.
- xii. Submit superimposing of latest CZMP as per CRZ (2011) on the CRZ map.
- xiii. Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011.
- xiv. Location of the dredge material, if any will be disposed shall be indicate in the KML file and the layout maps overlay on the approved CZMP map shall be submitted and site suitability study shall be conducted.
- xv. Hydrodynamics study on impact of dredging on flow characteristics shall be carried out.

- xvi. Study the impact of dredging and dumping on marine ecology and draw up a management plan through the NIO or any other institute specializing in marine ecology.
- xvii. Erosion and accretion study at the mouth of the creek which is adjacent to the proposed site be carried out and submitted.
- xviii. A detailed study on the impact of proposed activity on marine ecology and marine biodiversity with specific focus on the corals, mangroves and mud flats in the proximity of the site should be conducted and required mitigation plan be submitted by a nationally reputed institute.
- xix. A management plan for the area under which mangroves are or likely to be removed and compensatory mangrove plantation plan be submitted.
- xx. The types of Cargos proposed to be handled at the port shall be submitted product wise and quantity wise.
- xxi. The impacts study on the hazardous materials handling and storage in worst case scenario shall be submitted along with the EIA/EMP report.
- xxii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).
- xxiii. Disaster Management Plan for the project shall be prepared and submitted.
- xxiv. Risk analysis and its management plan for handling different types of liquid cargos (if handling) shall be conducted and submitted.
- xxv. Detailed modelling studies to understand whether the selected site can withstand severe cyclones and develop design in accordance to due safety measures.
- xxvi. Details and status of court case pending against the project, if any.
- xxvii. A tabular chart with index for point-wise compliance of above ToRs. The specific ToRs as recommended above are in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006.
- xxviii. 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 Studies and the same shall be submitted to the ministry as part

of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.

- xxix. 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 are fulfilled and submit it to the Ministry and the EAC.

Agenda Sr. No.3.2

Subject: Revamping of old Jetty and strengthening and development of the existing berth for bulk cargo through direct berthing facilities for handling capacity of 4.00 Million Tonnes per annum, located at P.O.: Digvijaygram, Sikka-361140, District: Jamnagar (Gujarat) by M/s. Shree Digvijay Cement Company Limited- Terms of Reference-Reg.

Proposal No: IA/GJ/INFRA1/438395/2023; File No. 10/57/2023-IA.III.

—The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent. ||

3.3.1 The above mentioned proposals was placed before the EAC in its 338th meeting of Expert Appraisal Committee held on 24th August, 2023 and the EAC deferred the proposal for want of requisite documents/information.

- i. Expansion of Existing Lighterage Jetty to increase capacity of cargo mix from 0.56 million tonnes per annum to 5.00 million tonnes per annum and also proposed in other project that M/s SDCCCL is now in the process of enhancing its cement plant capacity and is desirous of handling third party cargoes. SDCCCL envisages to increase cargo handling rate of the existing berth at Old deep water Jetty to the capacity of approximately 4.00 MTPA using existing old piles.
- ii. Coal will be main cargo (2 MMTPA) besides other cargo such as Cement, Clinker, Gypsum, Limestone, Pet coke, Fly ash, Bauxite, Sandstone, Iron Ore, Sulphur, Fertilizer, Soda ash, Containers, Refractory Bricks, Bentonite, Alternate Fuels & Raw materials (AFR) and Other bulk materials.
- iii. EAC observed that the proposal aims to use both mechanical as well as lighterage operations. Committee was concerned about the increased pollution risks in several manners and especially considering that the boundary of Marine National Park and Sanctuary in a very close proximity of the proposed project. Therefore it has been decided that a EAC sub-committee will visit the site before grant of the ToR.
- iv. EAC also could not understand the logic of handling less cargo i.e. 4 MMTPA on more

modern and mechanical operation facilities as proposed at this facility than proposed expansion of existing lighterage jetty of 5 MMTPA as per agenda item 3.5.

- v. The Sub-committee will evaluate the cumulative impact of agenda item no. 3.5 and 3.6 considering that these are inter-dependent projects.
- vi. Committee also noted that EIA-EMP should be done in a cumulative fashion considering that both projects are inter-linked and are in very close proximity.

3.3.2 PP mentioned that, a site visit by the Sub-committee was conducted on 17th -19th March, 2024 for the proposed project. The Site visit report of the Sub-Committee was presented before the EAC in the 360th EAC Meeting Held on 21st March, 2024. The EAC Approved the Sub-Committee report. At this instance, the aforementioned proposal was placed before the EAC during its 363rd meeting of Expert Appraisal Committee held on 25th -26th April, 2024.

3.3.3 The EAC, taking into account the submission made by the project proponent had a detailed deliberation in its 363th meeting during 25th-26th April, 2024 and **recommended** the proposal for grant of Terms of References as per following specific conditions (including the recommendations of the Sub- committee) in addition to the standard conditions.

- i. The committee noticed that the Marine National Park & Sanctuary (MNPS) Jamnagar is located approximately 3 km away from the project site. In view of the existence of marine national park, a study on impact of dredging and dumping on marine ecology is suggested along with a management plan in consultation with forest department/management authority of MNPS.
- ii. The Committee also advised to conduct a cumulative impact assessment on pollution load, by taking into consideration of both projects, including spillage during transshipment, loading/unloading operations at both jetties. A suitable material handling system to be designed to minimise pollution.
- iii. The health assessment of existing jetties to be made and replaced with new open sea jetty and strengthening of old road and jetty.
- iv. PP shall prepare a separate mangrove conservation plan in consultation with the state forest department for the areas including the restoration of degraded mangrove areas identified in the CRZ and implement it at the project cost. The Plan shall be submitted to IRO of MoEFCC for monitoring of its implementation.
- v. As committed during discussion in site visit, approach road for existing lighterage Jetty shall be strengthened. In the layout plan/conceptual plan the road shall be clearly demarked with dimensions.

- vi. Revamping and development of existing berth, inter alia include new piling followed by construction of berth. The same shall be clearly mentioned in the project description of EIA/EMP along with the components which shall be part project including dismantling of old piles and structures.
- vii. The details of cargo handling and its quantity shall be included in the EIA/EMP report.
- viii. The storage area shall be outside the CRZ area.
- ix. The Committee also observed that during the presentation it was mentioned that the Storage area including in the proposed Greenbelt Area however, the committee advised that, the land allotted for the greenbelt and storage shall be drawn separately and same shall be demarcated in the layout plan/conceptual plan.
- x. Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scale.
- xi. Recommendation of the Gujarat CZMA shall be obtained and submitted.
- xii. Submit superimposing of latest CZMP as per CRZ (2011) on the CRZ map.
- xiii. Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011.
- xiv. Location of the dredge material, if any will be disposed shall be indicate in the KML file and the layout maps overlay on the approved CZMP map shall be submitted and site suitability study shall be conducted.
- xv. Hydrodynamics study on impact of dredging on flow characteristics shall be carried out.
- xvi. Study the impact of dredging and dumping on marine ecology and draw up a management plan through the NIO or any other institute specializing in marine ecology.
- xvii. Erosion and accretion study at the mouth of the creek which is adjacent to the proposed site be carried out and submitted.
- xviii. A detailed study on the impact of proposed activity on marine ecology and marine biodiversity with specific focus on the corals, mangroves and mud flats in the proximity of the site should be conducted and required mitigation plan be submitted by a nationally reputed institute.
- xix. A management plan for the area under which mangroves are or likely to be removed and compensatory mangrove plantation plan be submitted.

- xx. The types of Cargos proposed to be handled at the port shall be submitted product wise and quantity wise.
- xxi. The impacts study on the hazardous materials handling and storage in worst case scenario shall be submitted along with the EIA/EMP report.
- xxii. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).
- xxiii. Disaster Management Plan for the project shall be prepared and submitted.
- xxiv. Risk analysis and its management plan for handling different types of liquid cargos (if handling) shall be conducted and submitted.
- xxv. Detailed modelling studies to understand whether the selected site can withstand severe cyclones and develop design in accordance to due safety measures.
- xxvi. Details and status of court case pending against the project, if any.
- xxvii. A tabular chart with index for point-wise compliance of above ToRs. The specific ToRs as recommended above are in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006.
- xxviii. 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 Studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.
- xxix. 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 are fulfilled and submit it to the Ministry and the EAC.

Agenda Sr. No. 3.3

Subject: Development of Harohalli – 5th Phase Industrial Area Over an extent of 369.19 Ha (912.31 Acres) at Villages: Kanchagaranahalli & Kanchagaranhalli Kaval Village, Bidadi Hobli and Mudelahalli & Yerehalli Village, Harohalli Hobli, Taluk: Kanakapura, District: Ramanagara, State: Karnataka M/s Karnataka Industrial Areas Development Board- Environmental Clearance reg.

Proposal No: IA/KA/INFRA1/450902/2023 File No:10/39/2022-IA.III.

—The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.¶

3.3.1. The above mentioned proposal was earlier considered by 347th meeting of Expert Appraisal Committee held on 28th November, 2023 and 358th meeting of Expert Appraisal Committee held on 27th February, 2024. The proposal was deferred for want of requisite information/documents. At this instance, the aforementioned proposal was placed before the EAC during its 363rd meeting of Expert Appraisal Committee held on 25th-26th April, 2024. The project proponent and EIA consultant M/s Hubert Enviro Care Systems (P) Limited, Chennai made presentation in the Ministry and submitted the following:

S. no	Query raised during 358 th EAC meeting held on 16.03.2024	Reply submitted in the 360 th Expert appraisal Committee meeting held on 25 th -26 th April, 2024.
1.	NOC from the Karnataka forest department stating that the project site does not involve any forest land.	KIADB has submitted the No Objection Certificate (NOC) vide No.A5/bhoomi/Abhipraya/CR-135/2023-24/1988 dated 07.03.2024 from the Deputy Conservator of Forests stating that as per the site verification report the KIADB proposed Harohalli 5 th Phase of Kanchugarnahlli & Kanchuganhalli Kaval village Bidadi Hobli Ramnagar District & Yarehalli Mudenhalli Village, Harohalli Hobli, kanakapura Taluk, Ramnagar District does not falling under any reserve forest, protected forest and Declared Forest, Dominance forest under Section 4.
2.	Considering the proximity of the project to the Bannerghatta National Park Wildlife conservation plan, as prescribed the Specific TOR-I stating that ‘Detailed biodiversity studies be undertaken by a reputed institute or university of academic institution’, shall be prepared in consultation with the CWLW/FD of the	Department of Wildlife and Management, Kuvempu University carried out the detailed biodiversity study in consultation with CWLW/FD of the Bannerghatta National Park and as per the study the following 15 schedule-I species are identified (i) Sloth Bear, (ii) Shikra, (iii) Bonelli’s Eagle, (iv) Black-winged kite, (v) Brahminy Kite, (vi) Black Eagle, (vii) Rufous-bellied Eagle, (viii) Black kite, Changeable Hawk Eagle, (ix) Oriental Honey Buzzard, (x) Shaheen Falcon, (xi) Indian peafowl, (xii) Common Crow, (xiii) Plain tiger, (xiv) Jezebel, (xv) Common Silver line based on the identified species made a conservation strategies and

	Bannerghatta National Park.	recommendations for schedule-I species with the budget of INR 72.39 Lakhs is earmarked for Wildlife Conservation and its Management. Accordingly, KIADB will allocate INR 72.39 Lakhs in addition to the EMP for Wildlife Conservation and Management. Biodiversity study report is annexed in the ADS reply at Annexure-II

3.3.2. The EAC, after examining the documents submitted by the project proponent and detailed deliberations in its 363rd meeting held on 25th-26th April, 2024 **recommended** the proposal for Environmental Clearance with the specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects.

- i. The Environmental Clearance to the project is primarily under provisions of EIA Notification, 2006. 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.
- iv. Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- v. The proponent has to comply with the Ministry's OM no. J-11011/321/2016-IA.II(I), dated 27.04.2018 which made it mandatory for certain type of industries to conduct public hearing irrespective of their location within Industrial Area or outside the industrial area.
- vi. The proposed individual units need to take Environmental Clearance separately as per the applicability of the schedule of EIA Notification, 2006.
- vii. The ecological and biodiversity conservation study conducted by the Kuvempu University, PP shall get approval/recommendations of the concern state forest department and all commitments made in the biodiversity Management & Conservation Plan shall be implemented in letter and spirit. The status of implementation of Wildlife Management & Conservation Plan shall be submitted to the Regional Office of the Ministry along with 6 monthly compliance report.
- xi. As proposed Proponent shall install the Zero Liquid Discharge System (ZLD). The Industrial complex shall achieve Zero Liquid Discharge and to achieve the Zero Liquid Discharge, waste water generated from various industrial operations shall be properly collected, treated to the prescribed standards and then recycled or reused for the identified uses.

- xii. As proposed by the KIADB Green belt over 82.001 Ha (22.2% of total area) out of 369.19 ha of the total area industrial estate shall be developed by the KIADB and rest of 39.87 Ha (10.8% of total area) shall be developed by individual industries to achieve total overall green space of the 33%. Open Spaces and lawns shall not be taken into account for the purpose of area of the green belt.
 - a. 15m wide multi-layered green belt of indigenous native species shall be developed along the periphery of the project site. .
 - b. At least 50 meter wide multilayered green belt shall be created and maintained around the Suvernmukhi Reservoir.
 - c. At least 20-meter-wide green belt shall be maintained around the tank/pond present within the project side
- xiii. The company shall construct a garland drain all around the industrial estate and also around the Suvernmukhi Reservoir as well as around the tank/pond within the project boundary to prevent runoff of any contaminants/ waste into the Swater bodies. Effluent shall be properly treated and treated wastewater shall conform to CPCB standards.
- xiv. Processed effluents/any wastewater shall not be allowed to mix with storm water, storm water drain shall be provided on tank farm, and solvent transfer through pumps.
- xv. Garland drains and collection pits of adequate capacity shall be provided for each stock pile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface run off.
- xvi. Rain water harvesting for roof run-off and surface run-off, should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.
- xvii. Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water. Treated affluent emanating from STP shall be recycled/reused to the maximum extent possible. Treatment of 100% grey water by decentralized treatment should be done.
- xviii. Storm water control and its re-use as per CGWB and BIS standards for various applications.
- xix. The industrial unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Firefighting system shall be as per the norms.
- xiii. Training shall be imparted to all employees on safety and health aspects of Chemicals handling.

- xiv. The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM₁₀ and PM_{2.5} in reference to PM emission, and SO₂ and NO_x in reference to SO₂ and NO_x emissions) within and outside the industrial estate at least at four locations (one within and three outside the port area at an angle of 120° each), covering upwind and downwind directions.
- xv. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed fugitive emission standards.
- xvi. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
- xvii. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high level of particulate matter such as around loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- xviii. Spillage of fuel/engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
- xix. Necessary approvals be taken during implementation and commissioning from statutory bodies concerned.
- xx. All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.
- xxi. All the mitigation measures to reduce pollution as mentioned in EIA/EMP report shall be implemented in toto.
- xxii. Ground water abstraction shall be as prescribed by the CGWA. A clearance/permission of the CGWA shall be obtained in this regard.
- xxiii. Sufficient number of Piezometer wells shall be installed in and around the project site to monitor the ground water quality in consultation with the State Pollution Control Board / CPCB. Trend analysis of ground water quality shall be carried out each season and information shall be submitted to the SPCB and the Regional Office of MoEF&CC.
- xxiv. All the recommendation of the EMP shall be complied with in letter and spirit. 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 RO, MoEF&CC along with half yearly compliance report.

- xxv. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
- xxvi. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.
- xxvii. Any hazardous waste generated during development/ construction phase, should be disposed off as per applicable rules and norms with necessary approvals of the Karnataka State Pollution Control Board.
- xxviii. The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of firefighting equipment's, etc. as per National Building Code including protection measures from lightening etc.
- xxix. All the topsoil excavated during development/ construction activities should be stored for use in horticulture/landscape development within the project site.
- xxx. Disposal of muck during development/ construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority
- xxxi. Detailed plan of expenditure with implementation schedule to address issues raised during Public Hearing shall be prepared and submitted to the Regional Office of this Ministry within three months. The proponent shall adhere the strict compliance of above plan to utilize funds as per schedule.
- xxxii. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Aforestation etc, either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.

Agenda Sr. No.3.4

Subject: The proposal is for Development of Gowribidanuru Phase III Industrial Area has an area of 333.89 Ha (825.07 acres) located at Gowdasandra and Doddakurugodu Villages, KasabaHobli, GowribidanuruTaluk, Chikkaballapura District, Karnataka by M/s Karnataka Industrial Areas Development Board-Environmental Clearance reg.

Proposal No:IA/KA/INFRA1/461140/2024; File No:10/13/2023-IA.III.

—The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.¶

3.4.1 The aforementioned proposal was placed before the EAC during its 363rd meeting of Expert Appraisal Committee held on 25th-26thApril, 2024. The project proponent and EIA consultant M/s Aditya Environmental Service Pvt.Ltd, made presentation in the Ministry and submitted the following:

3.4.2 The proposed project is for _Development of Gowribidanuru Phase III Industrial Area has an area of 333.89 Ha (825.07 acres) and is located at Gowdasandra and Doddakurugodu Villages, Kasaba Hobli, Gowribidanuru Taluk, Chikkaballapura District, Karnataka by M/s Karnataka Industrial Areas Development Board‘.

3.4.3 The proposed project falls under 7(c), Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Category A. Total project cost is Rs. 492 cr.

3.4.4 Terms of References (ToR) details: The ToR proposal was considered in the 322ndEAC meeting held on 22ndMarch 2023, the committee recommended for grant of the ToR, Ministry granted the ToR vide letter No. 10/13/2023-1A.III dated 9th May, 2023.

3.4.5 Public Hearing Details: Public hearing was conducted on 12thDecember 2023 at Doddakurugodu, Gauribidanur Tehsil, Chikkaballapura, Karnataka presided by the Deputy Commissioner.

3.4.6 Landuse/Landcover of project site:

S.No.	Landuse/Landcover	Area (Ha)	Percentage (%)
1	Barren Rocky	114.7	34.75
2	Residential/Commercial	5.10	1.55
3	Industrial	1.37	0.42
4	Crop Land	200.60	60.83

5	Waterbody	8.18	2.48
Total		330.00	100.00

3.4.7 List to industries to be housed with the proposed project site, only for projects covered under 7(c) category of EIA Notification, 2006:

1. Engineering
 - A. Secondary Metallurgical units: Covered under EIA Notification under Category 3(a) (Rolling Mills, Induction furnaces, Electric arc furnaces, Open hearth, Forging, Foundry, Blast furnace)
 - B. Not covered under EIA Notification:
 - a. Surface Treatment (Plating, Pickling, Galvanizing)
 - b. Automobile/ bicycle/ locomotive manufacturing
 - c. Fabrication of various types, Utensils/furniture making
 - d. Engineering, Electrical and Electronic manufacturing
2. Pharmaceutical and Formulations (Not covered under EIA Notification)
 - a. Formulations
 - b. Biotech industries
 - c. Ayurvedic products manufacturing
 - d. Non – API and non-intermediates manufacturing
3. Food(Not covered under EIA Notification)
 - a. Agro processing, Dairy and Dairy processing, Fish processing,
 - b. Fish feed, Poultry feed, Cattle feed,
 - c. Dal mills, Rice mills, Poha mills, Salt mills,
 - d. Alcoholic and non-alcoholic beverages, Tobacco products, Vegetable oils,
 - e. Manufacture of edible products – starch, sugar, tea/coffee processing, cashew, ground nut and others,
 - f. Flour mills, Grain mills, Cereals, Bakery and confectionary products,
 - g. Processed food/packaged food industry, Mineral water etc.

Industries to be setup in the red/orange/green/white category as per CPCB classification.

3.4.8 Terrain and topographical features: The project site is a huge area and the topography of the land has gradual slope towards north direction without undulation, contour varies from 665 m to 690 m.

3.4.9 Details of water bodies, impact on drainage: There are no water bodies on site. The area falls under the watershed of Pennar river and few tertiary streams pass through the site meeting the Pennar river to the Southwest. Storm water drainage will be provided by KIADB for the entire layout. The storm water drainage arrangement within the individual plots will be provided by individual industry owners and same will be approved by the KIADB. Invert levels provided by KIADB will be maintained by plot owners at the entry and exit points of the storm water drains. Thus, there will be no change in natural drainage pattern.

3.4.10 Water requirements: During construction phase 0.1MLD water is required, treated water from 10 MLD CETP of Phase-1 & 2 will be used and 15.56 MLD water will be required during Operation phase. Visveswaraya Jala Nigam Ltd., Yethinahole Project Range, Tumkur will be sourced the water. The PP intimated that source of water to the project will be the Chikkaballi Reservoir which is 11 km away from the project side.

3.4.11 Diversion of forest land: The proposed project does not involve any forest land and not required forest clearance. The project is not located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc. The project is not located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC.

3.4.12 Waste Management: The proposed development by KIADB will provide adequate measures for the prevention and control of pollution. The units proposed are in low to high polluting type. Integrated units will be permitted with tertiary treatment facilities. CSTP and CETP are proposed to reduce fresh water consumption for gardening and secondary purposes. Advanced Waste Management Facilities are being planned for proper care of the waste which might be generated. 5 MLD CETP is planned for the entire Gowribidanuru Phase-III Industrial Area. Separate plot of 5.42 Ha is reserved for setting up CETP & CSTP. 1.5 MLD CSTP based on SBR technology is planned for the entire Gowribidanuru Phase-III Industrial Area.

3.4.13 Details of tree cutting and Green belt development: KIADB proposed to remove around 200 trees which are falling in carriage way and permission will be obtained from the State Forest Department. Also proposed to plant one tree for every 100 sqmt of plot further, 1:5 ration plantation will be done for felling trees. Plantation ratio for Transplanted tree is 1:2 where the permission to Transplant a tree is granted need to plant 2 (two) trees against one Transplanted tree.

3.4.14 Details of Rain Water Harvesting: All industrial facilities will put in place rainwater harvesting or rainwater collection measures according to mandatory KIADB requirements to ensure a positive recharge of the ground water resources.

3.4.15 Land acquisition and R&R issues involved: Land has been purchased from individual owners by paying them market rate. Entire 333 Ha is now in possession of KIADB. The site has been declared as industrial area vide GoK Notification No. CI 52 SPQ(E) 2019 dated 19th August 2022.

3.4.16 Employment potential: During construction phase total 100 persons will get employment and during operation phase 12,000 people will get an employment through the proposed project.

3.4.17 Benefits of the project: Improvement of infrastructure in the area (roads, power/water supply, waste management, transportation); fulfil aspirations of increasing technical knowledge and educational progress among locals; increase in the number of men and women opting for higher education and skill trainings in the face of demand from the industrial sector; increase in

employment opportunities. Increase in the minimum daily wage rates; Increase in income level due to regular income from salary; Stabilization of the rural economies due to sustained demand from the industrial sector.

3.4.18 Details of Court cases: No court case is pending against the proposed project.

3.4.19 The EAC, after examining the documents submitted by the project proponent and detailed deliberations in its 363rd meeting held on 25th-26th April, 2024, **deferred** the proposal with advice to submit following information.

- i. Plan for Advanced Waste Management Facilities for proper care of the waste shall be submitted.
- ii. The proposed project area falls under the watershed of Pennar river and few tertiary streams pass through the site meeting the Pennar river to the Southwest. Therefore, Permission from the state irrigation department for use of the catchment areas of these tertiary streams for industrial purpose shall be submitted.
- iii. PP shall delineate the all the existing water bodies, and shall submit the drainage pattern/map of the project site and its peripheral area.
- iv. The layout map of the industrial area shall be prepared keeping a buffer of at least 50 meter for larger waterbodies and 30mtrs for smaller water bodies. While preparing the layout the location of polluting /red category industries should be avoided in aspects which are draining into water bodies.
- v. Lake conservation plan in consultation with the state irrigation department and if required, with state forest/watershed development body.
- vi. After keeping the buffer area PP shall prepare a zonation map of the proposed industrial area with the categorization of the industries as per the EIA notification, 2006 and CPCB guidelines.
- vii. Types of industrial units, processes/products in the proposed industrial area be submitted. Also details of waste generation from the proposed industries and treatment of the effluents be submitted.
- viii. Storm water drainage will be provided by KIADB for the entire layout.
- ix. PP mentioned that during construction phase 0.1MLD water is required, Treated water from 10 MLD CETP of Phase-1 & 2 will be used the details of water sourced proposed for phase 1 and 2 shall be submitted along with the proof of documents mentioned in the EIA/EMP report.

- x. Approval from the Visveswaraya Jala Nigam Ltd for supplying of 15.56 MLD water during Operation phase shall be submitted.
- xi. The proposed development by KIADB will provide adequate measures for the prevention and control of pollution. The units proposed are in low to high polluting type.
- xii. Detailed plan for the prevention and control of pollution shall be submitted
- xiii. Detailed green belt plan along with the layout shall be submitted which shall include
 - a. At least 50-meter-wide multi layered green belt of indigenous species around waterbodies/lakes and around habitations/ human settlements.
 - b. At least 15-meter-wide multi-layered Green Belt all along the boundary of the project area
 - c. Open Spaces/lawn shall not be taken into account for the purpose of calculating area of mandatory green belt
- xiv. Feasibility of extracting water from 11 km distance (Chikkaballi Reservoir) and permission from concerned authority for extracting water shall be submitted
- xv. Detailed plan for Rain water harvesting shall be submitted.
- xvi. Solar Energy plan for the Project shall also be submitted.

Agenda Sr. No.3.5

Subject: Amendment in Environmental Clearance w.r.t change in Land use pattern (industrial sector zones) and change of industries in the Guttapadu Industrial Park spread in the area of 1697.38 Ha(4194.32 acres) located at Guttapadu Village, Orvakal Mandal, Kurnool District, Andhra Pradesh by M/S Andhra Pradesh Industrial Infrastructure Corporation-environmental clearance reg.

Proposal No: IA/AP/INFRA1/467108/2024; File No: 21/74/2018-IA.III.

—The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.¶

3.5.1 The aforementioned proposal was placed before the EAC during its 363rd meeting of Expert Appraisal Committee held on 25th-26th April, 2024. The project proponent and EIA

consultant M/s Ecomen Mining Pvt. Ltd made a presentation in the Ministry and submitted the following information.

3.5.2 The proposal is for _Amendment in Environmental Clearance w.r.t change in Land use pattern (industrial sector zones) and change of industries in the Guttapadu Industrial Park spreaded in the area of 1697.38 Ha(4194.32 acres) located at Guttapadu Village, Orvakal Mandal, Kurnool District, Andhra Pradesh by M/S Andhra Pradesh Industrial Infrastructure Corporation‘.

3.5.3 Initially Environmental Clearance vide letter no.21/74/2018-IA.III dated 11th November, 2020 granted for _Development of Industrial Park in an area of 1697.38 Ha(4194.32 acres) located at Guttapadu, Orvakal Mandal, Kurnool District, Andhra Pradesh State by M/s. Andhra Pradesh Industrial Infrastructure Corporation (APIIC) Ltd‘.

3.5.4 The proposed project activity is listed at schedule no. 7(c) Under Category —All of the schedule of the EIA Notification, 2006. The total cost of the project is Rs.495Crores (After Amendment Project Cost-2824.80Crores).

3.5.5 Now M/S Andhra Pradesh Industrial Infrastructure Corporation has made an online application vide proposal no. IA/AP/INFRA1/467108/2024 dated 26/03/2024 seeking Amendment in Environment Clearance (EC) w.r.t. change in Land use pattern (industrial sector zones) and change of industries under the 7(ii) of the EIA Notification, 2006.

3.5.6 APIIC mentioned that in the earlier Environmental Clearance dated 11th November, 2020 proposed E-waste recycler over an area of 27.40 acres(11.09 Ha).Currently E-waste recycler of 27.40 acers (11.09 Ha) is being dropped and Drug formulations [Orange Category]industries are being proposed in an area of 264.22 acers (106.92 Ha) and Residential Area in an area of 41.98 acers (16.99Ha). There are some deviations in other sectorial area with an addition of areas and in some sectors deletion of areas, but in final of the total industrial complex area is same as per the EC order of 4194.32 acers.

3.5.7 Comparison Statement of land details as per EC dated 11th November, 2020 and proposed amendment.

Sl. No	Description	As Per EC Area in Acers	Percentage (%)	After Amendment Plan Area in Acers	Percentage (%)	Remarks
1	Secondary Steel & Speciality Steel	843.86	20.12%	841.07	20.05%	(-) 1.13 acers

2	Electrical & Electronic Components	920.44	21.95%	138.52	3.30%	(-) 96.71 acers
3	Instrument & Equipments			270.27	6.44%	
4	Auto Components			272.66	6.50%	
5	Non-Metallic Mineral Industries	408.34	9.74%	172.10	4.10%	(-) 95.6 acers
6	Aerospace Defence Hardware	153.72	3.67%	148.86	3.55%	(-) 1.97 acers
7	Gems & Jewellers	164.20	3.91%	149.43	3.56%	(-) 5.98 acers
8	Renewable Energy	31.98	0.76%	25.24	0.60%	(-) 2.73 acers
9	Textile & Apparel	120.56	2.87%	177.57	4.23%	(+) 32.95 acers
10	Wearing Apparel			24.42	0.58%	
11	e-Waste	27.40	0.65%		0.00%	0.00 acers
12	Drug formulations [Orange Category]	0.00	0.00%	264.22	6.30%	Change in industry type and change in project area (+) 264.22 acers
13	Logistics & Wear housing And Parking	227.27	5.42%	241.50	5.76%	(+) 14.23 acers
14	Residential	0.00	0.00%	41.98	1.00%	Change in Project Area (+) 41.98 acers
15	Road Area	229.31	5.47%	405.17	9.66%	(+) 175.86 acers
16	Open Space And Green	488.30	11.64%	425.19	10.14%	(-) 63.11 acers

	Belt					
17	Green Buffer	197.21	4.70%	130.46	3.11%	(-) 66.75 acers
18	Common Amenities-I (Saleable)	310.40	7.40%	98.84	2.36%	(+) 46.23 acers
19	Common Amenities-II (Saleable)			36.80	0.88%	
20	Common Utilities (Non-Saleable)			220.99	5.27%	
21	Water Bodies	71.29	1.70%	109.01	2.60%	(+) 37.72 acers
TOTAL		4194.32	100.00%	4194.32	100.00%	

3.5.8 List of industries proposed as per the EIA notification, 2006 in the proposed land use change.

S.No	Type of Industries	Category of Industries as per EIA notification, 2006	Category of Industries as per CPCB Classification
1	Secondary Steel & Speciality Steel	3(a) Category-B	Red
2	Electrical & Electronic Components	Not Covered	Orange
3	Instrument & Equipments	Not Covered	Orange
4	Auto Components	Not Covered	Orange
5	Non-Metallic Mineral Industries	3(a) Category-B	Red
6	Aerospace Defence Hardware	Not Covered	Orange
7	Gems & Jewellers	Not Covered	Green
8	Renewable Energy	Not Covered	Orange
9	Textile & Apparel	5(d) Category -B	Red
10	Wearing Apparel	Not Covered	Orange
11	Drug formulations [Orange Category]	Not Covered	Orange
12	Logistics & Warehousing And Parking	Not Covered	Orange

3.5.9 Water requirement& wastewater generation proposed after EC amendment

S.No	Description	As per EC				After amendment				Remarks
		Fresh	Treated	Total	Wastewater generated	Fresh	Treated	Total	Wastewater generated	
1.	Industrial units	7794	2050	9844	6892	547	17227	17774	12008	Increase in quantity
2.	Domestic at industrial units	1142	0	1142	913	0	0	0	0	Nil
3.	Common facilities	170	0	170	135	316	632	948	895	Increase in quantity
4.	Greenbelt development	2354	5490	7844	0	0	6536	6536	0	Increase in quantity
5.	Domestic at Industrial units& Residential Houses	0	0	0	0	756	378	1134	983	Increase in quantity
6.	Fire Demand	0	0	0	0	550	0	550	0	One Time
7.	UFW losses	0	0	0	0	330	4370	4700	0	Increase in quantity
Total		11460	7540	19000	7940	2499	29143	31642	13886	
The Total additional water requirement for EC addendum is 12.64 MLD (Total 31.64 MLD). The additional waste water generation is 5.90 MLD (Total 13.90 MLD)										

3.5.10 Reason for amendment: In the market demand assessment study, it is observed that Orvakal node has potential for development of Pharmaceutical industry in around 1200 Acres. In the Roadshow conducted by APIIC and stakeholders interview conducted during Market assessment, Pharma companies which are owned by people of Rayalaseema region have expressed their interest in investing at Orvakal Node. Since the Environmental Clearance was obtained in the year 2020 and after that there is change in market scenario with respect to

product [medicines] / industry demand mainly because of pandemic situation of Covid -19, therefore APIIC is proposing to drop ewaste recycler and adopt drug formulation units of orange category and land use changes in the industrial estate without change in the total industrial complex area i.e. 1697.38 Ha(4194.32 acres).

3.5.11 During the EAC observed the following:

- i. PP mentioned that the instant proposal is for change in land use (Change in type of Industries in the proposed Industrial Park). Currently E-waste recycler of 27.40 acers (11.09 Ha) is being dropped and instead Drug formulations [Orange Category] industries are being proposed in an area of 264.22 acers (106.92 Ha) and there are some deviations in other sartorial areas without change in the total area of 4194.32 acers‘ for which EC was granted and till date no construction activity or industrial activity has started The Committee observed that the instant application is submitted under the 7(ii) of the EIA notification, 2006 and is perMinistryOM dated 11th April, 2022 a certified EC compliance report issued by the IRO, MoEF&CCismandatory. Therefore the committee opined that PP shall submit the certified EC compliance report for further consideration.

3.4.20 The EAC, after examining the documents submitted by the project proponent and detailed deliberations in its 363rd meeting held on 25th-26th April, 2024 **defer** the proposal for want of above information.

- (i) Certified EC compliance report issued by the Concern IRO, MoEF&CC shall be submitted.

Agenda Sr. No.3.6

Subject: Entailing construction of Solid Cargo Jetty within available waterfront (as approved under earlier EC dated 6th January 2014 for the approved cargo of 8 MTPA), use of construction jetties for transshipment (as early start phase), construction of island breakwater of 4500 m (as approved under EC dated 5th March 2019), no increase in port land area located at Chhara Village, Junagarh District, Gujarat by M/s Simar Port Pvt. Ltd– Terms of Reference reg.

Proposal No:IA/GJ/INFRA1/468021/2024 File No:10/7/2024-IA.III

The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.¶

3.6.1 The aforementioned proposal was placed before the EAC during its 363rd meeting of

Expert Appraisal Committee held on 25th-26th April, 2024. The project proponent made a presentation in the Ministry and submitted the following information.

3.6.1. The proposal is for Entailing construction of Solid Cargo Jetty within available waterfront (as approved under earlier EC dated 6th January 2014 for the approved cargo of 8 MTPA), use of construction jetties for transshipment (as early start phase), construction of island breakwater of 4500 m (as approved under EC dated 5th March 2019), no increase in port land area.

3.6.2. The proposed project activity is listed at schedule no. 7(e) 'Ports' Under Category —All Of the schedule of the EIA Notification, 2006. The total cost of the project is Rs.4084Cr.

I. Initially the EC and CRZ Clearance was obtained for environmental and CRZ clearance for development of Port Simar at Chhara Village, Junagarh District, Gujarat by M/s Simar Port Pvt.Ltd *vide letter no.* F.No.11-73/2009-IA.III dated 6th January, 2014 the said EC and CRZ clearance dated 6th January, 2014 having the following components.

- i. Cargo: 8 MTPA of Coal
- ii. Maximum vessel size 180,000 DWT
- iii. Berthing area water depth – 20 m CD
- iv. Island breakwater 1700 m
- v. Berth 1 no. - 350 m, trestle 2265 m
- vi. Capital dredging 1.5 MCum
- vii. Maintenance dredging 150,000 Cum
- viii. Coal stockyard 32 ha

3.6.2 The Project had a delayed start due to late financial closure, delay in obtaining construction permission from GMB, transfer of govt. land to the project and other matters. At present, Island Breakwater construction is going on as the only construction activity at site. The Breakwater has reached a length of approx. 950 m. The breakwater construction has not attained its approved length of 1700 m.

II. Further EC and CRZ Clearance was obtained *vide* F.No.11-2/2014-IA.III dated 5th March, 2019 for an extension in the length of the earlier approved Island breakwater of 1700 m up to 4500 m in the west direction. Above are the EC and CRZ Clearances under which construction is going on at the site. In order to facilitate construction of the Island Breakwater, two construction jetties (Temporary Load Out Jetties) have been built for unloading of rock and armour on to barges which are transported at the Breakwater site in mid ocean, where construction material is unloaded and placed by cranes for construction of the breakwater. The Project includes following components:

- i. Cargo: 05 MTPA LNG
- ii. LNG Import Terminal over 47 ha land
- iii. 1200 m LNG jetty

- iv. Two shore-based full containment tanks of 200,000 CuM each
- v. Commissioning activities of the Terminal are going on at present.

III. EC & CRZ Clearances (Liquid cargo and LPG Terminal) by M/s West Coast Liquid Terminal Pvt. Ltd. EC and CRZ Clearance was obtained for a liquid cargo and LPG Terminal *vide* F.No.10-69/2016-IA.III) dated 14th September, 2020. The Project includes following components:

- i. Cargo: 5 MTPA LPG, 3.5 MTPA POL, 1.5 MTPA Veg Oil.
- ii. Terminal over 39.4 ha.
- iii. Jetty 34 m x 35 m, trestle length 1900 m.
- iv. No construction has been initiated on account of this project at the site.

3.6.3 In the instant proposal the following are proposed:

- i. Solid cargo jetty approved in the EC of 2014 is now proposed to be shifted east ward on the available shoreline. Jetty length 350 m width 25 m is not proposed to change. Approach trestle length will be reduced to 826 m (from earlier 2265 m), width of trestle at 12 m will be same.
- ii. Two construction jetties (Temporary Load Out Jetties) built to enable construction of Island Breakwater are proposed to be used as trans-shipment jetties as an early start phase of the Project while the deep water Jetty is built and commissioned. Cargo shall be lightered at deep sea and brought to the Temporary Load Out Jetties by barges, and unloaded at the Jetties by mechanized means.
 - i. Cargo: 8 MTPA overall cargo volume (volume unchanged), now diversified comprising of Coal, limestone, clinker, fly ash, soda ash, bulk chemicals, other minerals, agro-products, other dry bulk/ break bulk cargo).
 - ii. Maximum vessel size 180,000 DWT – no change
 - iii. Island breakwater 1700 m, extended to 4500 m - no further change
 - iv. Berth 1 no. - 350 m, trestle 2265 m, trestle length now reduced to 826 m
 - v. Capital dredging 1.5 MCum – no change
 - vi. Maintenance dredging 150,000 Cum – no change
 - vii. Coal stockyard 32 ha - no change
 - viii. No further land acquisition than earlier proposed
 - ix. No change in approach channel

3.6.4 Landuse/ Landcover of Project site

Sr.no	Landuse/ landcover	Area ha	Remark, if any
1.	LNG terminal existing	55.66	Commissioned in April, 2024
2.	LPG, POL and Veg Oil	38.82	Construction not initiated

3.	Land acquired for the project	409.94	Land shall be utilized for Port back up in phased manner.

3.6.5 Terrain and topographical features: The Project area is a flat land devoid of undulation, which dips sharply on the coast line with rocky, exposed underlays. The sits are devoid of trees, and has scant grassy undergrowth. The backup area is at sufficient level; no significant grade improvement other than levelling and site grading is required.

3.6.6 Details of water bodies, impact on Drainage: There are no primary or secondary level streams in the Project site. The land has gradual slope towards the shore.

3.6.7 Water requirement: the total water requirement will be 375KLD out of which 25KLD is required for construction and 350KLD water is required during Operational phase for GWIL Pipeline of capacity 125 MLD. Ground water will be used for the same.

3.6.8 Tree Cutting: the proposed project does not involve any tree cutting.

3.6.9 Diversion of forest land: The proposed project does not involve any diversion of the forest land. The project is not located within 10 km of protected Areas (PA) Including National Parks, Sanctuaries and Tiger Reserves etc. The proposed Project is not located within the Eco-Sensitive Zone (ESZ) or Eco-sensitive Area (ESA) notified by the MoEF&CC.

3.6.10 Details of CRZ area: the proposed project is falling under the CRZ area of CRZ I (B), CRZ III, CRZ IV(A) CRZ.

3.6.11 Details of Shore line Changes: Shoreline corresponding to the port site is rocky. No change in shoreline is possible. The proposed involved the Island Breakwater- 4500m, dredging of 20ha and the quantity of Dredging material will be of 1.5 Mm³.

3.6.12 Handling of each cargo: Dry bulk cargo (Coal, limestone, clinker, fly ash, soda ash, bulk chemicals, other minerals, agro-products, other dry bulk/break bulk cargo).

3.6.13 Details of fishing activity in the near vicinity: The sea corresponding to the Port (Diu-Veraval-Porbandar) is a prominent fishing ground, and results in significant fish cash in the region. Veraval is known for fish landing and fish processing for export. There are no fishing grounds on the north of the shoals/proposed alignment of the breakwater under construction, as fishes breed and flock in the deeper waters off the coast. The Port (LNG Terminal, and future development) are/will be ISPS complaint, therefore will be out of bound for local fishermen.

3.6.14 Land acquisition and R& R issues involved:: the proposed project does not involved in the Land acquisition and R& R issues.

3.6.15 Employment Potential: due to the proposed project total 102 persons will get employment out of which during construction period almost 45 persons will get employment and during

operational period 57 persons will get an employment.

3.6.16 Benefits of the Project: The proposed project would generate indirect employment opportunities as daily wage labours during construction, transportation activities, supply of raw materials, etc. Due to the project, there would be an overall development of the area and job opportunities, which may improve the quality of life in the region.

3.6.17 Details of court case: the details are as following:

S.no	Date of Receipt of Notice	Particular	Brief about the Case	Applicant/Defendant	Respondent	Status of case
1	11-Mar-24	NGT Appeal No. Appeal No.30/2019(WZ)	All the OA's & appeals have been clubbed by the NGT as they are of similar nature. In the last hearing held on 11-March-2024 it was considered that all prayers are vague. Therefore, this application does not deserve to be admitted. But the applicant prayed for last opportunity to be allowed to convince	Mr. Sayyed Mohammed Sabir Usman	Union of India & Ors.	Next hearing Date 31-July-2024
2		NGT Appeal No. Appeal No.31/2019(WZ)		Mr. Sayyed Mohammed Sabir Usman	Union of India & Ors	
3		NGT No.49/2019(WZ) (I.A. No.59/2019)		Protection of Environment and Public Service Committee	Union of India & Ors.	
4		NGT OA. Appeal No.50/2019(WZ)		Protection of Environment and Public Service Committee	Simar Port Private Limited	
5		Appeal No.62/2019(WZ)	this Tribunal after obtaining NOC from the earlier counsel. Hence, the matters on hold until next	ParyavaranaBachhavSamity	of India through Secretary MoEF&Ors.	

			hearing to be held on 31-July-2024.			

3.6.18 The EAC, taking into account the submission made by the project proponent has a detailed deliberation in its 363rd meeting held on 25th-26th April, 2024 and **recommended** the proposal for grant of Terms of Reference (ToR) with the specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects.

- i. Locations of Coal and LPG jetties should be relooked and shall be as per prevailing safety guidelines. If project requirements permit efforts shall be made to avoid constructing the coal jetty or at least change its location
- ii. PP shall submit the latest Certified EC compliance report by the concern IRO of the Ministry.
- iii. Importance and benefits of the project.
- iv. Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scale.
- v. Recommendation of the Gujarat CZMA shall be obtained and submitted.
- vi. Submit superimposing of latest CZMP as per CRZ (2011) on the CRZ map.
- vii. Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011.
- viii. Hydrodynamics study on impact of dredging on flow characteristics shall be carried out.
- ix. Study the impact of dredging and dumping on marine ecology and draw up a management plan through the NIO or any other institute specializing in marine ecology.
- x. Requirement of water, power, with source of supply, status of approval, water balance diagram, man-power requirement (regular and contract).
- xi. A certificate from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.

- xii. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project.
- xiii. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
- xiv. An assessment of the cumulative impact of all development and increased inhabitation being carried out or proposed to be carried out by the project or other agencies in the core area, shall be made for traffic densities and parking capabilities in a 05 kms radius from the site. A detailed traffic management and a traffic decongestion plan drawn up through an organization of repute and specializing in Transport Planning shall be submitted with the EIA.
- xv. Disaster Management Plan for the project shall be prepared and submitted.
- xvi. Details and status of court case pending against the project, if any.
- xvii. Public hearing to be conducted and issues raised and commitments made by the project proponent on the same should be included in EIA/EMP Report in the form of tabular chart with financial budget for complying with the commitments made.
- xviii. A tabular chart with index for point-wise compliance of above ToRs. The specific ToRs as recommended above are in addition to all the relevant information as per the 'Generic Structure of EIA' given in Appendix III and IIIA in the EIA Notification, 2006.
- xix. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent, based on the commitments made during the public hearing, shall include all the activities required to be taken to fulfil these commitments in the Environment Management Plan along with cost estimates of these activities, in addition to the activities proposed as per recommendations of EIA Studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.
- xx. 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.

Agenda Sr. No.3.7

Subject: Amendment in Environmental Clearance w.r.t. change in Land use (Change of industrial zones) over an area of 558.95ha within the existing industrial estate over an area of 165.6 km²/1656 Ha for development of Khushkhera-Bhiwadi-Neemrana Investment Region (KBNIR) with no change in the total Industrial Complex area of 165.6 km²/1656 Ha located in the KBNIR lies in Kotputli-Behror, Khairthal-Tijara district Rajasthan by

**M/s Rajasthan Industrial Corridors Development Corporation Limited (RIDCO)-
Amendment in EC under 7(ii) of the EIA notification, 2006 reg.**

Proposal No:IA/RJ/INFRA1/466510/2024; File No:21-18/2011-IA.III.

—The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.¶

3.7.1. The above mentioned proposal was earlier placed before the EAC in its 353rd meeting on 10th to 12th January, 2024 where in the committee advised the PP to furnish following information

- a. Comparative statement covering all the facilities as per existing EC and proposed amendment shall be submitted
- b. Change occurred due to amendment in existing facilities and their impact assessment along with EIA/EMP report
- c. Revised proposal should clearly provide impact analysis of existing and proposed development along with mitigation measures
- d. Latest certified EC compliance report by the IRO MoEF&CC

3.7.2. At this instance, the aforementioned proposal was placed before the EAC during its 363rd meeting of Expert Appraisal Committee held on 25th-26th April, 2024. The project proponent and EIA consultant M/s Ecomen Laboratories Pvt Limited made detailed presentation in the compliance of the information sought by EAC and provided the following information:-

3.7.3. The proposal is for _Amendment in Environmental Clearance w.r.t. change in Land use (Change of industrial zones) over an area of 558.95ha within the existing industrial estate over an area of 165.6 km²/1656 Ha for development of Khushkhera-Bhiwadi-Neemrana Investment Region (KBNIR) with no change in the total Industrial Complex area of 165.6 km²/1656 Ha located in the KBNIR lies in Kotputli-Behror, Khairthal-Tijara district Rajasthan by M/s Rajasthan Industrial Corridors Development Corporation Limited (RIDCO)‘.

3.7.4. The project/activity is covered under category 'A' of item 7 (C) i.e. _Industrial Estate‘ of the schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at Central level.

3.7.5. Initially Environmental Clearance was obtained for development of Khuskhera-Bhiwadi-Neemrana Investment Region (KBNIR) in Rajasthan by M/s Delhi Mumbai Industrial Corridor Development Corporation Limited vide letter no. F.No.21-18/2011-IA.III dated 13th October, 2014. Further environmental clearance was transferred from M/s Delhi Mumbai Industrial Corridor Development Corporation Ltd to M/s Rajasthan Industrial Corridor Development Corporation Ltd (RIDCO) vide letter of even no dated 20th June, 2023.

3.7.6. Rajasthan Industrial Corridors Development Corporation Limited made an online application on 19.03.2024, seeking amendment in Environmental Clearance dated 13th October, 2014 w.r.t. change in land use pattern in an area of 558.95ha without change of total Master Plan area of 165.6 km² in the Rajasthan Industrial Corridors Development Corporation Limited under the provisions of clause 7(ii) of the EIA Notification, 2006. The details of the amendment are as following:

Detailed land use	Area under original planning (of part land) as per EC Order	Area under revised planning (of part land)	Total area after revised planning for which EC amendment Sought
	Area in 558.95ha	Area in 558.95ha	Amended area(Ha)
Industrial		214.01	3018.01
Knowledge City	134.31	42.52	1136.21
Commercial	118.44	42.82	241.38
Residential	42.19	26.27	2301.08
Aabadi Development Area	13.52	13.52	1767
Facilities & Utilities (Recreational+Govt Office)*	158.65	127.43	69.78
Green			1103
NH& Green Buffer	8.68	8.68	601
Road (Transportation+Road)*	83.16	83.16	1186
Aabadi Area			815
Agriculture & Hi-Tech Agriculture			2840
Natural Conservation			689
River (Pond/Lake)*		0.54	794.54
Total	558.95	558.95	16562

3.7.7. List of industries proposed as per the EIA notification, 2006 in the proposed land use change.

S.no	Type of Industries	Category of Industries as per	Category of Industries as

		EIA notification, 2006	per CPCB Classification
1	Automobiles and Ancillary: Manufacturing of Motor vehicles and other transport equipment	Not covered	Red
2	Electricals: Manufacturing of electrical consumer goods such as switches, fans, wires, etc.	Not covered	Orange
3(i)	Metals & Minerals; Manufacturing of metal products such as metal pipes, sheets, rod, etc by fabrication Units.	Not Covered	Red
(ii)	Metals & Minerals; foundries	3(a) Category A & B	Red
(iii)	Cement admixtures, tiles, stones, etc	Not covered	Orange
4	Rubbers & Plastics; Manufacturing of rubber & plastic products such as tyres, tubes, polymers, etc by moulding and extrusion etc	Not covered	Red
5	Chemicals: Manufacturing of chemical products thinner, paints, etc.	5(f), 5(a) & 5(b) Category A&B	Red
6	Medical Equipment's: Manufacturing of Medical Equipment and medicinal chemicals.	Not covered	Orange
7	Others		
a	Manufacturing of food & agro based products	Not covered	Orange
b	Manufacturing of wood & paper-based products	5(i)- Category B	Red
c	Manufacturing of Electronics	Not Covered	Orange
d	Manufacturing of machinery & equipment	Not Covered	Orange
e	Other small industries to	Not covered	Orange

	support the industrial ecosystem like printing and packaging		

3.7.8. Due to change in Land use pattern sector zones, Revised EIA have been done and one month 1stFebruary, 2024 to 29thFebruary, 2024 of Baseline Environmental Studies (Air, Water, Noise & Soil) has been taken in Revised Addendum EIA Study.

3.7.9. Assuming hazardous waste in additional industrial sector of 129 ha as per the amendment plan of RIDCO, assuming of 8.3 Kg/ha/day. Total Hazardous generation from the additional industrial sector industry in KBNIR Industrial park $8.3 \times 129 = 1.07$ Ton/day. The Hazardous waste generated will be disposed to Authorized Treatment, Storage & Disposal Facilities of Local area or Authorized recyclers after obtaining Hazardous Authorization from Rajasthan State Pollution Control Board.

3.7.10. Water requirement in amendment Proposal.

S.No	Description	Criteria	Area as per EC (sq.km)	Water Demand as per EC (in MLD)	Area after proposed amendment (sqkm)	Revised water demand as per proposed amendment (in MLD)
1	Industrial Portable	45 lpcd	28	3.80	29.29	3.98
2	Industrial Process	45 kld/ha/day	28	126.05	29.29	131.86
3	Residential	135 lpcd	23	123.82	20.48	110.25
4	Commercial	45 lpcd	3.20	4.87	3.16	4.81
5	Institution	45 lpcd	12.30	28.03	11.4	25.98
6	Abadi Development Area	135 lpcd	17.60	60.76	13.47	46.50
7	Unaccounted for Water	15% of total demand		52.10		48.50
Total				399.43		371.88

3.7.11. Reason: The empirical data and multiple stakeholder consultations' with RIICO suggests that the demand of industrial land is steady in the region, but due to dearth of land supply, this demand could not be met. Hence, change of landuse for KBNIR Phase 1 is being recommended, to provide for sufficient allocation under industrial land use while retaining a balanced mix of other social and allied uses, to achieve efficient and resilient development of KBNIR region.

3.7.12. During the EAC the committee observed the following:

- i. PP also submitted the Certified EC compliance report from the IRO, MoEF&CC, Jaipur vide letter dated 23rd April, 2024 stating that no work with reference to EC dated 13.10.2014 has been started and no signs of active construction and alteration/modification in existing project has been seen only part land has been acquired by the Proponent.
- ii. PP has mentioned that out of total industrial area 165.6 km²/1656 Ha RIICO could not acquire land fully, therefore it is planning to restrict its activities in 558.95ha.

3.7.13. The EAC, taking into account the submission made by the project proponent had a detailed deliberation in its 363rd meeting held on 25th-26th April, 2024 **recommended** the proposal for _Amendment as mentioned 3.7.6 and 3.7.7 in the Environmental Clearance vide letter no. 21-18/2011-IA.III dated 13th October, 2014 under the provisions of clause 7(ii) of the EIA Notification, 2006 with the following specific conditions.

- i. All the terms and conditions mentioned in the EC letter no. F.No.21-18/2011-IA.III dated 13th October, 2014 shall remain unchanged.
- ii. The Amendment of the EC is being granted for the original proposals for which Environmental Clearance vide letter of even no dated 13th October, 2014 was granted earlier. The validity of the EC shall remain the same as provided in the Environmental Clearance letter dated 13th October, 2014.
- iii. PP shall maintain the 33% Green belt with the thick plantation in the area of 558.95ha now proposed for change in land use apart from the area proposed in the master plan.
- iv. The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM₁₀ and PM_{2.5} in reference to PM emission, and SO₂ and NO_x in reference to SO₂ and NO_x emissions) within and outside the port area at least at four locations (one within and three outside the port area at an angle of 120° each), covering upwind and downwind directions.
- v. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed fugitive emission standards.
- vi. Garland drains and collection pits of adequate capacity shall be provided for each stock pile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface run off and disposed only after treatment.
- vii. The project proponents will not make any changes in the project nature, structure or

configuration and limit themselves to activities for which the Environmental Clearance has been given earlier.

Agenda Sr. No.3.8

Subject: The proposed project is for ‘Widening and Improvement of existing 2-lane to 4/6 lane with paved shoulders from existing km 124.488 (Ch: 122+200) to existing km 223.860 (Ch: 214+535) of Kushalnagar to Mysore section of NH-275 in the state of Karnataka by M/s National Highways Authority of India- Environmental Clearance reg.

Proposal No: IA/KA/INFRA1/464856/2024 File No: 10/21/2022-IA.III

—The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent. |

3.8.1. The above mentioned proposal was earlier considered by 360th meeting of Expert Appraisal Committee held on 21st March, 2024. The proposal was deferred for want of requisite information/documents. At this instance, the aforementioned proposal was placed before the EAC during its 363rd meeting of Expert Appraisal Committee held on 25th-26th April, 2024. The project proponent and EIA consultant M/s Mantras Green resources Ltd made a presentation in the Ministry and submitted the following information.

3.8.2. The proposal is for _Widening and Improvement of existing 2-lane to 4/6 lane with paved shoulders from existing km 124.488 (Ch:122+200) to existing km 223.860 (Ch:214+535) of Kushalnagar to Mysore section of NH-275 in the state of Karnataka (Total length-92.335km) by M/s National Highways Authority of India‘.

3.8.3. The proposed project is a partially greenfield section of NH-275. The NH-275 starts at Bantwal and ends at Bengaluru in Karnataka State which connects Dakshina Kannada, Kodagu, Mysuru, Mandya, Ramnagaram and Bengaluru districts in Karnataka State. This highway was previously SH-88, which was developed by M/s. Karnataka Road Development Corporation Limited, Bengaluru during the year 2012. SH-88 was recently upgraded and declared as NH-275 vide notification dated 4th March 2014 by Ministry of Road Transport & Highways (MoRT&H), Government of India (GoI).

3.8.4. The proposed project starts from Kushalnagar bypass of NH-275 (design Ch:122+200) after Anekadu forest area and ends near Paschimavahini (design Ch: 214+535). The total length of the project is 92.335 km with RoW 45 m at urban and 60 m at rural areas. The proposed partially greenfield alignment starts at 12°26'19.91"N 75° 54'19.79"E and ends at

12°24'15.71"N,76°40'47.79"E.

3.8.5. Project scheduled under 7(f) Category 'A' (Highways) as per EIA Notification 2006 and its amendments. Total cost of the project is Rs. 4128.92 crores.

3.8.6. Terms of References (ToR) details: The ToR proposal was considered in the 294th EAC meeting held during 11th-12th April, 2022. Terms of Reference (ToR), the Committee recommended for grant of ToR. Ministry granted the ToR vide File No.10/21/2022-IA.III on dated 5th May 2022.

3.8.7. Public Hearing: Public hearing was conducted at Mandya, Kodagu, Mysurudistrict, Karnataka. The details are as following:

Date of Public Hearing	Venue	District and State	Chaired by
20/12/2023	Sri AnjaneyaSwamy Community Bhavan, Belagola Village, Srirangapatna Taluk	Mandya District, Karnataka	Deputy Commissioner
13.12.2023	Guddehosuru Gram PanchayatSamudayaBhavana, Guddehosuru Village, Kushalnagar Taluk, ,	Kodagu District, Karnataka	Assistant Commissioner
21.12.2023	Dr.B.R. AmbedkarBhavana, Hunsur	Mysuru District, Karnataka	Additional Deputy Commissioner

3.8.8. Landuse/Land Cover of the project site.

Sl.no.	Category	Area (ha.)	Percentage (%)
1	Waste Land	9.82	1.70
2	Forest	55.64	9.64
3	Agriculture Land	493.12	85.4
4	Built-Up	7.51	1.30
5	Water body	5.16	0.89
6	Road & Rail	6.17	1.07

	Total Area (ha.)	577.42	100.00

3.8.9. Right of Way (RoW): ROW - 45 m at urban and 60 m at rural areas. However, additional land shall be acquired at interchanges and way side amenities.

3.8.10. Terrain and topographical features: The proposed alignment mostly follows plain and rolling terrain. The elevation varies from ~712 m above MSL to ~938 m above MSL. Average elevation of the project stretch is ~800 m above MSL.

3.8.11. Details of water bodies, impact on drainage: The proposed alignment is crossing 2 River, 10 canal/ nalla are being crossed by the proposed alignment.

3.8.12. Project section is crossing 24 water bodies including pond, canal, nala and River. Elevated structures are proposed along the water bodies being crossed. There shall be no major impact on the drainage system as total 170 structures are proposed which area one Major Bridge, 8 minor bridges, 03 RUBS, 8 slab culverts, 138 Pipe Culverts, 13 Box culverts, and 02 Buried culverts are proposed to minimize detrimental effects and to maintain proper drainage also proposed Silt fencing is proposed near major canals and pond.

3.8.13. Water requirements: Around 1020 KLD water shall be required for construction phase. Water shall be sourced from surface water bodies and ground sources. However, mostly surface water shall be used for the construction work. Prior approval for taking adequate quantities of water from surface/ground water sources shall be taken from appropriate authorities.

3.8.14. Diversion of Forest land: About 55.64 ha of forest area involved in the proposed alignment. The forest proposal submitted vide proposal no. FP/KA/ROAD/405745/2022 dated 11.11.2022. Forest diversion involved and application is under process.

3.8.15. The proposed alignment is passing through the notified Eco-Sensitive Zone of Ranganathittu Bird Sanctuary and falling within 10 km radius of Nagarhole Tiger Reserve and Arabithittu Wildlife Sanctuary. The proposed alignment is passing through the notified Eco-Sensitive Zone (Ch: 208+900 to Ch:209+550) of Ranganathittu Bird Sanctuary. The detailed biodiversity assessment is conducted by Zoological Survey of India (ZSI), Kolkata. NHAI will adhere to the recommendations of ZSI has given under Bio-diversity Conservation & Mitigation plan.

3.8.16. Waste Management: Construction and demolition waste due to demolition of existing structures & construction activities shall be managed as per Construction and Demolition Waste Management Rules, 2016 amended thereof. Municipal wastes generated from the construction workers camp shall be managed as per Solid Waste Management Rules, 2016 and amended thereof. Hazardous wastes generated due to activities like maintenance and repair work on vehicles shall be managed as per Hazardous and Other Wastes (Management, & Trans-boundary Movement) Rules, 2016 and amended thereof.

3.8.17. Details of tree cutting and Green belt development. About 15534 nos. of trees and 6970 saplings (size less than 30 cm) are likely to be felled. Tree plantation @998 saplings per km shall be planted in accordance to IRC SP21:2009 and Green Highways (Plantation & Maintenance) Policy-2015.

3.8.18. Energy conservation: Solar lights shall be placed near interchanges and wayside amenities for saving of the energy load.

3.8.19. Details of Rainwater Harvesting: Rainwater harvesting structure is proposed at every 500m interval of the proposed project.

3.8.20. Land acquisition and R&R issues involved: The Land required for construction of proposed highway is about 577.42 ha. as per NH Act, 1956 and compensation and R&R shall be as per the RFCTLARR Act, 2013.

3.8.21. Employment potential: the proposed Project will provide direct employment opportunities about 1200 persons (including permanent and temporary).

3.8.22. Benefits of the project: The proposed project is a partialygreenfield national highway. This will avoid traffic congestion and speed-up the freight movement. It is expected that overall, the proposed highway will reduce the travel time between Mysuru to Medikeri by half. The seamless connectivity will provide better access to vehicles. The Project will reduce travel time and provide boost to trade, tourism and commerce linked to the regions. The proposed highway will also take away traffic pressures from existing SH and NH passing through various cities. Also, long-distance traffic will shift to the proposed highway, thereby reducing traffic and congestion on the existing NH and SH for regional and local usage. Due to national highway standards, the road & travel safety of the traffic connecting the region will be enhanced as there will be minimum distractions & conflict zones.

3.8.23. Details of Court cases: The instant proposal does not involve any court case.

3.8.24. During presentation the committee noted that this proposal was considered by it in its 360th meeting held on 21st March 2023 and after deliberation some additional details were sought by the committee which inter alia included

- a. That in view of the project falling within ESZ of Ranganathittu Bird Sanctuary and within 10 km radius of Nagarhole Tiger Reserve and Arabithittu Wildlife Sanctuary it is advised that NHAI shall design the road alignment in consultation with State Forest Depart with necessary modification of the structures to facilitate the safe passage of wildlife.
- b. English translations of the recommendation letters/NOC by FD Nagarhole TR and DFO Hunsur shall be submitted.

3.8.25. PP in its explanation responded that Road alignment has been done in consultation with SFD. FD Nagarhole TR has clarified that alignment is away from buffer of TR and only forest clearance is required. And DFO Hunsur has concurred for diversion of Forest land. ZSI in consultation with DFO Hunsur and FD Nagarhole TR and prescribed some mitigation measures and changes in road design and structures.

3.8.26. The committee examined the response of PP on information sought and found them satisfactory

3.8.27. The EAC, after examining the documents submitted by the project proponent and detailed deliberations in its 363rd meeting held on 25th-26th April, 2024 **recommended** the proposal for Environmental Clearance with the specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

- i. All the mitigation measures recommended by ZSI (ZSI report is annexed at Annexure E) and commitments made in the biodiversity Management & Conservation Plan shall be implemented in letter and spirit at the project cost. ZSI report shall be submitted to the IRO of MoEF&CC and the status of implementation of Wildlife Management & Conservation Plan shall be submitted to the Regional Office of the Ministry along with 6 monthly compliance report.
- ii. Conservation and management activities recommended by the Zoological Survey of India (ZSI) for the schedule-I species and other wild life species shall be implemented at project cost in consultation with the concern state forest department.
- iii. Wildlife movement during the construction be monitored by ZSI/forest department and if found necessary additional over/underpasses be developed. Provision for the same be made in the project budget and provided to state forest department upon request. Specific budget be provided to ZSI towards the monitoring of animal movement during the construction phase and provide recommendation for additional over/underpasses if necessary.
- iv. No tree can be felled/transplant unless exigencies demand. Where absolutely necessary, tree felling shall be with prior permission from the concern Authority. Old, large and heritage value trees should be retained based on girth and age regulations as may be prescribed by the Forest Department. Where the trees need to be cut/transplanted with prior permission from the concerned local Authority, compensatory plantation in the ratio of 1:10 (i.e. planting of 10 trees for every 1 tree that is cut/ non-survival of any transplanted tree) shall be done and maintained. Plantations to be ensured species (cut) to species (planted). All the plantation will be done by state forest department as deposit work and not by private contractors.
- v. Trees with heronry (breeding ground for herons, egrets, etc), pelicanary or community

nesting of birds like Painted Storks, Ibis, Egrets, Pelican, etc will not be allowed to fell. In case of presence of such, alignment will be required to be changed to save such trees.

- vi. Green belt development (tree plantation) in lieu of the trees being felled in non-forest land should be carried out by the State forest department as deposit work and not by the private contractor. Green belt must be developed using exclusively native species including significant number of ficus trees. No exotic species to be used for the same. A comprehensive plan for plantation shall be prepared in consultation with state forest department (executing agency) including the costs involved. Such compensatory plantation will be over and above the compensatory afforestation to be carried in lieu of the diversion of forest land, if any.
- vii. No Ground water shall be extracted and used. Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources.
- viii. The proponent shall obtain permission from the competent authorities for tree felling along the proposed alignment.
- ix. Rain water harvesting pit shall be at least 3 - 5 m above the highest ground water table.
- x. In borrow pits, the depth of the pit shall be regulated such that the sides of the excavation will have a slope not steeper than 1:2, from the edge of the final section of bank. Soil erosion checking measures shall be carried out. Details for borrow area operation and rehabilitation given in EIA report shall be followed.
- xi. Quarry areas shall be barricaded during mining operations. The abandoned quarry shall be developed as water reservoirs with proper fencing around quarry area.
- xii. In all the construction sites within 150 m of the nearest habitation, noisy construction work such as crushing, concrete mixing will be stopped during the night time between 10.00 pm to 6.00 am. No noisy construction activities will be permitted around educational institutions/health centers (silence zones) up to a distance of 100 m from the sensitive receptors. All plants and equipment used in construction shall strictly conform to the CPCB/SPCB noise standards.
- xiii. Traffic Control Devices/Road Safety Devices/ Roadside Furniture including various types of cautionary, informatory, regulatory as mandatory signboards, road markers, studs, etc. shall be provided at appropriate locations all along the project stretch in accordance with the specifications laid down in Manual of Specifications and Standards for Expressways (IRC: SP:99-2013) and IRC:8, IRC:25, IRC:26, IRC:35, IRC:67, IRC:79, IRC:103 and Section 800 of MORTH Specifications.
- xiv. All the major, minor bridges and culverts should not affect the drainage systems. Flood

plains of the rivers/ drainage systems are not to be disturbed.

- xv. Afforestation using compensatory plantation in the ratio of 1:10 shall be carried out by state forest department as deposit work and not by private contractors. Native tree species shall be provided as per the IRC Guidelines on Landscaping and Tree Plantation (IRC: SP:21-2009). Effort should be made to plant native trees and Ficus species on both sides of the alignment. Special attention shall be given for protecting giant trees, and locally important trees (having cultural importance) and should be identified chain-age wise.
- xvi. Project alignment should be managed in such a way to save the Heritage/old trees supposed to be affected by the proposed alignment.
- xvii. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory afforestation etc., either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also become part of EMP and shall be implemented.
- xviii. Proponent shall keep the finish road level sufficiently elevated from ground level with provision of railing on both sides to restrict animal crossing in order to avoid the possibility of wildlife injury/death. Animal underpasses, watch tower, water holes and other mitigation measures proposed shall be constructed in supervision of forest department.
- xix. While constructing the over bridges as proposed over major water bodies efforts should be made to avoid construction of pillars in beds of water bodies.

Agenda Sr. No.3.9

Subject: Amendment in Environment &CRZ clearance vide letter no. 11-15/2010-IA.III dated 6th September, 2018 w.r.t. modification of marine side activities towards north side of Redi Port Layout located at Redi village in vengurla Taluka of Sindhurug district, Maharashtra by M/s Redi Port–Amendment in Environmental and CRZ Clearance reg.

Proposal No:IA/MH/INFRA1/467335/2024;File No :11-15/2010-IA.III.

—The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.¶

3.9.1. The aforementioned proposal has been placed before the EAC during its 363rd meeting of Expert Appraisal Committee held on 25th-26th April, 2024. The project proponent and EIA consultant M/s Assystem India (Formally known as L&T Infrastructure Limited) made a presentation in the Ministry and submitted the following information.

3.9.2. Initially, RPL obtained the environmental and CRZ clearance for the 'Expansion of facilities at port Redi', Sindhudrug, Maharashtra by M/s Redi Port Ltd from the Ministry of Environment, Forests & Climate Change (MoEF&CC) vide F.No.11-15/2010-IA-II dated September 06, 2018.

3.9.3. Now RPL made an online application on 26/03/2024, seeking amendment in EC dated 06th September, 2018 w.r.t modification of marine side activities towards north side of Redi Port Layout by M/s Redi Port Limited under the provisions of the EIA Notification, 2006. The details of the amendment sought are as following:

Parameter	Approved Facilities (As per EC/CRZ Clearance)	Facilities (After Amendment)	Remarks
Cargo Handling Capacity			
Existing cargo handling capacity	1 MTPA	No Change	Existing cargo handling capacity
Proposed cargo handling capacity upto Phase II	13.74 MTPA	No Change	Proposed cargo handling capacity upto Phase II
Type of cargo proposed to be handled	Coal, Iron ore and General Cargo	No Change	Type of cargo proposed to be handled
Total cargo handling capacity after commissioning of Expansion facility	14.74 MTPA	No Change	Total cargo handling capacity after commissioning of Expansion facility
Existing Facilities			
Number of jetties	Two (02) Nos	Two (02) Nos	No Change
Backup area	8 ha	8 ha	No Change
Cargo handling capacity	1 MTPA	1 MTPA	No Change

Type of cargo being handled	Iron Ore		Iron Ore		No Change
Proposed Expansion Facilities (Phase I and II)					
Length of Northern Breakwater	Phase I - 0 m Phase II – 100m		Phase I - 0 m Phase II – 615 m		Increased
Length of Southern Breakwater	Phase I - 860 m Phase II – 1800m		Phase I - 1375 m Phase II – 3795 m		Increased
	Phase I	Phase II	Phase I	Phase II	
Rock Bund	2150 m	Phase I facility will suffice Phase II requirement.	2150 m	Phase I facility will suffice Phase II requirement.	No Change
Diameter of Turning Circle	460 m		460 m		
Depth of Turning Circle (below CD)	(-) 14.5 m		(-) 14.5 m		
Number of Berths	Two (02)	Three (03) (Cumulative)	Two (02)	Three (03) (Cumulative)	No change
Depth at berthing Area	(-) 13.9 m	(-) 13.9 m	(-) 13.9 m	(-) 13.9 m	No change
Dredging Quantity	3.36 MCM	-	5.49 MCM	-	Increased
Reclamation Quantity	5.5 MCM (0.93 MCM of dredged material and remaining will be sourced from borrow material.		4.5 MCM (3.06 MCM of dredged material and remaining will be sourced from borrow material).		Reduced (dredge material for reclamation was increased)
Dredge Spoil Disposal	2.43 MCM will be disposed at identified offshore dredge spoil disposal site located in (-) 25m to (-) 30 m.		2.43 MCM will be disposed at identified offshore dredge spoil disposal site located in (-) 25m to (-) 30 m.		No change
Approach Channel					
Length	4565 m	Phase I facility will suffice Phase II requirement.	4410 m		Slightly Reduced Phase I facility will suffice Phase II requirement.
Width	165 m		165 m		
Depth	(-) 15.1 m		(-) 15.1 m		

3.9.4. The facilities are proposed in an area of 98 ha. The Phase I and Phase II development of

Redi port includes cargo handling capacity for Phase I: 5.16 MTPA; Phase II (Cumulative): 13.74 MTPA, development of three (3) berths for handling dry bulk cargo, general cargo and development of navigation and back up facilities. Total area of 98 ha, 55.5 ha of land is planned to be reclaimed for the port development purpose. Remaining 42.5 Ha of land consists of 33.78 ha of forest land which is already diverted for Redi port (stage 2 clearance obtained) and remaining land is private and government land which is under possession of RPL. Total area of 98 ha, 55.5 ha of land is planned to be reclaimed for the port development purpose and remaining 33.78 ha is the onshore land.

3.9.5. Area of Proposed Expansion of Port Facilities under Phase I in CRZ area is as following.

Description	CRZ-Classification	Area in Sq.m	Total Area in Sq.m
Proposed Admin Area	CRZ-III (200m to 500m from HTL)	87664.25	192306.84
	CRZ-IVA	1267.03	
	CRZ-IB	4746.04	
	CRZ-III(NDZ)	98629.52	
Proposed Berths	CRZ-IVA	100090.69	18343.00
Proposed Reclamation Area	CRZ-IVA	157494.79	161950.67
	CRZ-IB	4455.88	
Proposed Reclamation bund	CRZ-IVA	21426.81	33619.61
	CRZ-IB	10881.99	
	CRZ-III(NDZ)	1310.81	
Proposed Road	CRZ-III(200m to 500m from HTL)	4265.57	39073.95
	CRZ-IVA	9651.76	
	CRZ-IB	2300.62	
	CRZ-III(NDZ)	22856.00	
Proposed Storage Area	CRZ-III(200m to 500m from HTL)	7514.90	164547.16
	CRZ-IB	7273.85	
	CRZ-III(NDZ)	149758.41	
Proposed Break water	CRZ-IVA	39282.21	39282.21

3.9.6. Area of Proposed Expansion of Port Facilities under Phase-II in various CRZ.

Description	CRZ-Classification	Area in Sq.m	Total Area in Sq.m
Proposed Admin Area	CRZ—III(200mto500mfromHTL)	87664.25	192306.84
	CRZ-IVA	1267.03	
	CRZ-IB	4746.04	
	CRZ-III(NDZ)	98629.52	
Proposed Berths	CRZ-IVA	100090.69	100090.69
Proposed North Breakwater	CRZ-IVA	30304.91	30304.91
Proposed Operational Area	CRZ-IVA	46589.53	51585.14
	CRZ-IB	4995.61	
Proposed Reclamation Area	CRZ-IVA	15798064	162436.52
	CRZ-IB	4455.88	
Proposed Reclamation Bund	CRZ-IVA	48751.31	61447.42
	CRZ- IB	11385.3	
	CRZ-III(NDZ)	1310.81	
Proposed Road	CRZ-III(200mto500mfromHTL)	4265.57	126152.64
	CRZ-IVA	95026.9	
	CRZ-IB	3567.02	
	CRZ-III(NDZ)	23293.15	
Proposed South Breakwater	CRZ-IVA	167863.01	168384.84
	CRZ- IB	447.23	
	CRZ-III(NDZ)	74.6	
Proposed Storage Area	CRZ-III(200mto500mfromHTL)	7514.9	366942.94
	CRZ-IVA	202395.78	
	CRZ-IB	7273.85	
	CRZ-III(NDZ)	149758.41	

3.9.7. IRS has conducted HTL/LTL demarcation studies. The project development area does not fall or contain any environmentally sensitive areas as specified in CRZ Notification and that the project area meets the regulations of CRZ Notification, 2019. The port activities falls in CRZ-IB, CRZ-III 200m to 500m from HTL, CRZ-III NDZ and CRZ-IVA and are permissible

under CRZ notification 2019. MCZMA was recommended the project for the revised layout vide letter no. CRZ2023/CR171/TC4 dated 9th January 2024.

3.9.8. Shoreline Study: The shoreline evolution study has been carried out for the existing scenario and for the scenario including the proposed development, for a period of 10 years. The simulated results show negligible change in the alignment of existing shoreline even after the introduction of proposed breakwater. This may be due to the presence of submerged bedrocks and the headland in the study area. No significant erosion/accretion is noticed in the coastal stretch towards north or south of proposed port.

3.9.9. Dredging Details: 5.5 MCM of capital dredging and 0.55 MCM of maintenance dredging is envisaged. 3.06 MCM of dredged material will be used for reclamation and remaining material will be disposed off in designated offshore area between (-) 25 m to (-) 30 m depth.

3.9.10. Disposal of Dredged material: Two sites for dumping of dredged material is identified at water depth ranging from (-) 25 to (-) 30 m as prospective location for dredge spoil dumping, where current flow is almost uni-directional during each season and are sufficiently away from the port. Reclamation: Reclamation will be carried out in the back up area for providing landside facilities. The total dredging volume is estimated as 5.49 MCM, in which 3.06 MCM of capital dredged material, which is suitable for the purpose, will be pumped onto the shore for reclamation. The remaining material will be sourced from borrow material.

3.9.11. Reason for seeking amendment: RPL obtained the environmental and CRZ clearance for the expansion upto Phase II development from Ministry of Environment, Forests & Climate Change (MoEF&CC) through vide F.No.11-15/2010-IA-II dated September 06, 2018. Home Department, Government of Maharashtra issued Redi port limits through vide notification no. MIS-0512/C.R-164/R.F.20/PRT.I dated January 30, 2013. In 2018, Home Department, Government of Maharashtra revised port limits vide Sankirn -0318/C.R.09/PRT-1 dated 26th April, 2018. Due to revision in Port limits, the phase II marine side activities for which environmental/CRZ clearance was obtained is falling beyond the port limits declared in 2018. In order to accommodate the marine side activities within new port limits, it is proposed to move the marine side activities towards north.

3.9.12. The EAC, after examining the documents submitted by the project proponent and detailed deliberations in its 363rd meeting held on 25th-26th April, 2024 **recommended** the proposal for Amendment as mentioned at para 3.9.3 above in Environment and CRZ Clearance vide letter no. F.No.11-15/2010-IA-II dated September 06, 2018. with the following specific conditions:

- i. All other terms and Conditions mentioned in the EC and CRZ clearance vide letter No.11-15/2010-IA-II dated 06th September, 2018 shall remain unchanged.

- ii. Construction activity shall be carried out strictly according to the provisions of the CRZ Notification, 2019. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.
- iii. All the recommendations and conditions specified by the Maharashtra State Coastal Zone Management Authority (MCZMA) vide letter No CRZ2023/CR171/TC4 dated 9th January, 2024 shall be complied with.
- iv. As proposed storage area shall be 4km away from the CRZ area. No storage is permitted within the CRZ area.
- v. In phase-II Materials are transported to and from the jetty with the help of conveyors connecting jetty and stockyard. The completely covered (Closed type gallery) shall be used for preventing the material from ingress caused by wind and rain.
- vi. PP shall ensure the loading and unloading process shall not cause any spillage in the water and storm water drains should be built to collect spillage, if any.
- vii. Storage of the Coal, Iron Ore., shall be under covered shed accommodated with a Stacker reclaimed inside provided with DFS (Atomized Automatic Sprinkling System) including peripheral drainage system, internal roads, firefighting system etc.
- viii. Coal handling area shall be provided with the adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- ix. The approach road shall be constructed strictly follow the Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area and road should be built on stilts.
- x. The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the port area at least at four locations (one within and three outside the port area at an angle of 120° each), covering upwind and downwind directions.
- xi. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed fugitive emission standards.
- xii. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality /fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
- xiii. Garland drains and collection pits of adequate capacity shall be provided for each stock pile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface run off and disposed only after treatment.
- xiv. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high level of particulate matter such as around loading and unloading point and all transfer points. Extensive water sprinkling

- shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- xv. Risk assessment for spill scenarios and Disaster Management Plan as prepared shall be in place in the environment Management cell of VPT with all SOP's for various scenarios.
 - xvi. Spillage of fuel/engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
 - xvii. Records of regular dredging shall be maintained with periodic survey data.
 - xxviii. Sediment analysis of harbor at identified locations shall be analyzed and records for past and present period shall be maintained.
 - xix. 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.
 - xx. No underwater blasting is permitted.
 - xxi. Necessary approvals be taken during implementation and commissioning from statutory bodies concerned.
 - xxii. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring report.
 - xxiii. A continuous monitoring programme covering all the seasons on various aspects of the coastal and marine environs need to be undertaken by a competent organization available in the State or by entrusting to the National Institutes/renowned Universities/accredited Consultant with rich experiences in marine science aspects. Monitoring should include sea weeds, sea grasses, mudflats, sand dunes, fisheries, mangroves and other marine biodiversity components as part of the management plan.
 - xxiv. Sediment concentration should be monitored fortnightly at source and disposal location of dredging while dredging.
 - xxv. The PP as promised in EAC meeting, should give a written undertaking that there are no court cases/ government orders on this proposal, which impede its execution.

Agenda Sr. No.3.10

Subject: Development of Bichoon Industrial Area in area of 190.210ha, located at Bichoon Village, Mozamabad Tehasil, Jaipur District, Rajasthan State by M/s Rajasthan State Industrial Development And Investment Corporation (RIICO)-Terms of Reference (ToR) reg.

Proposal No: IA/RJ/INFRA1/467586/2024 File No: 10/8/2024-IA.III.

—The EAC noted that the Project Proponent and the consultant have given undertaking that the

data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.¶

3.10.1. The aforementioned proposal was placed before the EAC during its 363rd meeting of Expert Appraisal Committee held on 25th-26th April, 2024. The project proponent and EIA consultant M/s Ecomen Mining Pvt. Ltd made a presentation in the Ministry and submitted the following information.

3.10.2. The proposal is for _Development of Bichoon Industrial Area in area of 190.210 ha, located at Bichoon Village, Mozamabad Tehasil, Jaipur District, Rajasthan State by M/s Rajasthan State Industrial Development And Investment Corporation (RIICO)‘.

3.10.3. Project falls under project/activity —7(c)‘‘ as per the EIA notification, 2006 and falls under category-A-project Appraised at MoEF&CC due to applicability of general conditions. The total cost of the project is 13959.00 Lakhs.

3.10.4. Landuse/Landcover of project site.

S.no	Description of activity/ facility /plant/others	Land requirement in Ha	Percentage (%)
1	Industrial area	84.39	44.3
2	Area under commercial	5.02	2.60
3	Area under open	1.916	1.00
4	Area under services	6.619	3.47
5	Area Under Residential use	5.511	2.89
6	Area under road	28.334	14.89
7	Greenbelt	58.42	30.71
Total		190.21	100

3.10.5. List to industries to be housed with the proposed project site, only for projects covered under 7(c) category of EIA Notification, 2006:

Sl No	Type of Industries proposed	Schedule under EIA notification, 2006	Category of the project as per the EIA notification, 2006	CPCB Classification
1	Secondary Metallurgical processing Industries (Toxic and Heavy)	3(a)	Category 'A'	Red

2	All Molasses based distilleries All Cane juice/ non-molasses based distilleries ≥ 30 KLD	5 (g)	Category 'A'	Red
3	Secondary metallurgical Processing Industries (Non-Toxic and Heavy)	3 (a)	Category 'B'	Orange
4	Dye and dye intermediates, bulk drugs	5(f)	Category 'B'	Orange

3.10.6. Planned Proposed Land Usage As Per The Layout

Sl. No.	Description	Area in Ha	Component wise Green Area
1	Area under industrial plot	125.96	41.56
2	Area-under commercial	5.058	1.67
3	Area under open/ Rain water Harvesting	9.576	7.66
4	Area under services	9.821	3.24
5	Area under Residential use	5.511	1.82
6	Area under Road	34.282	7.60
Total		190.208	63.55

3.10.7. Terrain and topographical features: The proposed site is situated in mostly plain terrain with altitude ranging from 482m to 440m above mean sea level (MSL). The soils of project site & surrounding area is sandy loam.

3.10.8. Details of water bodies, impact on drainage: No identified water bodies in study are of the proposed project area. Only Local Ponds and storm water drainage streams.

3.10.9. Water requirements: The water requirement for the proposed project is approximately 18 KLD including domestic water requirements for workers (45 lpcd per worker) during the construction phase. The water requirement during this phase will be met from the existing approved sources by CGWA/ CGWB outside the proposed industrial area. During operational stage approx. water demand shall be 1300 KLD will get through the treated waste water from nearby STPs. RIICO will obtain prior permission from Central Ground Water Authority (CGWA) for Abstraction of Ground Water for domestic purpose.

3.10.10. Tree cutting: The proposed project does not involve any tree cutting. Green belt over an

area over 58.42 Ha (30.5%) will be developed by RIICO and balance will be developed by the Individual Industries. Green belt over an area over 63.55 Ha i.e. 33% of total project area.

3.10.11. Diversion of forest land: The proposed project does not involve any forest land and does not require forest clearance. The project is not located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc and Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC.

3.10.12. Waste Management: CETP: Individual industries will setup treatment systems to treat wastewater to CETP inlet standards of IA. Received effluents will be treated at CETP and shall be used for industrial and greenbelt water requirement within IA. Sludge from CETP will be sent to TSDF and sludge from CSTP will be dried and used for green belt development. Municipal waste generated from industrial, residential and commercial areas will be collected, segregated, stored and treated or sold to authorize dealers. Separate area is earmarked for storage and processing of biodegradable waste. STP: ETP and STP will be designed and the same treated water shall be utilized by the industrial units within their premises for reuse in process/ gardening/ non-potable usage.

3.10.13. Land acquisition and R&R issues involved: No R&R implementation.

3.10.14. Employment potential: The proposed project is expected to create employment opportunities in the region, due to proposed project expected to generate the permanent employment of 3630 peoples.

3.10.15. Details of Court cases: The proposed project does not involve any court cases.

3.10.16. During the EAC the committee observed the following:

- i. PP mentioned that during operation phase 1300 KLD water will be required which will be supply by the RIICO by extracting the ground with due permission from CGWA/CGWB. However, PP mentioned in the PFR several water resources near by the proposed project site. PP has neither explained the policy stand of the state government about the use of underground water for operation of industrial area nor submitted any document indicating the NOC/permission of Concerned department of State Government/ Central Ground Water Authority(CGWA)/Central Ground Water Board(CGWB) or consent of these agencies for granting permission for use of ground water for industrial area. PP to clarify the policy stand of the state government for use of underground water for industrial use/ operation of industrial area.
- ii. As per MoEF&CC OM no 21-103/2015-IA-III dated 2/11/2018 and subsequent OM no.19-84/2019-IA-III dated 30/05/2019 in the projects including industry/mining/infrastructure/power plants etc, where ground water is proposed as water source, Terms of Reference should, inter-alia, include the condition that PP shall make an

application for NOC to the CGWA/Concerned Local Authority, as the case, may be, if applicable, and MoEF&CC/SEAC may ensure that such application has been made. And, also a condition to be included in the Environment Clearance that permission of CGWA/SGWA is obtained prior to withdrawal of ground water and concerned State pollution Control Board shall not issue Consent to Operate(CTO) till PP obtains such permission. Therefore, at the time of applying for Environmental Clearance, PP shall inform the EAC whether permission from CGWA/SGWA is obtained or at least application to this effect is made .

- iii. The committee opined that the proposed water requirement will be very high and extracting groundwater in the water scarce state like Rajasthan for industrial use is not a very environment friendly option. And, therefore, to the PP should also try to find out other alternate sources for water while submitting the EIA/EMP report.

3.10.17. The EAC, taking into account the submission made by the project proponent had a detailed deliberation in its 363rd meeting during 25th-26th April, 2024 and **recommended** the proposal for grant of Terms of Reference(ToR) with the specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

- i. Considering the high requirement of water for the industrial area the PP should explore the alternate source of water for the industrial area. A detailed cost –benefit analysis shall be done for the proposed ground water use and use of water from alternate sources before proposing the water source for the industrial area which shall be part of EIA Study.
- ii. In the event ground water sourced is proposed the PP shall make an application for NOC to the CGWA/Concerned Local Authority, as the case, may be, if applicable, and MoEF&CC/SEAC may ensure that such application has been made.
- iii. NoC from the Central Ground Water Authority (CGWA)/ Concerned Local authority, as the case may be, shall be obtained before drawing the ground water for the project activities, State Pollution Control Board / Pollution Control Committees shall not issue the Consent to Operate (CTO) under Air (Prevention and Control of Pollution) Act and Water (Prevention and Control of Pollution) Act till the project proponent shall obtain such permission."
- iv. The project proponent shall carry out the assessment of impact due to the proposed project as per the guidelines issued by the Central Ground Water Authority from time to time and submit the same as a part of the EIA/EMP.
- v. The project proponent shall conduct hydrological study for projects involving intersection of ground water table as per the guidelines issued by the Central Ground Water Authority from time to time and submit the same as a part of the EIA/EMP.

- vi. The project proponents shall explore the possibility of utilization of treated sewage water / treated effluent from the industries located within 10 Kms, for industrial purpose, in lieu of the ground water and the report on the same shall be submitted along with the EIA/EMP.
- vii. The project proponent shall explore the possibility of reduction of specific water requirement by optimization / technology up gradation, etc. The efforts shall be delineated in the EIA/EMP.
- viii. The project proponent shall prepare the scheme for mandatory recycle/re-use of water as specified by the Central Ground Water Authority for different category areas seeking NoC for ground water withdrawal and the shall submit as part of EIA/EMP report.
- ix. 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.
- x. Detailed air quality study for each point source to be conducted along with the Micro metallurgical data.
- xi. Detailed study shall be carried out for availability of the molasses and economic feasibility of establishing molasses based distilleries.
- xii. Atleast 33% green belt shall be provided in project area out of which atleast 13% Green belt shall be created by the PP and remaining 20% by the individual industries. Green belt shall include atleast 15 meter wide multi-layered green belt around the periphery of the project and around 50 meter wide green belt/green buffer around waterbodies and human settlement, if any, in project areas. The layout plan shall be submitted accordingly.
- xiii. 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.
- xiv. Provide detailed water balance statement a scheme to achieve ZLD by each industrial unit as well as for utilization of treated sewage.
- xv. Since, natural drainage pattern is seen in/around the proposed project site, it is important to have a detailed hydro geological study on the catchment area of the drainage system within core zone and at least 5km perimeter of the project area.
- xvi. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the activities proposed by the project proponent, based on the commitment made in the public hearing shall be incorporated in the Environmental Management Plan along with the cost estimates and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory

Afforestation etc, envisaged by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report, shall be detailed out along with the cost estimates and become part of EMP. Focus should also be kept for local floral and fauna biodiversity.

- xvii. Plan for afforestation should be such that it is free from pesticides with flowering plants of native species for attracting bees and insects which in turn is beneficial to the agriculture. Farmers around the project site shall be involved in developing such an afforestation Plan.

Agenda Sr. No.3.11

Subject: Development of Shree Ashok Nagar (Babai) Industrial Area in an area of 146.75 ha located in village Shree Ashok Nagar (Babai), Khetri Tehsil, Neem ka Thana District, Rajasthan by M/s Rajasthan State Industrial Development and Investment Corporation Limited-ToR regarding.

Proposal No :IA/RJ/INFRA1/468057/2024; File No :10/8/2024-IA.III.

—The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent. ||

3.11.1. The aforementioned proposal was placed before the EAC during its 363rd meeting of Expert Appraisal Committee held on 25th-26th April, 2024. The project proponent and EIA consultant M/s. Ampl Environ Private Limited made a presentation in the Ministry and submitted the following information.

3.11.2. Project falls under project/activity —7(c)“ as per the EIA notification, 2006 and falls under category-A-project Appraised at MoEF&CC due to applicability of general conditions. The total cost of the project is Rs.264.40 Crores (approx.).

3.11.3. Land-use / Land-cover of project site.

S. no.	Particular	Area in ha.	Area in %
1	Area under Industrial Plots	96.145	65.52
2	Area under Commercial	3.783	2.58
3	Area under Hospital Plot	0.723	0.49
4	Area under Residential Plot	1.064	0.72
5	Area under Services(Including Duping Yard)	8.627	5.88

S. no.	Particular	Area in ha.	Area in %
6	Area under open (Water Harvesting + Greenbelt)	8.004	5.45
7	Area under Roads	28.404	19.36
Total		146.75	100.00

3.11.4. List to industries to be housed with the proposed project site, only for projects covered under 7(c) category of EIA Notification, 2006:

Category 'A'

1. Molasses based Distilleries
2. Metallurgical Industries
3. Synthetic organic industry (Textile Dyes)

Category 'B'

1. Secondary Metallurgical Processing Industries (Non-Toxic and Heavy)
2. Synthetic organic chemical industries (Dyes and dye intermediates, bulk drugs)

3.11.5. Terrain and topographical features: The project site land use comes under industrial use and The Elevations of the site lies between 418 m & 455 m AMSL. Details of water bodies, impact on drainage: Stream Passing through the Site and andhawaliDhani Water Body is located at 2.3Kms towards South, Dohan nala is located at the distance of 3.0kms East, Deharwala Dam is located at the distance of 4.0 Kms (N), DongarNala is located at the distance of – 4.9 Kms (NE), KhakliNala is located at the distance of 6.5 Kms (W), Water body near ChalakiDhani – 6.6 Kms (SSE), Karmari Dam is located at the distance of 6.8 Kms (NNE), Hanuman Tank is located at the distance of 6.9 Kms towards (N), MadhogarhNala near is located at the distance of -7.9 Kms (WNW), Tikaria Dam is located at the distance of – 9.2 Kms (ENE) and Jhilo Dam is located at the distance of 9.7 Kms (ESE).

3.11.6. Water requirements: Water requirements: Construction Phase: 25 KLD and for Operational Phase: 1140 KLD Source: During Construction phase Contractors will arrange water at own level from approved source by CGWA/CGWB. During operation phase Water will be supplied by RIICO abstracted from ground with due permission from CGWA/CGWB.

3.11.7. Tree cutting: The proposed project does not involve any tree cutting.

3.11.8. Diversion of forest land: The proposed project does not involve any diversion of forest land and not required forest diversion.

3.11.9. The project is not located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc and Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area

(ESA) notified by the MoEF&CC.

3.11.10. Waste Management: As per RIICO lease condition Industrial Area is developed on ZLD basis. For combined treatment of effluent generated from industries, CETP is to be developed & maintained by SPV (Special Purpose Vehicle). SPV will be formed by beneficiary industries at their own level. STP: Individual industries will be mandated to provide septic tank and soak pit within their premises and treated sewage will be used for green belt development. Individual industries will be mandated to provide ETP with ZLD system for recycling of effluent for process and utilities.

3.11.11. Land acquisition and R&R issues involved: This project doesn't involve in R&R.

3.11.12. Employment potential: Due to the proposed project almost 7500(Direct-5000 & Indirect-2500) people will get employment.

3.11.13. Benefits of the project: There will be positive impacts on the socio-economic status of the surrounding areas. Physical infrastructural development such as improvement to roads, street lights, Drainage Line etc. will be developed. About 7500 of persons will be employed in Industrial area. The surrounding villages will also benefit from the project.

3.11.14. Details of Court Case: There is no court case is involved in the proposed project.

3.11.15. The EAC observed the following:

- i. There appears to be large number of High Tension Power Transmission lines already passing through project areas. It is not clear whether PP has examined this aspect for the purpose of the safety of Industrial area as well as that of power transmission lines and whether any consultation made or NOC received from concerned power transmission development agency.
- ii. Quite a large number of small human habitations are scattered in the entire project areas. It has not been clarified how the safety and health issues of population of these habitations will be addressed by the PP even if these habitations are excluded from project area and whether the management of such a heavily truncated (due to large number of non-industrial/habitation areas interspersed with industrial area) Industrial Areas is administratively and economically feasible.
- iii. PP mentioned that during operation phase 1140 KLD water will be required which will be supply by the RIICO by extracting the ground with due permission from CGWA/CGWB. However, PP mentioned in the PFR several water resources near by the proposed project site. PP has neither explained the policy stand of the state government about the use of underground water for operation of industrial area nor submitted any document indicating the NOC/permission of Concerned department of State Government/ Central Ground Water Authority(CGWA)/Central Ground Water Board(CGWB) or

consent of these agencies for granting permission for use of ground water for industrial area. PP to clarify the policy stand of the state government for use of underground water for industrial use/ operation of industrial area.

- iv. As per MoEF&CC OM no 21-103/2015-IA-III dated 2/11/2018 and subsequent OM no.19-84/2019-IA-III dated 30/05/2019 in the projects including industry/mining/infrastructure/power plants etc, where ground water is proposed as water source, Terms of Reference should, inter-alia, include the condition that PP shall make an application for NOC to the CGWA/Concerned Local Authority, as the case, may be, if applicable, and MoEF&CC/SEAC may ensure that such application has been made. And, also a condition to be included in the Environment Clearance that permission of CGWA/SGWA is obtained prior to withdrawal of ground water and concerned State pollution Control Board shall not issue Consent to Operate(CTO) till PP obtains such permission. Therefore, PP may, in addition to the information sought in above and below points, also inform the EAC whether they have obtained the permission of or, at least, applied for permission from CGWA/SGWA for ground water withdrawal.
- v. Since there are 2 forests nearby, the pp shall obtain NOC from the forest department.
- vi. List of type of industries proposed to be accommodating in the industrial estate and its category as per the EIA notification, 2006 and CPCB category in tabular form along with the justification shall be submitted.

3.11.16. The EAC, taking into account the submission made by the project proponent ha a detailed deliberation in this 363rd meeting held on 25th-26th April, 2024 and advised the PP to furnish the information as observed by the committee in above Para no. 3.11.15 and accordingly **deferred** the proposal.

Agenda Sr. No.3.12

Subject: Construction of 4-lane Greenfield Highway from Morbi to Navlakhi Port (connectivity for Navlakhi Port) alignment which starts from Morbi bypass near Amreli village and terminates at Navlakhi Port Total length of the proposed project road is 41.819 km Morbi District, Gujarat by the M/s National Highway Authority of India. - Terms of Reference Reg.

Proposal No :IA/GJ/INFRA1/469171/2024 File No :10/6/2024-IA.III

—The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the

project proponent.¶

3.12.1. The aforementioned proposal was placed before the EAC during its 363rd meeting of Expert Appraisal Committee held on 25th-26th April, 2024. The project proponent made a presentation in the Ministry and submitted the following information.

3.12.2. The proposal is for _Construction of 4-lane Greenfield Highway from Morbi to Navlakhi Port (connectivity for Navlakhi Port) alignment which starts from Morbi bypass near Amreli village and terminates at Navlakhi Port Total length of the proposed project road is 41.819 km Morbi District, Gujarat by the M/s National Highway Authority of India‘.

3.12.3. The proposed project road Morbi to Navlakhi is a 4 lane greenfield alignment which starts from Morbi bypass near Amreli village and terminates at Navlakhi Port Total length of the proposed project road is 41.819 km. The alignment is passing through 13 villages, 2 talukas (Maliya&Morbi) of Morbi District in Gujarat. Starting point of project road (Km. 0+000) – 22°51'02.74"N 70°49'04.43"E, End point of project road (Km. 41+819) – 22°57'16.03"N 70°27'34.56"E. This will provide connectivity to the Navlakhi Port through National Highway.

3.12.4. Project falls under project/activity —7 (f) Highways“ as per the EIA notification, 2006 and falls under category-A-project Appraised at MoEF&CC due to applicability of general conditions. The total cost of the project is Rs.1547.95 Cr.

3.12.5. Land-use / Land-cover of project site: Agriculture land occupied major part (80.05%) of the total area, followed by open land (8.75%), bare ground (4.65%), forest land (5.68%), water body and settlement (0.87%).

3.12.6. Right of Way (RoW):

S.no	Chainage	Proposed Right of way
1	0+000 to 31+220 (outside CRZ area)	60 m in general
2	31+220 to 35+996 (in CRZ area)	45 m
3	35+996 to 41+006 (in CRZ area)	30 m (elevated section)
4	41+006 to 41+819 (in CRZ area)	45 m

At Grade Separated locations having 6-Lane structure, additional ROW beyond 60m is to be acquired to accommodate all cross-sectional elements like 6-Lane structure, slip/service roads, unlined drain, utility etc. The Proposed ROW in such locations varies from 60-70m, which is outside the CRZ area.

3.12.7. Terrain and Topographic Features: The alignments pass through plain terrain with elevation ranging from 3 m to 40 m above MSL.

3.12.8. Details of water bodies: Alignment of the proposed Morbi to Navlakhi Port highway crosses Machchhu River at Ch. 1+670, Phulku River at Ch. 27+930, creek at Ch. 30+400 and streams & local Nalas at several locations. To minimize the impact drainage & hydrological flow, 5 major bridges, 14 minor bridges and 72 culverts are proposed to be constructed along the project road.

3.12.9. Water requirement: Construction Phase: Water demand of the project is approx. 7034 KL per day. In compliance to the Sub-Clause 111.8.3 of MoRTH Specifications, the Contractor will identify the nearest source of water body at plant and camp site and shall source the water preferably from surface water bodies in the project area. Only at locations where surface water sources are not available, the Contractor shall contemplate extraction of ground water, after intimation and consent from the CGWB. Operation Phase: During the operations phase the water would be required primarily for domestic use at the toll plaza and landscaping which is approx. 100 KL per day. No Groundwater extraction is proposed.

3.12.10. Tree cutting: total 1,343 trees are falling under the Morbi to Navlakhi Port stretch. The details will be submitted along with the EIA/EP report.

3.12.11. Diversion of forest land: The proposed project involves diversion of 15.1106 ha of forest land (6.0946 ha Protected Forest and 9.0160 ha Reserved Forest). Forest proposal is under preparation. 8.961 km stretch (Chainage 32+858 to 41+819) is passing through the Wild Ass Sanctuary. Hence, Wildlife Clearance will be required. Marine National Park is located at a distance of 0.6 km from proposed Highway.

3.12.12. Details of CRZ area: Approx. 10.419 km stretch of Morbi to Navlakhi Port highway (between Chainage 30+700 to 41+819) is passing through CRZ area (235 m stretch in CRZ-IB & 10.169 km stretch in CRZ-III-NDZ). This entire CRZ stretch of the project road is located with the Navlakhi Port Limit, which was notified vide Notification dated 21.11.1955. National Centre for Sustainable Coastal Management (NCSCM) has been engaged for preparation of CRZ Map and will be submitted at the time EC.

3.12.13. Land Acquisition and R&R issues involved: Tentatively, 280.7075ha land is to be acquired for the project and total number of affected structure is 36. Socio-economic and census survey of the affected population is under progress. The compensation amount for the acquisition of land and structures will be determined by the CALA (Competent Authority for Land Acquisition) in accordance with the provisions of the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement (RFCTLARR) Act, 2013 under the National Highways Act, 1956.

3.12.14. Employment potential: due the proposed project total 520 persons will get an employment out of which 300(100 Permanent and 200 temporary) persons will get employment during the construction phase and 120 (20Permanent and 100 temporary) persons will get an employment during operational phase.

3.12.15. Benefits of the project: The sole purpose to develop a Greenfield highway from Morbi to Navlakhi port is for the transportation of imported and exported materials in & out from the Navlakhi Port and connectivity of the port with National Highway.

3.12.16. Details of Court cases: No court case is involved in the proposed project.

3.12.17. During presentation the PP intimated that the present proposal was already the part of a combined proposal no IA/GJ/INFRA 1/427477/2023 for construction of Maliya- Pipaliya road and Norbi-Navalakhi road which was recommended for TOR by EAC in its 326th meeting held on 10th May 2023 and subsequently TOR were issued on 3rd July 2023. However, on 9th November 2023 in EAC's 245th meeting PP proposed for amendment of TOR for removal of the Norbi-Navalakhroad from the proposal on the ground that due to some administrative reason it was not possible to take the Norbi – Navalakhi Road immediately. Accordingly the TOR was amended. Now PP has requested to issued TOR for this road.

3.12.18. The EAC, taking into account the submission made by the project proponent has a detailed deliberation in its 363rd meeting on 25th-26th April, 2024 and **recommended** the proposal for grant of Terms of Reference with specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

- i. In the proposed alignment Approx. 10.419 km stretch of Morbi to Navlakhi Port highway (between Chainage 30+700 to 41+819) is passing through CRZ area (235 m stretch in CRZ-IB & 10.169 km stretch in CRZ-III-NDZ). PP shall design the port highway as per the regulatory provisions of CRZ Notification, 2011.
- ii. The categorization CRZ areas for the proposed facilities should be detailed out. The ecologically fragile area including CRZ IA area etc. shall be demarcated and superimposed on the layout plan and submitted.
- iii. RoW in the CRZ area to be restricted to 35 m to avoid damage to salt pans.
- iv. The road in the CRZ areas will only be on stilt and accordingly design be developed Submit a copy of layout superimposed on the HTL/LTL map demarcated by an authorized agency on 1:4000 scales as per latest approved CZMP.
- v. Recommendation of the Gujarat CZMA shall be obtained and submitted. Submit a complete set of documents required as per para 4.2 (i) of CRZ Notification, 2011.
- vi. Public hearing shall be conducted as per the EIA notification, 2006 after including the CRZ component and recommendations.

- vii. NHAI will design the alignment as per the suggestions of the concerned Forest Department of Govt. of Gujarat with necessary structural provisions for avoiding damage to the salt pans.
- viii. Cumulative impact assessment study should be carried out along the entire stretch including the other packages and the current stretch under consideration.
- ix. The proponent shall carry out a detailed traffic flow study to assess inflow of traffic from adjoining areas like airport/urban cities. The detailed traffic planning studies shall include complete design, drawings and traffic circulation plans (taking into consideration integration with proposed alignment and other state roads etc.). Wherever required adequate connectivity in terms of VUP (vehicle underpass)/ PUP (Pedestrian underpass) needs to be included.
- x. Road safety audit (along with accident/black spots analysis) by any third-party competent organization need to be carried out 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.
- xi. Provide compilation of road kill data on the wildlife on the existing roads (national and state highways) in the vicinity of the proposed project. Provide measures to avoid road kills of wildlife by the way of road kill management plan.
- xii. The alignment of road should be such that the cutting of trees is kept at bare minimum and for this the proponent shall obtain permission from the competent authorities. Alignment also should be such that it will avoid cutting old and large and heritage trees if any. All such trees should be geo-tagged, photographed and details be submitted in the EIA –EMP report.
- xiii. The proponent shall carry out a comprehensive socio-economic assessment and also impact on biodiversity with emphasis on impact of ongoing land acquisition on the local people living around the proposed alignment. The Social Impact Assessment should have social indicators which can reflect on impact of acquisition on fertile land. The Social Impact Assessment shall take into consideration of key parameters like people's dependency on fertile agricultural land, socio-economic spectrum, impact of the project at local and regional levels.
- xiv. Biodiversity studies and conservation plan will be carried out by Zoological Survey of India or any organization of repute.
- xv. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent, based on the commitments made during the public hearing, shall include all the activities required to be taken to fulfil these commitments in the Environment Management Plan along with cost estimates of these activities, in addition to the activities proposed as per recommendations of EIA Studies and the same shall be submitted to the ministry as part of the EIA Report. The EMP shall be implemented at the project cost or any other funding source available with the project proponent.

- xvi. 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.
- xvii. 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.
- xviii. Passage for animal movement has to be detailed in the report.
- xix. 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.

Agenda No 13. Any other item with the approval of the Chair.

Project Name: Four laning of NH-163 from Hyderabad [ORR near Appa Junction at design Km.14+000 (existing Km.14+000)] to Manneguda [design Km.60+405 (existing Km.59+500)] in the State of Telangana under NH(O) on Hybrid Annuity Mode by M/s National Highway Authority of India-ToR reg.

Proposal No: IA/TG/INFRA1/457022/2024; File No: 10/78/2023-IA.III

3.13.1. The above mentioned proposal is for widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Rangareddy district of Telangana State. Total length of the project is 46.4 km. The alignment start at 17°20'56.61"N 78°21'29.30"E and ends at longitudes of 17°17'53.21"N 77°59'30.74"E.

3.13.2. The Hon'ble National Green Tribunal vide Judgment dated 6th November, 2023 in the matter of Balantrapu Vs. Union of India and NHAI 6th November, 2023 in Original Application No.242 of 2021(SZ) I.A. Nos.17 & 75 of 2023 (SZ) directed as following:

(i) The NHAI (Respondent No.2) is directed to undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.

(ii) The MoEF&CC (Respondent No.1) is directed to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months' time.

3.13.3. Accordingly, M/s NHAI on 02/01/2024 submitted the online application on PARIVESH Portal. The proposal was placed in the 353rd EAC meeting held on 10th & 12th January, 2024 and as directed by the Hon'ble NGT, the ToR was granted by the Ministry on 17/02/2024 along with the Public Consultation.

3.13.4. Further to the grant of ToR along with a specific condition to conduct public hearing, a representation dated 22.04.2024 has been received from the NHAI mentioning that the Hon'ble National Green Tribunal vide its Judgment dated 6th November, 2023 directed the NHAI to undertake only Environmental Impact Assessment (EIA) Study specific to minimize the loss to the trees before proceeding further. NGT further directed MoEF&CC to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months' time. It has been mentioned by the NHAI that the present proposal, as such, does not falls under the ambit of EIA Notification, 2006, however, it is because of the directions of NGT, an application has been made requesting the Ministry to grant ToR specific to the undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.

3.13.5. In view of the above judgment, NHAI requested the Ministry to exempt the conduct of Public Hearing, since the project does not falls under the ambit of EIA Notification, 2006 and also there is no additional acquisition of land envisaged for the project and the project shall be completed within the same ROW.

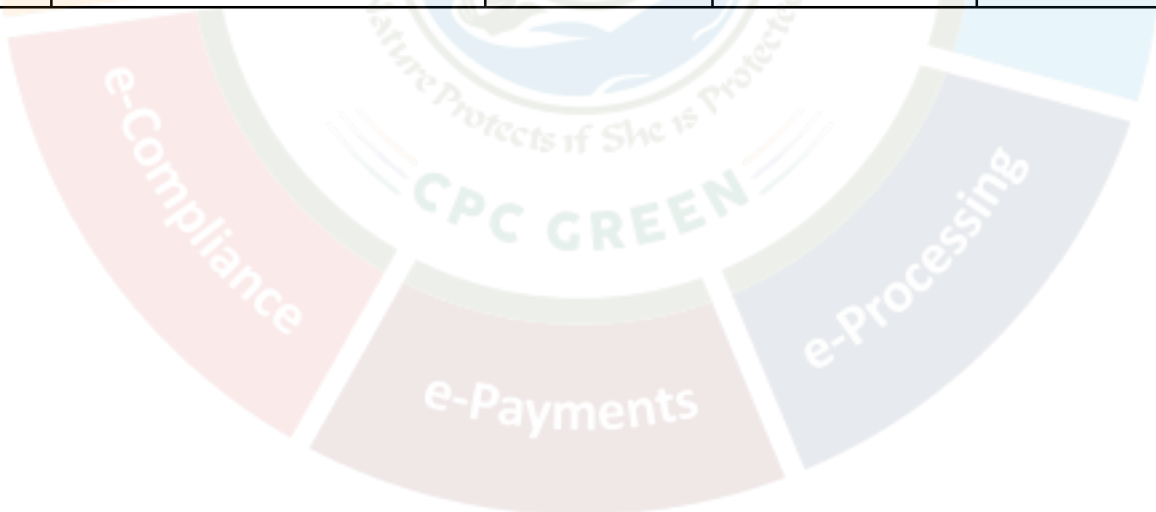
3.13.6. The EAC also went through the site visit report of the subcommittee constituted by the EAC for the purpose of making suggestions to PP for minimizing the loss of trees and was of the view that recommendations made by the subcommittee will help in minimizing the loss of trees and in saving considerable number of heritage trees especially of old Banyan trees.

3.13.7. The EAC, taking into account the submission made by the project proponent has a detailed deliberation in its 363rd meeting on 25th-26th April, 2024 and accepted the request made by NHAI and exempted the conduct of Public Hearing for the project with an advice to include the recommendations of the subcommittee submitted in its site visit report as additional terms of reference (Report Annexed) for conducting EIA.

Annexure-A

Following members were present during the 363rd EAC(Infra-1) meeting held on 25th-26th April, 2024.

S.no	Name	Designation	25 th April, 2024	26 th April, 2024
1	Shri Manmohan Singh Negi	Chairman	Present	Present
2	Shri S. Jeyakrishnan	Member	Present	Present
3	Prof. V.K Jain	Member	Present	Present
4	Dr. Jaya Kumar Seelam	Member	Present	Present
5	Dr. P.K.Dinesh Kumar	Member	Present	Present
6	Shri. PrakashTewari	Member	Present	Present
7	Dr. M.V. Ramana Murthy	Member	Present	Present
8	Shri. Sharan Deep Singh	Member	Absent	Absent
9	Shri Ashok Kumar Patre	Member	Absent	Absent
10	Ms.Bindu Manghat	Member	Absent	Absent
11	Dr. Niraj Sharma	Member	Present	Present
12	Shri B. Kishor	Member	Present	Present
13	Shri Amardeep Raju	Member Secretary	Present	Present



Site visit report of EAC(Infra-I) Sub-Committee for the following projects.

- I. **Item no. 3.5 of 338th EAC: Expansion of Existing Lighterage Jetty to Increase Capacity of Cargo Mix from 0.56 Million Tonnes Per Annum to 5.00 Million Tonnes Per Annum at P.O.: Digvijaygram, Sikka-361140, District: Jamnagar (Gujarat) by M/s. Shree Digvijay Cement Company Limited. -Terms of Reference-Reg. Proposal no: IA/GJ/INFRA1/438303/2023; File No. 10/59/2023-IA.III.**
- II. **Item no. 3.6 of 338th EAC: Revamping of old Jetty and strengthening and development of the existing berth for bulk cargo through direct berthing facilities for handling capacity of 4.00 Million Tonnes per annum, located at P.O.: Digvijaygram, Sikka-361140, District: Jamnagar (Gujarat) by M/s. Shree Digvijay Cement Company Limited-Reg. Proposal No: IA/GJ/INFRA1/438395/2023; File No. 10/57/2023-IA.III.**

1. Project Background.

The above mentioned proposals item no. 3.5 and 3.6 were placed before the EAC in its 338th meeting of Expert Appraisal Committee held on 24th August, 2023 and the EAC deferred the proposal for grant of Terms of Reference (ToR) for the want of following documents/information(s):

- i. Item 3.5: Expansion of Existing Lighterage Jetty to increase capacity of cargo mix from 0.56 million tonnes per annum to 5.00 million tonnes per annum and also proposed in other project that M/s SDCCL is now in the process of enhancing its cement plant capacity and is desirous of handling additional cargoes. SDCCL envisages to increase cargo handling rate of the existing berth at Old deep water Jetty to the capacity of approximately 4.00 MTPA.
- ii. Coal will be main cargo (2 MMTPA) besides other cargo such as Cement, Clinker, Gypsum, Limestone, Pet coke, Fly ash, Bauxite, Sandstone, Iron Ore, Sulphur, Fertilizer, Soda ash, Containers, Refractory Bricks, Bentonite, Alternate Fuels & Raw materials (AFR) and Other bulk materials.
- iii. EAC observed that the proposal aims to use both mechanical as well as lighterage operations. Committee was concerned about the increased pollution risks in several manners and especially considering that the boundary of Marine National Park and Sanctuary is in a very close proximity of the proposed project. Therefore, it has been decided that a EAC sub-committee will visit the site before grant of the ToR.
- iv. **Item no. 3.6:** EAC also could not understand why it is proposed to handle less cargo i.e. 4 MMTPA on more modern and mechanical operation facilities as proposed at

this facility than proposed expansion of existing lighterage jetty of 5 MMTPA as per agenda item 3.5.

- v. The Sub-committee will evaluate the cumulative impact of agenda item no. 3.5 and 3.6 considering that these are inter-dependent projects.
- vi. Committee also noted that EIA-EMP should be done in a cumulative fashion considering that both projects are inter-linked and are in very close proximity.

2. Site Visit and Brief of Project.

Accordingly, a site visit by the Sub-committee was conducted on 17th-19th March, 2024 for the proposed project., PP (M/s. Shree Digvijay Cement Company Limited) inter-alia presented a brief on the following projects to the sub-Committee as following.

- i. M/s. Shree Digvijay Cement Company Limited (SDCCL) owns and operates a state of the art modern technology & fully automatic cement plant at Digvijaygram (Sikka) in Jamnagar District. The current capacity of the cement plant is 1.8 million tons. Presently, the cement plant, operates a Lighterage Jetty facility near the cement plant to aid its plant operations. The Lighterage Jetty facility is capable of handling barges / vessels with 3,000 - 5,000 DWT. The mother vessel (5,000 - 35,000 dwt) is anchored at the anchorage point, approximately 7 to 10 kms from the port site. SDCCL is now in the process of enhancing its cement plant capacity and is desirous of handling additional cargo.
- ii. SDCCL also envisages to increase cargo handling rate of the existing berth at old Jetty and lighterage jetty constructed approximately in early 1953s in order to enable handling of such additional cargo volumes to aid its plant expansion. SDCCL is exploring the possibility of revamping & expanding its marine infrastructure to enable handling of such additional cargo volumes to aid its plant expansion.
- iii. Now, SDCCL envisages to increase cargo handling capacity from 0.56MTPA to 5.00 MTPA at lighterage jetty (item no. 3.5) and cargo handling capacity of 4.0MTPA (item no. 3.6) mix bulk cargo after Revamping of old the Jetty in view of this SDCCL is exploring the possibility of rejuvenating & expanding its marine infrastructure to enable handling of such additional cargo volumes to aid its plant expansion.

Shree Digvijay Cement Co. Ltd is proposing two projects:

Item no. 3.5: (i) 'Expansion of Existing Lighterage Jetty to increase capacity from 0.56 million tonnes per annum to 5.00 million tonnes per annum at P.O.: Digvijaygram, Sikka-361140, District: Jamnagar (Gujarat) by M/s. Shree Digvijay Cement Company Limited'.

- i. The rejuvenation of the project of existing marine facilities of SDCCL for handling of

captive & commercial bulk cargo will include the following major facilities which will enhance the cargo handling.

- a) Lighterage Jetty Berths for handling of bulk cargo through barge Lighterage operation
- b) Deepening of the Channel for ease of manoeuvring at Lighterage jetty
- c) Yard development for storage of dry bulk cargo.

ii. Proposed expansion Details.

S.no	Handling Material	Quantity (MTPA)		
		Existing	Proposed	Total Proposed
1	Lighterage Jetty Solid / Bulk Material *	0.564 (Cement, Clinker, Fertilizers, Fly ash & Coal etc)	4.436	5.000
Total		0.564	4.436	5.000

iii. Land use planning (area break-up)

Sr. No.	Details	Area Existing (In Hectare)	Area Proposed (In Hectare)	Area Total (In Hectare)
1	Lighterage Jetty	22.71	0.00	22.71
2	Storage Area including Greenbelt Area	0.00	2.89	2.89
Total		22.71	2.89	25.60

iv. Configuration and Dimensions of the Jetty.

S. no.	Existing jetty
1	Lighterage Jetty-(Strengthening of Jetty Structure-150 meters Existing Jetty) Lighterage Jetty- 207 meters x 20 meters wide of Jetty
2	Strengthening & Development of Existing Shallow Water Berth & Approach road. (Size- Length : 534 meters x width: 24.25 meters)
3	Dredging at Lighterage Jetty & 1.7km channel (Size- Length : 148799 meters x Height: 3 meters) ~0.5 Million cum in 1.7 km channel & at jetty area

Item no. 3.6: (ii) Revamping of old Jetty and strengthening and development of the existing berth for bulk cargo through direct berthing facilities for handling capacity of 4.00 Million Tonnes per annum, located at P.O.: Digvijaygram, Sikka-361140, District: Jamnagar (Gujarat) by M/s. Shree Digvijay Cement Company Limited.

- i. The revamping project of the existing marine facilities of SDCCL for handling of captive and commercial cargo will includes the Following major facilities which will enhance the cargo handling.
 - a) Strengthening and development of the existing berth for bulk cargo through direct berthing facilities.
 - b) Development of approach road from existing berth to storage area.
 - c) Deepening of the Channel for ease of manoeuvring at old jetty.

d) Storage Area development for storage of bulk cargo.

ii. Project Details:

S.no	Handling Material	Existing Quantity(MTPA)	Proposed Quantity(MTPA)	Total Proposed Quantity(MTPA)
1	Old Jetty Solid/Bulk Material *	0.00	4.00(Cement, Clinker,Fertilizers, Fly ash & Coal etc)	4.00
	Total	0.00	4.00	4.00

iii. Land Use Planning (Area break-up)

S.no	Details	Existing Area (In Hectare)	Proposed area (InHectare)	Area Total (In Hectare)
1	Old Jetty	0.00	21.00	21.00
2	Storage Area including Greenbelt Area	0.00	10.06	10.06
	Total	0.00	31.06	31.06

iv. Configuration and Dimensions of old Jetty after modernization:

- Berth dimensions (Size- Length:250 meters x width: 20 meters)
- Approach to Berth (Size- Length: 516.36 meters x width: 13.8 meters)
- Approach Bund: (Size- Length: Size- 2750 meter)

3. Material handling process of Both the proposed jetties.

- Shree Digvijay Cement has plans to handle mother vessels through lighterage operation, the mother vessel will be anchored at the anchorage point at Sikka located around 7.0 km from deep sea jetty and 10.0 km from the Lighterage Jetty. Handling of Dry Bulk Seafaring Vessels will be done thru Lighterage Operation at Lighterage Jetty (Partially Lighterage & Partially Direct-Berthing) at Deep Sea Jetty. The mother vessels are equipped with the derricks on top of it to load and unload the cargo. The general cargo handling rate of the derricks range from 800 to 1000 tons per hour. Simultaneously two barges can be handled in bigger size mother vessels. The mother vessels are loaded/unloaded through barge lighterage operation till its reaches the desired draft limit to manoeuvre safely.
- At deep sea jetty area, the bed level ranges around 8.00 to 8.50 m below Common Draft. Hence, the mother vessels will be required to unload through barge operation at anchorage point till mother vessel's draft reaches to 7.65m. All vessels of > 10000 DWT will be anchored at deep sea at the anchorage point at Sikka.
- However, for the Lighterage Jetty, to handle the mother vessels through lighterage operation thru barges ranging from sizes of 3000 DWT which will transfer the cargo using ship mounted crane between seafarer mother vessels and lighterage jetty

location. All Vessel capacity upto 10000 DWT will be anchored at deep sea. Further, vessel having the capacity upto 10000 DWT will be anchored at old jetty.

- iv. Material unloaded at old jetty as well as lighterage jetty will be handled through mechanized method like ship unloader, grab bucket unloader, etc., and further handled through conveyor belt / pipe conveyor from the both jetties (Lighterage / Old Jetty) to stack yard-1 and 2.

4. Observations and recommendations of the Sub-committee.

- i. A site visit was conducted during the high tide period by the subcommittee.
- ii. The committee noticed that the Marine National Park & Sanctuary (MNPS) Jamnagar is located approximately 3 km away from the project site. In view of the existence of marine national park, a study on impact of dredging and dumping on marine ecology is suggested along with a management plan in consultation with forest department.
- iii. The Committee also advised to conduct a cumulative impact assessment on pollution load, by taking into consideration of both projects, including spillage during transshipment, loading/unloading operations at both jetties. A suitable material handling system to be designed to minimise pollution.
- iv. The health assessment of existing jetties to be made and replaced with new open sea jetty and strengthening of old road and jetty.
- v. PP shall prepare a separate mangrove conservation plan in consultation with the state forest department for the areas including degraded mangrove areas identified in the CRZ.
- vi. As committed during discussion in site visit, approach road for existing lighterage Jetty shall be strengthened. In the layout plan/conceptual plan the road shall be clearly demarked with dimensions.
- vii. Revamping and development of existing berth, *inter alia* include new piling followed by construction of berth. The same shall be clearly mentioned in the project description of EIA/EMP along with the components which shall be part project including dismantling of old piles and structures.
- viii. The details of cargo handling and its quantity shall be included in the EIA/EMP report.
- ix. PP shall explore the option to make the cover sheds for storage area. The storage area shall be outside the CRZ area.
- x. The Committee also observed that during the presentation it was mentioned that the Storage area including in the proposed Greenbelt Area however, the committee advised that, the land allotted for the greenbelt and storage shall be drawn separately and same shall be demarcated in the layout plan/conceptual plan.

Annexure -A**List of Participants**

A sub-committee of the following members participated in the visit of M/s Shree Digvijay Cement Company Ltd. at P.O. Digvijaygram, Sikka, District Jamnagar, Gujarat.

S. No.	Name	Designation
1.	Shri. S. Jeyakrishnan	Member (EAC)
2.	Dr. M.V. Ramana Murthy	Member (EAC)
3.	Dr. V K Jain	Member (EAC)
4.	Shri. Ramesh Anguluri	R.O. (Infra-1)- Representative of Ministry

Following representatives from M/s Shree Digvijay Cement Company Ltd. were present during the visit at Shree Digvijay Cement Company Project Site:

S. No.	Name	Designation
1.	Shri. R. Krishnakumar	CEO
2.	Dr. Girish Mehta	Vice President – Mineral Resource Management & Logistics
3.	Dr. Milan Trivedi	Sr.General Manager – Projects & Capex
4.	Shri. Syed Mohsin Ali	Dy.General Manager – Strategy

Following representatives from DPR Consultant/EIA Consultant are attended were present during the visit at Shree Digvijay Cement Company Project Site:

1	Mr JiyalalJaiswar	M/S Aqua Air Environmental engineers pvt. Ltd.,Surat
2	Mr Sanjeev Kapasi	M/s Global Marine Engineering consultancy, Ahmedabad

Annexure B: Project Map & Site Photographs.



Existing Literage Jetty.



Approach Road for Literage Jetty.

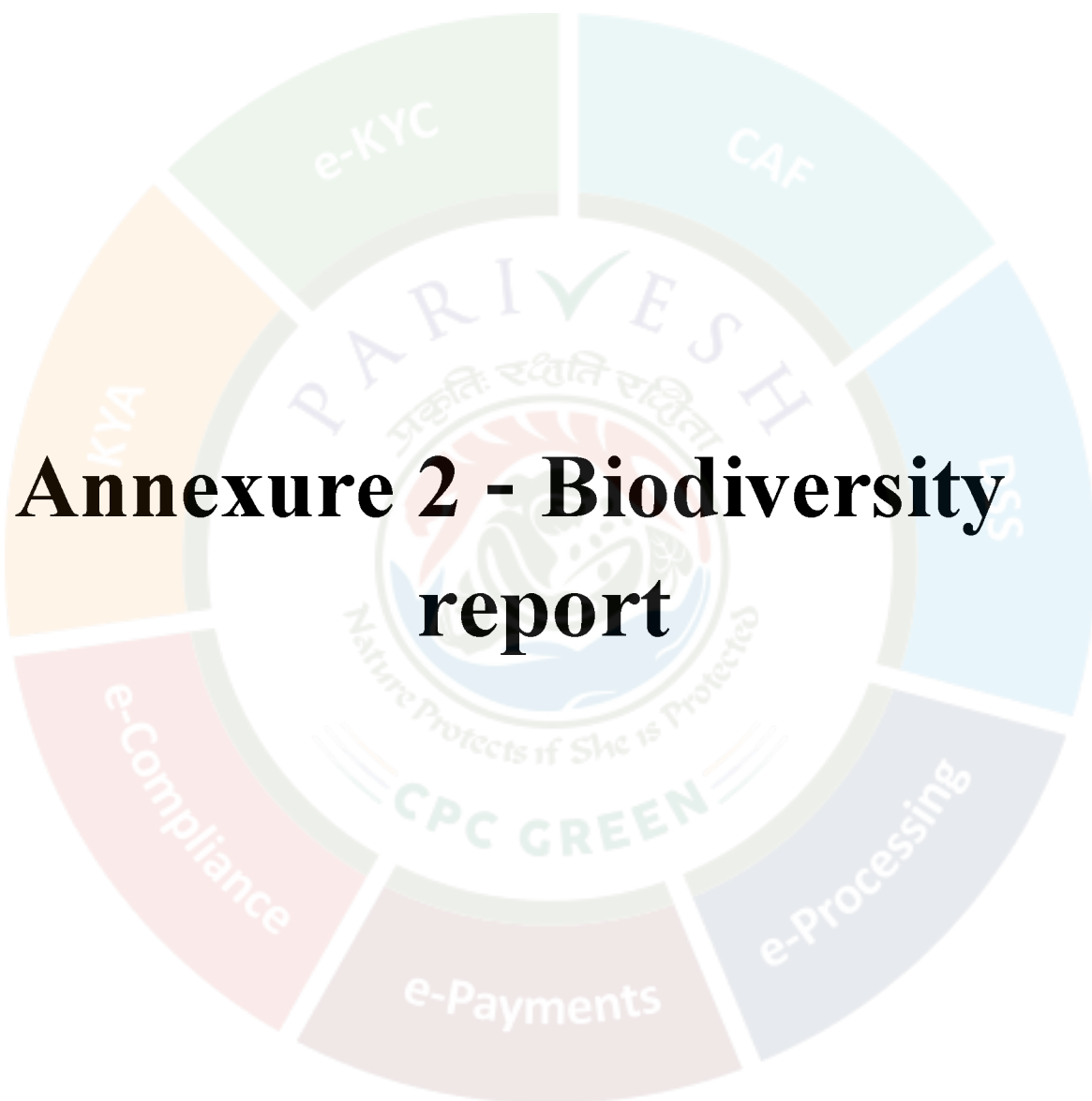


Proposed approach conveyor belt path for Revamping Jaetty.



Proposed Revamping Jaetty Piles.





Annexure 2 - Biodiversity report

KUVEMPU UNIVERSITY

Accredited by NAAC with "A"

Department of P.G. Studies & Research in Wildlife and Management
Jnanasahyadri, Shankaraghatta-577451, Karnataka, India

Report of BIODIVERSITY STUDY

Project Name: Proposed Harohalli Industrial Area 5th Phase

Location: Kanchugaranahalli & Kanchugaranahalli Kaval, Bidadi Hobli of Ramanagar Taluk and Muddenahalli & Yerehalli villages of Harohalli Taluk, Ramanagara District to an extent of 369.19 Hectares (912.31 Acres)

by

Dr. Vijaya Kumara

Professor and Chairman

**The Department of PG Studies and Research in Wildlife and Management,
Kuvempu University, Shankaraghatta – 577 451,
Shivamogga District, Karnataka**

March 2024



KUVEMPU UNIVERSITY

DEPARTMENT OF P.G. STUDIES AND RESEARCH IN WILDLIFE AND MANAGEMENT

Bioscience Complex, Joanasahyadri, Shankaraghatta-577451,

Shivamogga Dist., Karnataka, India

Prof. Vijaya Kumara, M.Sc., Ph.D.
CHAIRMAN

Office: 08282256301-306 Ext: 337

Mobile: 09448206428

e-mail: vijay15675@gmail.com

No: KU/WL/ *307* 2023-24

Date: 15/03/2024

CERTIFICATE

This is to certify that, the report of **Biodiversity Study in consultation with CWLW/FD of Bannerughatta National Park for proposed Harohalli Industrial Area 5th phase, located at Kanchugaranahalli & Kanchugaranahalli Kaval of Bidadi Hobli in Ramamanagara Taluk, and Muddenahalli & Yerehalli Villages of Harohalli Hobli & Taluk, Ramanagara District to an extent of 369.19 Ha (912.31 Acres)** was carried out by the Department of P.G. Studies and Research in Wildlife and Management, Kuvempu University Shankaraghatta - 577 451 during 12th February 2024 to 14th March 2024.

CHAIRMAN

Dr. Vijaya Kumara, M.Sc., Ph.D.,
Professor & Chairman
Dept. of Wildlife & Management
Kuvempu University
SHANKARAGHATTA-577 451,
Shivamogga Dist. Karnataka, India

CONTENTS

Sl No.	Particulars	Page No.
1	Introduction	01
2	Objectives of the study	03
3	Study area	04
4	Methodology	09
5	Results and Discussion	14
6	Conservation Action Plan for Wildlife Management in the study Area	39
7	Conservation strategies for scheduled I species of the study area: Leopards and Sloth bears	44
8	Recommendation for Wildlife Habitat Improvement and Conservation Actions for the study area	46
9	Budget for Conservation and management of Wildlife	48
10	General recommendations	56
11	Conclusion	58
12	Reference	

List of tables

Sl No.	Particulars	Page No.
1	Floral Diversity of the study area	15-18
2	Faunal Diversity of the study area	19-34
3	Budget for Conservation and management of Wildlife	48

List of images

Image No.	Particulars	Page No.
1	Toposheet to show the proposed site	4
2	Location of Proposed Industrial Area	5
3	Schematic representation of quadrat layout in the field	10
4	Schematic representation transects layout in the field	12
5	Leopard (<i>Panthera pardus</i>)	35
6	Sloth Bear (<i>Melursus ursinus</i>)	35
7	Indian Peafowl (<i>Pavo cristatus</i>)	36
8	Habitat restoration	49
9	Awareness activities	50
10&11	Wildlife rescue and rehabilitation	51
12&13	Ecological surveys and Biodiversity Assessment	52
14&15	Capacity building for Stake holders	52
16	Tranquilizer gun with darts	53
17&18	Baited traps and Capture nets	53
19	Handling Equipments	54
20&21	Transportation crates	54
22&23	GPS Tracking and Radio Collar	55
24	Artificial Bird Nests	55
25&26	Biodiversity assessment at the study area	59
27	Interaction with villagers for secondary data	59
28	Study team Members at the study area	60
29	Degraded dry grasslands in the project area	60

1. INTRODUCTION

Biodiversity, encompassing the richness and variety of life forms across genetic, species, and ecosystem levels, constitutes the very foundation of our existence, serving as a vital life support system. However, in contemporary times, this intricate web of life faces unprecedented threats, with the global rate of biodiversity loss accelerating due to pervasive anthropogenic activities. These actions not only erode biodiversity but also disrupt delicate ecological balances, exerting profound impacts on climatic conditions and ecosystem resilience (McMichael et al., 2013).

The roots of biodiversity decline penetrate deep into the fabric of human activities, with unsustainable practices in land use, resource exploitation, and habitat modification exerting relentless pressure on natural ecosystems. Habitat loss and fragmentation, driven by urbanization, agricultural expansion, and industrial development, sever vital ecological connections, rendering landscapes increasingly fragmented and inhospitable for many species. Moreover, the introduction of invasive species disrupts native ecosystems, outcompeting indigenous flora and fauna and altering ecosystem dynamics in unforeseen ways. Concurrently, pollution of the environment, arising from industrial effluents, agricultural runoff, and urban waste, further imperils biodiversity, contaminating air, water, and soil, and poisoning both terrestrial and aquatic habitats (WRI, 1992).

In the face of escalating biodiversity loss, it is imperative to recognize the irreplaceable value of existing biological diversity. Unlike many other resources, biodiversity is inherently non-renewable, with each lost species representing an irreversible diminishment of the planet's natural heritage. Despite advancements in technology, humanity remains incapable of replicating the intricate web of life that sustains us, underscoring the urgent need for concerted action to safeguard biodiversity for future generations (Janetos, 1997).

To navigate the complex terrain of environmental decision-making and assess the potential ramifications of proposed development projects, Environmental Impact Assessment (EIA) stands as a cornerstone process. Yet, the task of predicting ecological impacts with certainty remains elusive hindered by the intricate interplay of ecological variables, limited scientific understanding, and resource constraints. This inherent complexity poses significant challenges to the integration of ecological impact assessment within the broader framework of EIA, necessitating innovative approaches to enhance predictive accuracy and decision-making efficacy (Mangel et al., 1996; Treweek, 1996).

In this context, the Rapid Biodiversity Assessment (RBA) emerges as a pivotal tool for unravelling the intricate tapestry of biodiversity within project implementation areas. By providing detailed insights into the distribution, abundance, and ecological significance of flora and fauna species, RBAs offer invaluable guidance for informed decision-making and sustainable development planning. Through the systematic identification of species-level biodiversity and rigorous comparison with existing datasets and scientific literature, RBAs furnish a robust foundation for the formulation of tailored management strategies aimed at conserving biodiversity hotspots and mitigating potential ecological impacts.

In responding to the imperative of informed decision-making and sustainable development, a Rapid Biodiversity Assessment (RBA) has been meticulously conducted for the proposed Harohalli Industrial Area 5th Phase, situated approximately 5.89 kilometers away from the ecologically significant Bannerghatta National Park in Karnataka, India. This comprehensive assessment aims to shed light on the presence of diverse flora and fauna within the project implementation area, offering insights into the ecological implications of the proposed development site and charting a course towards ecologically sensitive development practices.

Integral to the preparation of this report was the consultation with Deputy Conservator of Forests (DCF) from Bannerghatta and Range Forest Officers (RFOs) of Kanakpura and Ramanagara ranges. Their expertise and insights were instrumental in providing valuable suggestions and guidance, ensuring a robust and holistic assessment of the biodiversity landscape surrounding the proposed industrial area.

By leveraging the expertise and knowledge of local forest authorities, this assessment not only acknowledges the ecological significance of the region but also underscores the importance of collaborative efforts in promoting sustainable development practices. Through this collaborative approach, we aim to strike a balance between developmental aspirations and the conservation of biodiversity, thereby fostering a harmonious coexistence between human activities and the natural environment.

2. OBJECTIVES OF THE STUDY

The main objectives of the rapid biodiversity assessment in the proposed Project site are:

- a) To perform detailed primary and secondary data collection on biodiversity in the core and buffer zone of the project site.
- b) To Study and Identify flora and fauna that can be affected by industrial activities through detailed field study, considering the proximity to Bannerghatta National Park.
- c) To promote sustainable development practices that optimizes resource use and management opportunities within the study area.
- d) To ensure environmental considerations are explicitly addressed and incorporated into the development decision-making process.
- e) To anticipate and mitigate adverse significant biophysical, social, and other relevant effects of the proposed project proposal.
- f) Identify key conservation challenges and threats to biodiversity in the study area.
- g) Provide recommendations for integrating biodiversity conservation measures into industrial development planning.
- h) The proposed area encompasses the proposed Harohalli Industrial Area 5th Phase and its immediate surroundings, including adjacent natural habitats such as forests, grasslands, wetlands, and riparian zones. Special attention was given to areas bordering Bannerghatta National Park, recognizing the park's ecological significance and the need to maintain connectivity for wildlife movement.

3. STUDY AREA:

The proposed Harohalli Industrial Area 5th Phase, nestled in the vicinity of the iconic Bannerghatta National Park, Karnataka, stands at the crossroads of industrial expansion and biodiversity conservation. This scientific report endeavors to unveil the outcomes of an exhaustive biodiversity survey, conducted to assess the richness of flora and fauna within the study area, identify potential conservation challenges, and present recommendations for sustainable development.

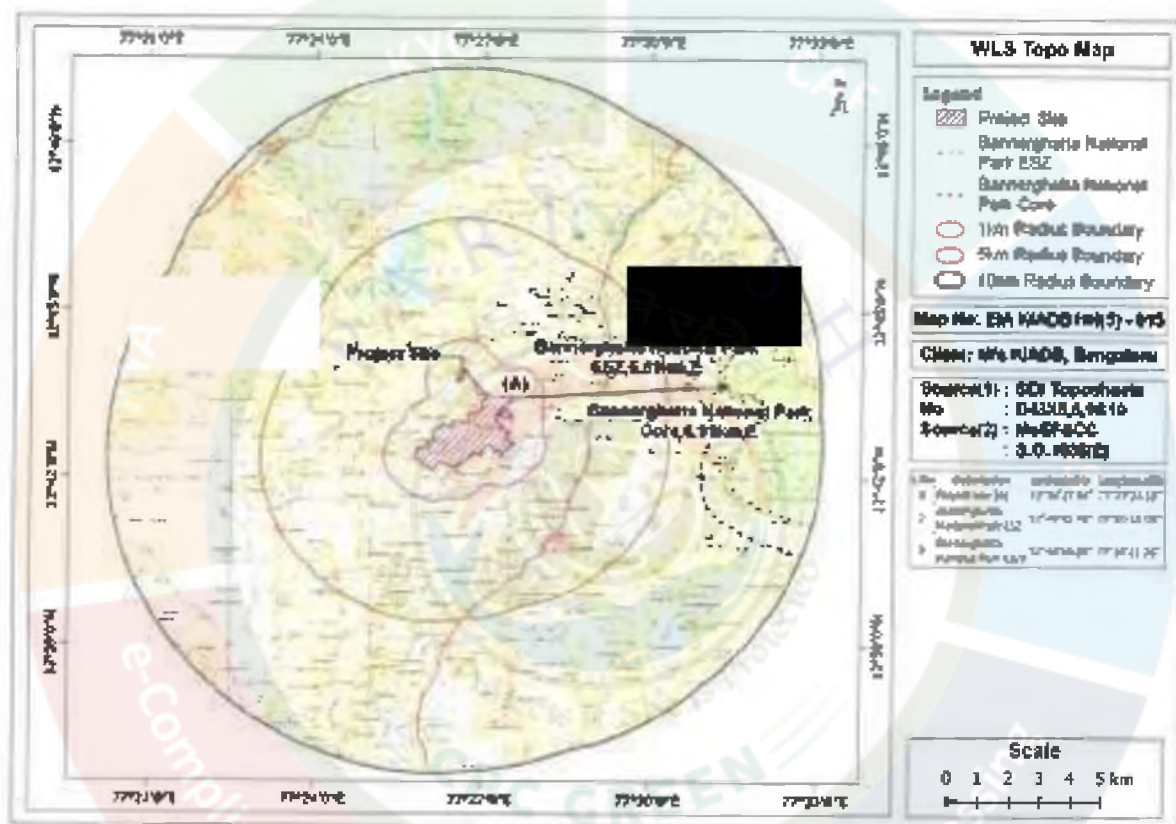


Image 1: Topo Sheet to show the proposed site

Located in Kanchugaranahalli, Kanchugaranahalli Kaval, Bidadi Hobli of Ramanagar Taluk, Yerihalli, and Mudenahalli villages of Harohalli Hobli, Kanakapura Taluk in Ramanagara District, Karnataka, India, the proposed industrial site spans a vast expanse of 369.19 hectares (912.31 acres). The landscape encompasses a diverse topography, ranging from undulating hills to expansive plains, offering a canvas for various developmental ventures. Adorned with patches of verdant vegetation comprising indigenous flora such as deciduous trees and shrubs, the area presents a mosaic of natural splendor. Furthermore, meandering streams or rivulets crisscross the vicinity, enhancing its ecological diversity.

Despite the impending industrialization, stringent conservation measures will be enacted to safeguard the area's distinctive geographical features.

The eco-sensitive zone of Bannerghatta National Park extends approximately 5.89 kilometers to the east from the project site, while the core area of the park lies about 6.91 kilometers to the east. This juxtaposition emphasizes the paramount importance of ensuring the ecological integrity of both the industrial area and the adjacent protected zone. The proposed project area not comes under Eco Sensitive Zone.

Symbolically, the geographical coordinates of the project site stand as cardinal points guiding its spatial delineation and environmental evaluation: Latitude - $12^{\circ} 43' 27.64''$ N, Longitude - $77^{\circ} 27' 33.59''$ E. These coordinates serve as beacons, guiding the formulation of comprehensive environmental impact assessments and mitigation strategies.

Given its proximity to Bannerghatta National Park and its eco-sensitive zone, proactive conservation efforts must be integrated into the industrial development plans. Measures such as habitat restoration, wildlife corridors, and sustainable resource management are imperative to foster harmonious coexistence between industrial progress and ecological preservation.

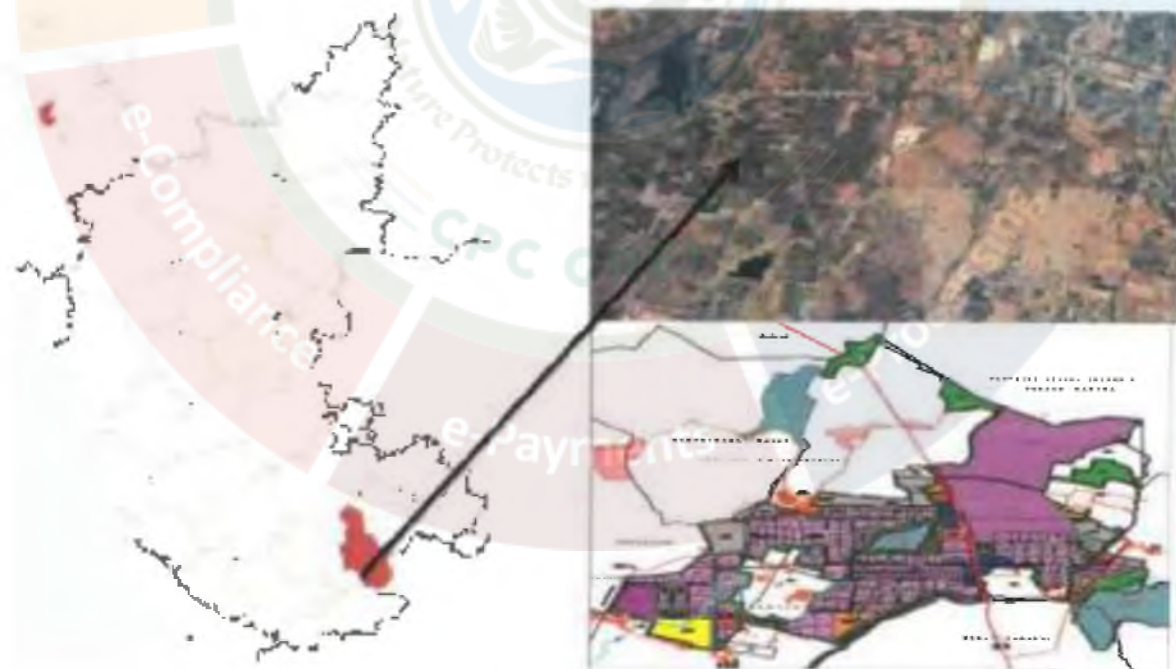


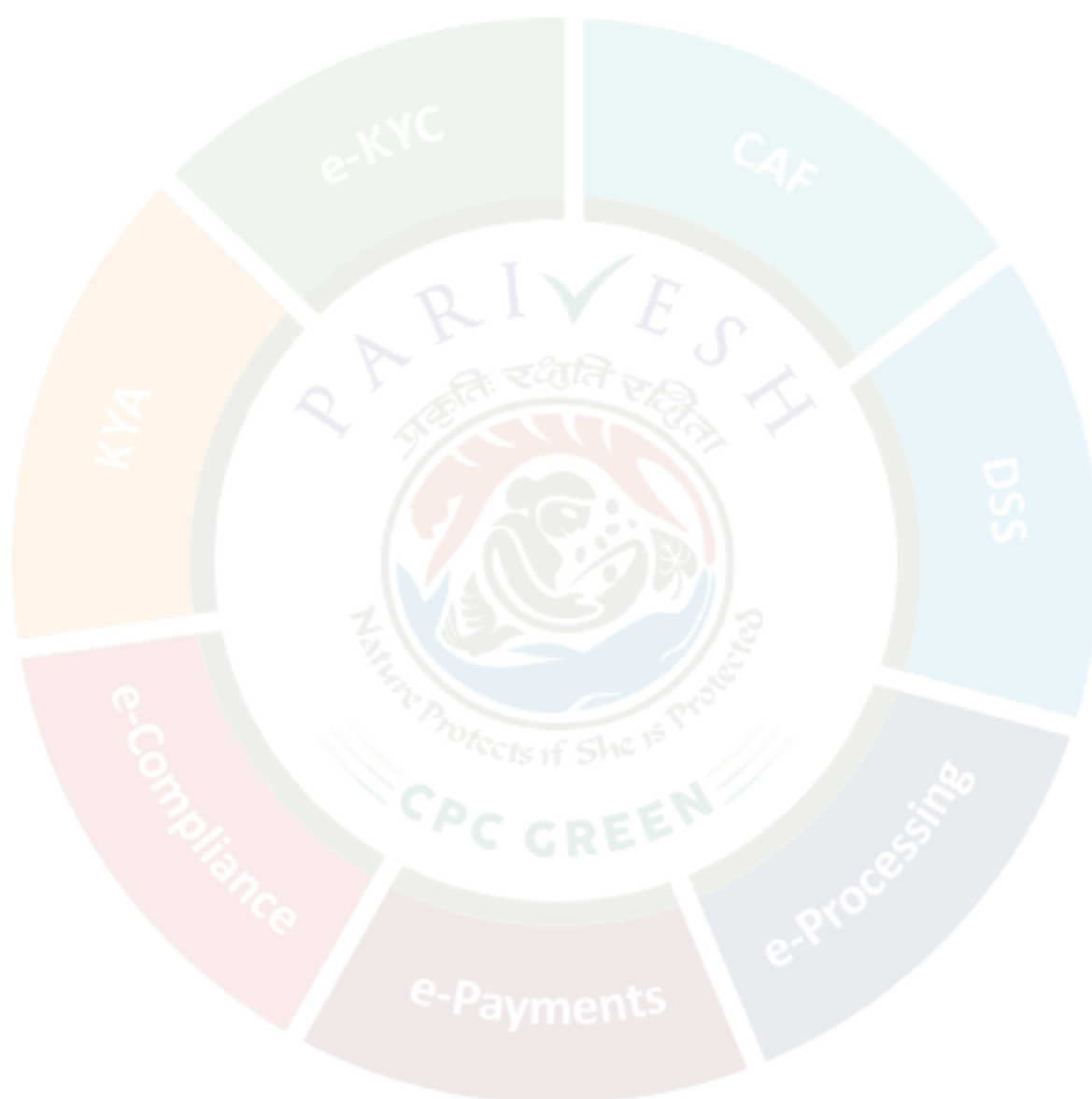
Image 2: Location of Proposed Industrial Area

3.1 Harohalli Industrial Area 5th Phase: General Characteristic Features

- a) **Topography:** The Harohalli Industrial Area is characterized by a predominantly flat terrain with some gentle undulations. Situated on the outskirts of Bangalore, it lies within the Bannerghatta region, marked by a mix of urban and semi-rural landscapes.
- b) **Slope:** The industrial area is situated at relatively low elevations, ranging from approximately 700 to 900 meters above sea level. The terrain features gentle slopes, contributing to ease of development and infrastructure establishment.
- c) **Configuration:** Within the Bannerghatta region, the Harohalli Industrial Area is integrated into the surrounding landscape characterized by urban sprawl and agricultural fields. The area exhibits a blend of built-up environments, industrial zones, and natural green spaces.
- d) **Rainfall:** The average annual rainfall in the Harohalli Industrial Area is approximately 800-850 mm. adequate precipitation supports the region's vegetation and contributes to the recharge of groundwater resources. However, the area may experience variability in rainfall patterns due to its proximity to urbanized regions.
- e) **Climate:** The area experiences a tropical climate, with distinct wet and dry seasons. Summers are generally hot and dry, while the monsoon season brings increased humidity and rainfall, rejuvenating the landscape. The industrial activities may contribute to localized heat island effects and air pollution, influencing microclimatic conditions.
- f) **Temperature:** Temperatures in the industrial area range from a minimum of around 15°C to a maximum of approximately 35°C. The region experiences variations in temperature throughout the year, influenced by seasonal changes and urban heat effects associated with industrial activities and urbanization.
- g) **Geology, Rock, and Soil:** The geological composition of the Harohalli Industrial Area includes formations from the Deccan Plateau, characterized by basaltic rock formations and lateritic soils. The soil structure varies, with some areas exhibiting sandy loam soils suitable for agriculture. However, industrial activities may lead to soil degradation and contamination in certain areas.

- h) **Vegetation:** The natural vegetation profile of the area may have included scrubland and grassland ecosystems, with species adapted to semi-arid conditions. Afforestation efforts and urban development have introduced additional plant species, including ornamental trees and shrubs. However, industrialization may have led to habitat loss and fragmentation, impacting local biodiversity.
- i) **Water Sources:** Key water sources in the industrial area include bore wells, wells, and water supply networks. While natural water bodies are limited, artificial reservoirs and rainwater harvesting structures may contribute to water availability. However, industrial effluents and runoff may pose challenges to water quality and ecosystem health.
- j) **Fauna:** Faunal diversity in the Harohalli Industrial Area may include species adapted to urban and peri-urban environments. Potential fauna could include small mammals like Indian Palm Civet, Indian Grey Mongoose, Indian Hare, reptiles such as Common Indian Monitor, and various bird species adapted to urban habitats. However, industrial activities and habitat alteration may pose threats to wildlife populations and biodiversity conservation efforts.
- k) **Avifauna:** Bird species in the area may encompass urban-adapted species such as House Sparrow, Indian Robin, Common Myna, Black Kite, and various species of pigeons and doves commonly found in urban environments. However, habitat degradation and pollution from industrial activities may affect avian populations and nesting sites.
- l) **Reptiles:** Reptile diversity may consist of species adapted to semi-urban landscapes, including Common Indian Skink, Bronzeback Tree Snake, Common Indian Krait, and Common Indian Rat Snake, among others. However, habitat loss and fragmentation due to industrialization may impact reptile habitat and migration corridors.
- m) **Amphibians:** Amphibian species such as Common Indian Toad and Bull Frog may inhabit the industrial area, adapting to artificial water bodies and seasonal variations in water availability. However, pollution and habitat degradation from industrial activities may pose threats to amphibian populations and reproductive success.

- n) **Insects & Arthropods:** The industrial area supports a variety of insects, including ants, cockroaches, mosquitoes, and arachnids such as spiders and scorpions, contributing to the overall biodiversity of the ecosystem. However, pesticide use and habitat disturbance from industrial activities may affect insect populations and ecological interactions within the ecosystem.



4. METHODOLOGY:

- a) **Secondary Data Analysis:** Extensive literature review, biodiversity databases, and satellite imagery were analysed to compile baseline information on flora and fauna diversity, habitat types, and land-use patterns.
- b) **Field Surveys:** Transect walks, quadrat sampling, and opportunistic observations were conducted to document species richness, abundance, and habitat characteristics across different habitat types.
- c) **Stakeholder Consultations:** Engagement with local communities, conservation organizations, government agencies, and industry stakeholders provided insights into traditional knowledge, conservation priorities, and potential threats to biodiversity.

4.1 Study Period

The field study for the rapid biodiversity assessment was conducted during the period 12th February 2024 to 14th March 2024.

4.2 Materials used for the field study:

- Nikon P1000 digital camera
- Binoculars: Olympus 8-16 * 40 Zoom
- GPS device: Garmin Oregon 650
- Measuring tape
- Compass
- Field guides

4.3 Sampling Strategies:

Stratified random sampling with probability proportion to the size (PPS) was adopted for analysing vegetation composition of all the types encountered. Given the time constraints and resource availability, an adapted sampling strategy was employed to ensure a representative assessment of vegetation composition in both the core and buffer zones of the project area keeping in mind the proximity of Bannerghatta National Park.

4.4 Quadrant Method:

Ten quadrats measuring 10m x 10m each were systematically placed across the study area. This size was selected based on its proven effectiveness in vegetation sampling within

similar ecological regions. Special attention was given to ensuring randomness in quadrat placement, capturing variations in elevation and land cover categories.

At each quadrat, all tree species were identified and tallied, with their respective Circumference at Breast Height (CBH) recorded. Trees with a CBH exceeding 30 cm were classified as mature trees, while those with a CBH between 17 cm and 30 cm were categorized as saplings. Additionally, shrub species present within each quadrat were documented.

For the herbaceous layer or ground flora assessment, a nested quadrat method utilizing 1m x 1m plot size was implemented in two opposite corners of each quadrat.

In addition to vegetation composition assessment, environmental parameters such as soil type, moisture content, and sunlight exposure were recorded for each quadrat to provide context for the observed floral diversity patterns. These data contribute to a holistic understanding of the ecological dynamics within the study area, aiding in the formulation of effective conservation and management strategies.

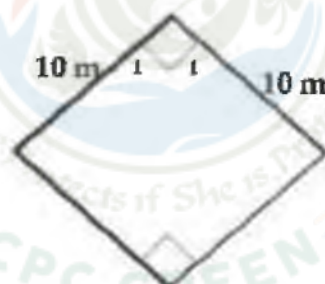


Image 3: Schematic representation of quadrates layout in the field

4.5 Species Identification

Each plant was identified in the field, noting either the botanical name or local name. Photo field manuals of plant taxonomy were utilized for on-site identification of flora (Easa, 2003; Sasidaran, 2004 & 2010). When necessary, photographs and specimens of unidentified plants were collected, accompanied by detailed field notes including plot number, locality, habitat description, and flower colour. The expertise of experienced taxonomists was then enlisted to identify these specimens accurately.

4.6 Marking Location of Sample Sites

Each sample site was precisely located using Google Earth imagery. The exact longitude, latitude, and elevation above mean sea level (MSL) were recorded using GPS devices.

4.7 Faunal Diversity Estimation

A qualitative assessment of faunal communities, encompassing vertebrate classes such as Mammalia, Aves, Reptilia, and Amphibians, as well as the non-vertebrate class of Insecta (Butterflies and Odonates), was conducted using scientific sampling methods. The species identified were cross-referenced with the IUCN Red List to gain insights into their conservation status and associated conservation strategies. This comprehensive evaluation provides valuable information for understanding the biodiversity and conservation needs of the studied ecosystem.

4.8 Continuous Sampling

For the qualitative assessment of faunal communities in the study area, the transect method was employed. This method involves setting up a sampling line across areas exhibiting clear environmental gradients. Locations for laying down transects were selected based on observed changes in land use/land cover and elevations within the study area. This approach allows for systematic sampling along gradients, enabling the collection of data representative of the varied environmental conditions present in the study area.

4.9 Belt Transect Method

In the present study, the belt transect method was employed to assess faunal communities. This method involved laying down a transect line marked and numbered at 1-meter intervals along its entire length. A 100-meter rope was utilized for this purpose. The placement of the transect line was determined based on the direction of the environmental gradient observed within the study area. Special care was taken to avoid mixing various habitats along the transect line, ensuring that each habitat type was represented accurately. This approach facilitates systematic sampling and data collection, allowing for the assessment of faunal diversity across different environmental gradients within the study area.

The species touching the line may be recorded along the whole length of the line (continuous sampling) and also a width of 10 m was also observed in both sides of the transect line set in the field. Hence an area of 100 x 10 m was observed at each habitat and elevation gradient in the study area

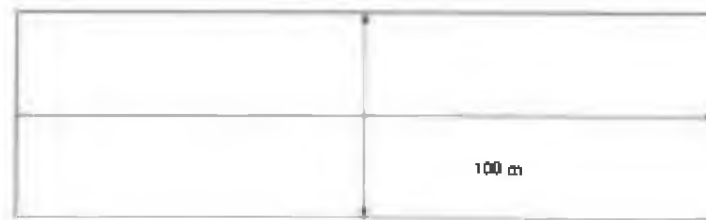


Image 4: Schematic representation transects layout in the field

4.10 Marking of Transects

Each transect location was precisely located using Google Earth Imagery. The path of each transect was then recorded using the tracking option available in the GPS device.

4.11 Sampling Strategy for Various Classes of Fauna

a) Mammalia

The assessment of mammals involved a combination of direct and indirect sighting methods. Preference was given to indirect observations, such as footprints, burrows, skeletons, fecal materials, hairs, and horn remains, as well as the presence of dens and caves. Given that many mammals are secretive or nocturnal, direct sightings were rare and indirect evidence played a crucial role in their detection. Indicators such as tracks, burrows, nests, feeding signs, footprints, tail markings, and faecal material were carefully documented. Additionally, discussions were conducted with local residents to gather further insights into mammal presence and behaviour. Photographs of indirect sightings were taken, and identification was performed using field guides (e.g., Nameer, 2015) and consultation with experts. This comprehensive approach allowed for a thorough assessment of mammalian diversity within the study area.

b) Aves (Birds)

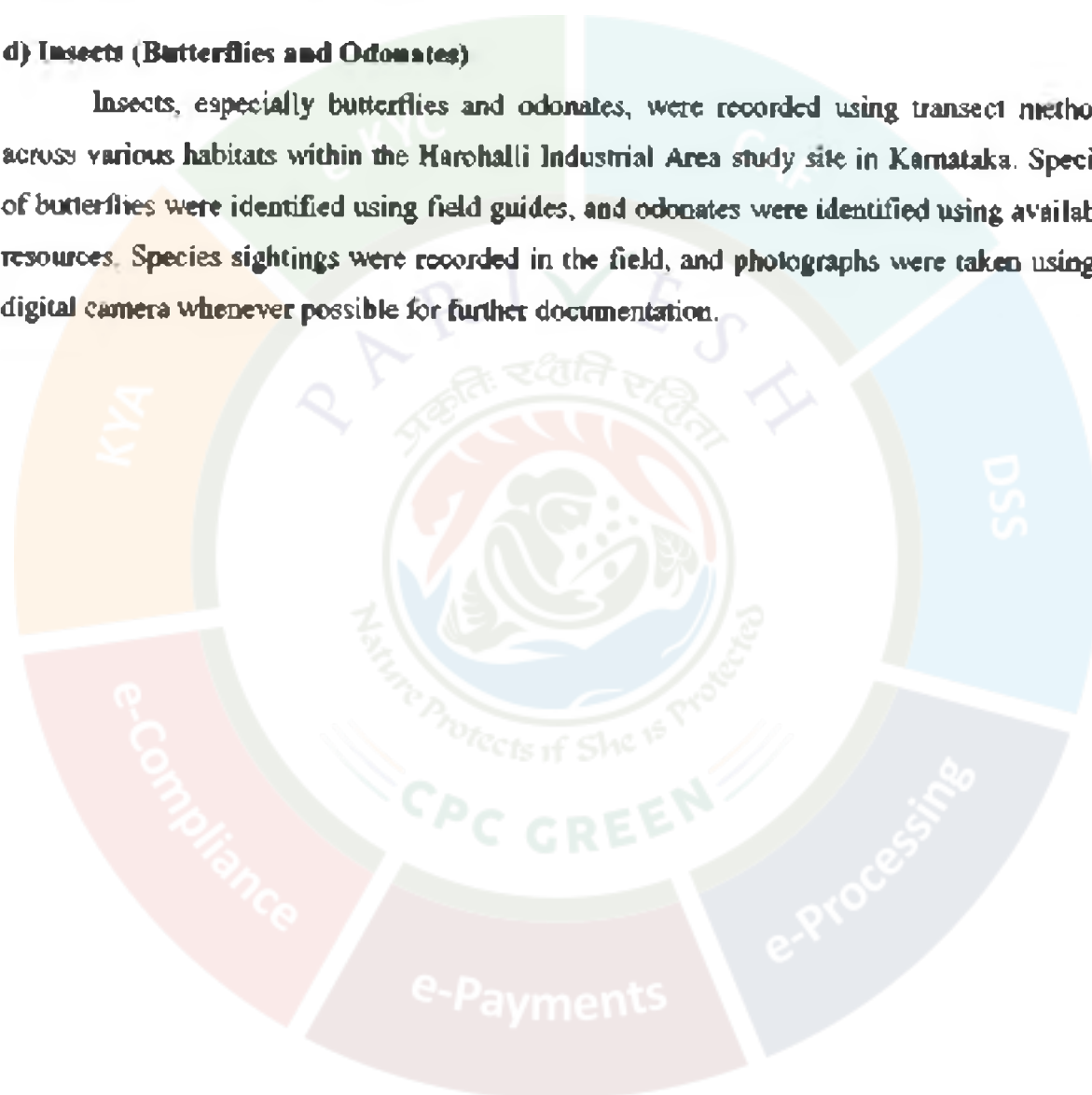
Birds were systematically recorded along all transects within the Harohalli Industrial Area study site in Karnataka. Both direct sightings and vocalizations were used for species identification, regardless of their distance from the transects. Observations were made using binoculars, and bird species were identified with the assistance of a field guide (e.g., Sashikumar et al., 2011). This comprehensive approach facilitated the documentation of avian diversity within the study area.

c) Herpetofauna (Reptiles and Amphibians)

Surveys of herpetofauna were conducted across various microhabitats within the Harohalli Industrial Area study site in Karnataka, both during daytime and evening hours. GPS records were utilized to outline the area covered during the field survey and to mark specific points where reptiles and amphibians were encountered. Photographs were taken using a digital camera to document encountered species.

d) Insects (Butterflies and Odonates)

Insects, especially butterflies and odonates, were recorded using transect methods across various habitats within the Harohalli Industrial Area study site in Karnataka. Species of butterflies were identified using field guides, and odonates were identified using available resources. Species sightings were recorded in the field, and photographs were taken using a digital camera whenever possible for further documentation.



5. RESULTS AND DISCUSSION:

The Harohalli Industrial Area, situated in the vicinity of Bangalore and adjacent to the renowned Bannerghatta National Park, reveals a diverse array of wildlife thriving amidst industrial activities and natural landscapes. Our comprehensive study, conducted meticulously over an extended period, provides valuable insights into the ecological dynamics of this region, shedding light on the diversity and distribution of wildlife across various habitats.

5.1. Floral Observation in the Proposed Harohalli Industrial Area 5th Phase

Situated amidst the picturesque environs near Bannerghatta National Park in Karnataka, the proposed Harohalli Industrial Area 5th Phase reveals a fascinating array of flora, reflecting the region's rich botanical heritage. Covering an expansive area of 369.19 hectares, this industrial zone offers a diverse tapestry of indigenous plant life, contributing to the ecological vibrancy of the landscape.

Among the notable floral observations within this area are several species that thrive in the region's varied terrain. The sturdy *Acacia chundra* and the majestic Indian Mahogany (*Cedrela toona*) stand out as prominent inhabitants, their presence adding to the natural charm of the surroundings. Additionally, the vibrant blooms of *Lantana camara* and *Cassia alata* infuse the landscape with bursts of color, attracting pollinators and enhancing biodiversity.

The proposed industrial site is also characterized by patches of dense vegetation, comprising native flora such as *Diospyros melanoxylon* and *Polyalthia cerasoides*. These species, along with others like *Terminalia chebula* and *Lagerstroemia parviflora*, contribute to the ecological richness of the area, providing habitat and sustenance to a variety of wildlife.

Water bodies, including streams and small rivers, further augment the floral diversity of the region. Along their banks, species such as *Santalum album* and *Grewia villosa* thrive, their presence enriching the riparian ecosystem and supporting aquatic life.

Despite the industrial development proposed for the area, efforts will be made to preserve and mitigate the impact on its unique flora. Conservation measures aimed at protecting key species and habitats will be crucial for maintaining the ecological balance and ensuring the sustainability of the proposed Harohalli Industrial Area 5th Phase. Through careful planning

and responsible management practices, it is possible to achieve coexistence between industrial progress and the preservation of biodiversity in this ecologically significant region.

Table-1: Floral Diversity of the study area

Sl. No.	Species	Common Name	Family
1	<i>Acacia chundra</i>		Mimosaceae
2	<i>Cedrela toona</i>	Indian Mahogany	Meliaceae
3	<i>Lantana camara</i>	Lantana	Verbenaceae
4	<i>Cassia alata</i>	Ringworm Bush	Caesalpiniaceae
5	<i>Diospyros melanoxylon</i>	Ebony	Ebenaceae
6	<i>Polyalthia cerasoides</i>	False Ashoka	Annonaceae
7	<i>Cassia fistula</i>	Golden Shower	Caesalpiniaceae
8	<i>Ziziphus xylopyrus</i>		Rhamnaceae
9	<i> Lagerstroemia parviflora</i>	Indian Crape Myrtle	Lythraceae
10	<i>Santalum album</i>	Sandalwood	Santalaceae
11	<i>Grewia villosa</i>	White Crossberry	Tiliaceae
12	<i>Terminalia chebula</i>	Black Myrobalan	Combretaceae
13	<i>Strychnos potatorum</i>	Clearing-nut	Loganiaceae
14	<i>Wrightia tinctoria</i>	Sweet Indrajao	Apocynaceae
15	<i>Acacia coesia</i>		Mimosaceae
16	<i>Diaspora montana</i>		Ebenaceae
17	<i>Eucalyptus globulus</i>	Blue Gum	Myrtaceae
18	<i>Pterocarpus marsupium</i>	Indian Kino Tree	Fabaceae

19	<i>Psydrax dicoccos</i>		Rubiaceae
20	<i>Albizia amara</i>		Caesalpinaceae
21	<i>Vitex altissima</i>		Verbenaceae
22	<i>Capparis septaria</i>		Capparidaceae
23	<i>Acacia senegal</i>	Gum Arabic Tree	Fabaceae
24	<i>Hiptage benghalensis</i>	Helicteres	Malpighiaceae
25	<i>Dodonaea viscosa</i>	Hopbush	Sapindaceae
26	<i>Semecarpus anacardium</i>	Marking Nut Tree	Anacardiaceae
27	<i>Albizia odoratissima</i>		Caesalpinaceae
28	<i>Cipadessa baccifera</i>		Meliaceae
29	<i>Securinega virosa</i>	Bush Varnish Tree	Euphorbiaceae
30	<i>Azadirachta indica</i>	Neem	Meliaceae
31	<i>Phyllanthus virgatus</i>		Euphorbiaceae
32	<i>Acacia tortia</i>		Mimosaceae
33	<i>Gmelina arborea</i> Roxb.	White Teak	Verbenaceae
34	<i>Phyllanthus emblica</i>	Indian Gooseberry	Euphorbiaceae
35	<i>Sterculia villosa</i>		Sterculiaceae
36	<i>Dalbergia</i> sps.		Fabaceae
37	<i>Butea monosperma</i>	Flame of the Forest	Fabaceae
38	<i>Flacourtia indica</i>	Governor's Plum	Flacourtiaceae
39	<i>Diospyros malabarica</i>		Ebenaceae

40	<i>Mucuna pruriens</i>	Velvet Bean	Fabaceae
41	<i>Albizia lebbek</i>		Caesalpiniaceae
42	<i>Dalbergia latifolia</i>		Fabaceae
43	<i>Scleropyrum pentandrum</i>		Santalaceae
44	<i>Acacia leucophloea</i>		Mimosaceae
45	<i>Dichrostachys cinerea</i>		Mimosaceae
46	<i>Careya arborea</i>	Slow Match Tree	Lecythidaceae
47	<i>Xylia xylocarpa</i>		Fabaceae
48	<i>Balanites roxburghii</i>		Balanitaceae
49	<i>Buchanania latifolia</i>	Chironji	Anacardiaceae
50	<i>Ficus benghalensis</i>	Banyan	Moraceae
51	<i>Terminalia bellerica</i>		Combretaceae
52	<i>Secamone emetica</i>		Asclepiadaceae
53	<i>Cordia dichotoma</i>	Lasora	Boraginaceae
54	<i>Ficus sps.</i>	Fig	Moraceae
55	<i>Alangium salvifolium</i>		Alangiaceae
56	<i>Decalepis hamiltonii</i>		Asclepiadaceae
57	<i>Ailanthus excelsa</i>		Simaroubaceae
58	<i>Ficus microcarpa</i>		Moraceae
59	<i>Ficus rumphii</i>		Moraceae
60	<i>Michelia sps.</i>		Magnoliaceae

61	<i>Mitragyna parvifolia</i>		Rubiaceae
62	<i>Gardenia sps.</i>		Rubiaceae
63	<i>Terminalia arjuna</i>	Arjuna	Combretaceae
64	<i>Nicandra physalodes</i>		Solanaceae
65	<i>Celastrus paniculatus</i>		Celastraceae
66	<i>Acacia nilotica</i>	Nile Acacia	Mimosaceae
67	<i>Careya sps.</i>		Lecythidaceae
68	<i>Terminalia paniculata</i>		Combretaceae
69	<i>Datura stramonium</i>	Thorn Apple	Solanaceae
70	<i>Mangifera indica</i>	Mango	Anacardiaceae
71	<i>Cocos nucifera</i>	Coconut	Arecaceae
72	<i>Areca catechu</i>	Areca Nut	Arecaceae
73	<i>Manilkara zapota</i>	Sapodilla	Sapotaceae
74	<i>Grevillea robusta</i>	Silky Oak	Proteaceae

Table- 2: Faunal Diversity of the study area

a) Mammals

Sl. No.	Common Name	Scientific Name	IUCN Status	IWPA Schedule
1.	Bonnet Macaque	<i>Macaca radiata</i>	LC	Schedule II
2.	Hanuman Langur	<i>Semnopithecus hypoleucos</i>	VU	Schedule II
3.	Leopard	<i>Panthera pardus</i>	NT	Schedule I
4.	Jungle cat	<i>Felis chaus</i>	LC	Schedule II
5.	Golden Jackal	<i>Canis aureus</i>	LC	Schedule II
6.	Small Indian Civet	<i>Viverricula indica</i>	LC	Schedule II
7.	Asian Palm Civet	<i>Paradoxurus hermaphroditus</i>	LC	Schedule II
8.	Common Mongoose	<i>Herpestes edwardsi</i>	LC	Schedule II
9.	Ruddy Mongoose	<i>Herpestes smithii</i>	LC	Schedule II
10.	Sloth Bear	<i>Melursus ursinus</i>	VU	Schedule I
11.	Indian Wild Boar	<i>Sus scrofa</i>	LC	Schedule III
12.	Indian Porcupine	<i>Hystrix indica</i>	LC	Schedule IV
13.	Black-naped Hare	<i>Lepus nigricollis</i>	LC	Schedule IV
14.	House Rat	<i>Rattus rattus</i>	-	Schedule IV
15.	Indian Gerbil	<i>Tatera indica</i>	-	Schedule IV
16.	Indian Field Mouse	<i>Mus hooduga</i>	-	-
17.	Palm Squirrel	<i>Furambulus palmarum</i>	-	Schedule IV
18.	Least Pipistrelle Bat	<i>Pipistrellus tenuis</i>	LC	-
19.	Indian Pipistrelle	<i>Pipistrellus coromandra</i>	LC	-
20.	Kelaart's Pipistrelle	<i>Pipistrellus ceylonicus</i>	LC	-
21.	Greater Asiatic house bat	<i>Scotophilus heathii</i>	LC	-
22.	Lesser Asiatic house bat	<i>Scotophilus kuhlii</i>	LC	-
23.	Bent-wing bat	<i>Miniopterus fuliginosus</i>	LC	-

24	Blyth's Horseshoe bat	<i>Rhinolophus Lepidus</i>	LC	-
25	Schneiders Leaf-nosed bat	<i>Hipposideros speoris</i>	LC	-
26	Indian roundleaf bat	<i>Hipposideros lankadiva</i>	LC	-
27	Cantor's roundleaf bat	<i>Hipposideros galeritus</i>	LC	-
28	Egyptian Free-tailed bat	<i>Tadarida aegyptiaca</i>	LC	-
29	Wrinkle-lipped Free-tailed Bat	<i>Chaerephon plicatus</i>	LC	-
30	Indian Flying Fox	<i>Pteropus medius</i>	LC	Schedule IV
31	Short Nosed Fruit Bat	<i>Cynopterus sphinx</i>	LC	Schedule IV

b) Reptiles

Sl. No.	Common Name	Scientific Name	IUCN	IWPA Schedule
1	Indian Black Turtle	<i>Melanochelys trijuga</i>	NT	-
2	Geoemydinae sp.	-		-
3	Oriental Garden Lizard	<i>Calotes versicolor</i>	NE	-
4	Peninsular Rock Agama	<i>Psammophilus dorsalis</i>	LC	-
5	Fan-throated Lizard	<i>Stenota laticeps</i>		-
6	Brook's House Gecko	<i>Hemidactylus brookii</i>	NE	-
7	Murray's House Gecko	<i>Hemidactylus murrayi</i>		-
8	Spotted House Gecko	<i>Hemidactylus parvimaculatus</i>		-
9	Asian House Gecko	<i>Hemidactylus frenatus</i>	NE	-
10	Giant Leaf-Toed Gecko	<i>Hemidactylus giganteus</i>	NE	-
11	Bark gecko	<i>Hemidactylus leschenaultii</i>	LC	-
12	Spotted House Gecko	<i>Hemidactylus parvimaculatus</i>	LC	-
13	Reticulate Gecko	<i>Hemidactylus reticulatus</i>	LC	-

14	Southern Termite Hill Gecko	<i>Hemidactylus triedrus</i>	NE	-
15	Beddomie's Snake-eyed Lizard	<i>Ophisops beddomi</i>	LC	-
16	Common Keelbed Skink	<i>Eutropis carinata</i>	LC	-
17	White-spotted Supple Skink	<i>Riopa albopunctata</i>	LC	-
18	Russel's Viper	<i>Daboia russelii</i>	NE	Sch. II
19	Spectacled Cobra	<i>Naja naja</i>		Sch. IV
20	Common Trinket Snake	<i>Coelognathus helena helena</i>	NE	Sch. IV
21	Common Wolf Snake	<i>Lycodon aulicus</i>	NE	Sch. IV
22	Barred Wolf Snake	<i>Lycodon striatus</i>	NE	Sch. IV
23	Banded Kukri Snake	<i>Oligodon arnensis</i>	NE	Sch. IV
24	Checkered Keelback Water Snake	<i>Xenochrophis piscator</i>	NE	Sch. II
25	Russel's Kukri	<i>Oligodon taeniolatus</i>	LC	Sch. IV
26	Brahminy Blind Snake	<i>Indotyphlops braminus</i>	NE	Sch. IV

c) Amphibians

SL No.	Common Name	Scientific Name	IUCN Status	IWPA Schedule
1	Common Indian Toad	<i>Duttaphrynus melanostictus</i>	LC	
2	Marbled Toad	<i>Duttaphrynus stomaticus</i>	LC	
3	Ferguson's Toad	<i>Duttaphrynus scaber</i>	LC	
4	Indian Burrowing Frog	<i>Sphaerotheca breviceps</i>	LC	
5	Ornate Narrow-mouthed Frog	<i>Microhyla ornata</i>	LC	
6	Red Narrow-mouthed Frog	<i>Microhyla rubra</i>	LC	

7	Common Skittering Frog	<i>Euphlyctis cyanophlyctis</i>	LC	
8	Common Cricket Frog	<i>Minervarya agricola</i>	LC	
9	Indian Tree Frog	<i>Polypedates maculatus</i>	LC	
10	Indian Bull Frog	<i>Hoplobatrachus tigerinus</i>	LC	Schedule IV
11	Marbled Balloon Frog	<i>Uperodon systoma</i>	LC	
12	Sri Lankan Painted Frog	<i>Uperodon taprobanicus</i>	LC	

d) Avian Diversity

Sl. No.	Common Name	Scientific Name	IUCN Status	IWPA Schedule
1	Shikra	<i>Accipiter badius</i>	LC	Schedule I
2	Bonelli's Eagle	<i>Aquila fasciata</i>	LC	Schedule I
3	Short-toed Snake Eagle	<i>Circaetus gallicus</i>	LC	Schedule I
4	Indian Spotted Eagle	<i>Clanga hastata</i>	V	Schedule I
5	Black-winged Kite	<i>Elanus caeruleus</i>	LC	Schedule I
6	Brahminy Kite	<i>Haliastur indus</i>	LC	Schedule I
7	Black Eagle	<i>Ictinaetus malaiensis</i>	LC	Schedule I
8	Rufous-bellied Eagle	<i>Lophotriorchis henerit</i>	NT	Schedule I
9	Black Kite	<i>Milvus migrans</i>	LC	Schedule I
10	Changeable Hawk Eagle	<i>Nisaetus cirrhatus</i>	LC	Schedule I
11	Oriental Honey Buzzard	<i>Pernis ptilorhynchus</i>	LC	Schedule I
12	Indian Spot-billed Duck	<i>Anas poecilorhyncha</i>	LC	Schedule IV
13	Lesser Whistling Duck	<i>Dendrocygna javanica</i>	LC	Schedule IV
14	Indian Grey Hornbill	<i>Ocyrceros birostris</i>	LC	Schedule IV

15	Common Hoopoe	<i>Upupa epops</i>	L C	Schedule IV
16	Indian House Swift	<i>Apus affinis</i>	L C	Schedule IV
17	Asian Palm Swift	<i>Cypsiurus balasiensis</i>	L C	Schedule IV
18	Indian Nighthjar	<i>Caprimulgus asiaticus</i>	L C	Schedule IV
19	Red-wattled Lapwing	<i>Vanellus indicus</i>	L C	Schedule IV
20	Yellow-wattled Lapwing	<i>Vanellus malabaricus</i>	L C	Schedule IV
21	Black-winged Stilt	<i>Himantopus himantopus</i>	L C	Schedule IV
22	Greater Painted-snipe	<i>Rostratula benghalensis</i>	L C	Schedule IV
23	Barred Buttonquail	<i>Turnix suscitator</i>	L C	Schedule IV
24	Asian Openbill	<i>Anastomus oscitans</i>	L C	Schedule IV
25	Painted Stork	<i>Mycteria leucocephala</i>	N T	Schedule IV
26	Rock Pigeon	<i>Columba livia</i>	L C	Schedule IV
27	Spotted Dove	<i>Streptopelia chinensis</i>	L C	Schedule IV
28	Eurasian Collared Dove	<i>Streptopelia decaocto</i>	L C	Schedule IV
29	Laughing Dove	<i>Streptopelia senegalensis</i>	L C	Schedule IV
30	Common Kingfisher	<i>Alcedo atthis</i>	L C	Schedule IV
31	Pied Kingfisher	<i>Ceryle rudis</i>	L C	Schedule IV
32	White-throated Kingfisher	<i>Halcyon smyrnensis</i>	L C	Schedule IV
33	Indian Roller	<i>Coracias benghalensis</i>	L C	Schedule IV
34	Green Bee-eater	<i>Merops orientalis</i>	L C	Schedule IV
35	Greater Coucal	<i>Centropus sinensis</i>	L C	Schedule IV
36	Pied Cuckoo	<i>Clamator jacobinus</i>	L C	Schedule IV

37	Asian Koel	<i>Eudynamis scolopacea</i>	L C	Schedule IV
38	Common Hawk Cuckoo	<i>Hierococcyx varius</i>	L C	Schedule IV
39	Blue-faced Malkoha	<i>Phaenolophaeus viridirostris</i>	L C	Schedule IV
40	Sirkeer Malkoha	<i>Taccocua leschenaultii</i>	L C	Schedule IV
41	Shaheen Falcon	<i>Falco peregrinus</i>	L C	Schedule I
42	Common Kestrel	<i>Falco tinnunculus</i>	LC	Schedule IV
43	Grey Francolin	<i>Francolinus pondicerianus</i>	L C	Schedule IV
44	Red Spurfowl	<i>Galloperdix spadicea</i>	L C	Schedule IV
45	Grey Jungle Fowl	<i>Gallus sonneratii</i>	L C	Schedule IV
46	Indian Peafowl	<i>Pavo cristatus</i>	L C	Schedule I
47	Rock Bush Quail	<i>Perdiculae goandah</i>	L C	Schedule IV
48	Jungle Bush Quail	<i>Perdicula asiatica</i>	L C	Schedule IV
49	White-breasted Waterhen	<i>Amaurornis oenicurus</i>	L C	Schedule IV
50	Common Coot	<i>Fulica atra</i>	L C	Schedule IV
51	Common Moorhen	<i>Gallinula chloropus</i>	L C	Schedule IV
52	Purple Swamphen	<i>Porphyrio porphyrio</i>	L C	Schedule IV
53	Common Iora	<i>Aegithina tiphia</i>	L C	Schedule IV
54	Oriental Skylark	<i>Alauda gulgula</i>	L C	Schedule IV
55	Rufous-tailed Lark	<i>Ammonomanes phoenicea</i>	L C	Schedule IV
56	Ashy-crowned Sparrow Lark	<i>Eremopterix griseus</i>	L C	Schedule IV
57	Small Minivet	<i>Pericrocotus</i>	L C	Schedule IV

		<i>Cinnamomum</i>		
58	Jerdon's Leafbird	<i>Chloropsis jerdoni</i>	L C	Schedule IV
59	Zitting Cisticola	<i>Cisticola juncidis</i>	L C	Schedule IV
60	Common Tailorbird	<i>Orthotomus sutorius</i>	L C	Schedule IV
61	Rufous-fronted Prinia	<i>Prinia buchanani</i>	L C	Schedule IV
62	Grey-breasted Prinia	<i>Prinia hodgsonii</i>	L C	Schedule IV
63	Plain Prinia	<i>Prinia inornata</i>	L C	Schedule IV
64	Ashy Prinia	<i>Prinia socialis</i>	L C	Schedule IV
65	Indian Jungle Crow	<i>Corvus macrorhynchos</i>	L C	Schedule IV
66	House Crow	<i>Corvus splendens</i>	L C	Schedule V
67	Rufous Treepie	<i>Dendrocitta vagabunda</i>	L C	Schedule IV
68	Pale-billed Flowerpecker	<i>Dicaeumerythro Rhynchos</i>	L C	Schedule IV
69	White-bellied Drongo	<i>Dicrurus caeruleus</i>	L C	Schedule IV
70	Black Drongo	<i>Dicrurus macrocerus</i>	L C	Schedule IV
71	Indian Silverbill	<i>Euodice malabarica</i>	L C	Schedule IV
72	Tricoloured Munia	<i>Lonchura malacca</i>	L C	Schedule IV
73	Scaly-breasted Munia	<i>Lonchura punctulata</i>	L C	Schedule IV
74	Red-rumped Swallow	<i>Cecropis daurica</i>	L C	Schedule IV
75	Barn Swallow	<i>Hirundo rustica</i>	L C	Schedule IV
76	Dusky Crag Martin	<i>Ptyonoprogne concolor</i>	L C	Schedule IV
77	Long-tailed Shrike	<i>Lanius chach</i>	L C	Schedule IV
78	Bay-backed Shrike	<i>Lanius vittatus</i>	L C	Schedule IV
79	Large Grey Babbler	<i>Argyama leolmi</i>	L C	Schedule IV
80	Yellow-eyed Babbler	<i>Chrysomma sinense</i>	L C	Schedule IV

81	Yellow-billed Babbler	<i>Turdoides affinis</i>	L C	Schedule IV
82	Jungle Babbler	<i>Turdoides striata</i>	L C	Schedule IV
83	White-browed Wagtail	<i>Motacilla maderaspatensis</i>	L C	Schedule IV
84	Oriental Magpie Robin	<i>Copsychu saularis</i>	L C	Schedule IV
85	Tickell's Blue Flycatcher	<i>Cyornis tickelliae</i>	L C	Schedule IV
86	Asian Brown Flycatcher	<i>Muscica padanarica</i>	L C	Schedule IV
87	Pied Bushchat	<i>Saxicola caprata</i>	L C	Schedule IV
89	Indian Robin	<i>Saxicoloides fulicatus</i>	L C	Schedule IV
90	Purple Sunbird	<i>Cinnyris asiaticus</i>	L C	Schedule IV
91	Purple-rumped Sunbird	<i>Leptocoma zeylonica</i>	L C	Schedule IV
92	Indian Golden Oriole	<i>Oriolus kundoo</i>	LC	Schedule IV
93	Cinereous Tit	<i>Parus cinereus</i>	L C	Schedule IV
94	House Sparrow	<i>Passer domesticus</i>	L C	Schedule IV
95	Baya Weaver	<i>Ploceus philippinus</i>	L C	Schedule IV
96	Red-vented Bulbul	<i>Pycnonotus cafer</i>	L C	Schedule IV
97	White-browed Bulbul	<i>Pycnonotus luteolus</i>	L C	Schedule IV
98	White-spotted Fantail	<i>Rhipidura albogularis</i>	L C	Schedule IV
99	Jungle Myna	<i>Acridotheres fuscus</i>	L C	Schedule IV
100	Common Myna	<i>Acridotheres tristis</i>	L C	Schedule IV
101	Brahminy Starling	<i>Sturnia pagodarum</i>	L C	Schedule IV
102	Tawny-bellied Babbler	<i>Dumetia hyperythra</i>	L C	Schedule IV
103	Oriental White-eye	<i>Zosterops palpebrosus</i>	L C	Schedule IV

104	Grey Heron	<i>Ardea cinerea</i>	L C	Schedule IV
105	Purple Heron	<i>Ardea purpurea</i>	L C	Schedule IV
106	Indian Pond Heron	<i>Ardeola grayii</i>	L C	Schedule IV
107	Cattle Egret	<i>Bubulcus ibis</i>	L C	Schedule IV
108	Little Egret	<i>Egretta garzetta</i>	L C	Schedule IV
109	Black-headed Ibis	<i>Threskiornis melanocephalus</i>	N T	Schedule IV
110	Coppersmith Barbet	<i>Psilopogon haemacephalus</i>	L C	Schedule IV
111	White-cheeked Barbet	<i>Psilopogon viridis</i>	L C	Schedule IV
112	Lesser Golden-backed Woodpecker	<i>Dinopium benghalense</i>	L C	Schedule IV
113	Little Grebe	<i>Tachybaptus ruficollis</i>	L C	Schedule IV
114	Plum-headed Parakeet	<i>Psittacula cyanocephala</i>	L C	Schedule IV
115	Rose-ringed Parakeet	<i>Psittacula cyanocephala</i>	L C	Schedule IV
116	Painted Sandgrouse	<i>Pterocles indicus</i>	L C	Schedule IV
117	Spotted Owlet	<i>Athene brama</i>	L C	Schedule IV
118	Indian Eagle Owl	<i>Bubo bengalensis</i>	L C	Schedule IV
119	Brown Fish Owl	<i>Ketupa zeylonensis</i>	L C	Schedule IV
120	Indian Scops Owl	<i>Otus bakkamoena</i>	L C	Schedule IV
121	Common Barn Owl	<i>Tyto alba</i>	L C	Schedule IV
122	Oriental Darter	<i>Anhinga melanogaster</i>	N T	Schedule IV
123	Little Cormorant	<i>Microcarbo niger</i>	L C	Schedule IV
124	Great Cormorant	<i>Phalacrocorax carbo</i>	L C	Schedule IV
125	Indian Cormorant	<i>Phalacrocorax fasciatus</i>	L C	Schedule IV

e) Other Faunal diversity

Sl. No.	Common name	Scientific name	IUCN Status	IWPA Schedule
1	Senegal Golden Dartlet	<i>Ischnur arubillo</i>		NE
2	Crimson Marsh Glider	<i>Trithemis aurora</i>		NE
3	Long legged Marsh Glider	<i>Trithemis pallidinervis</i>		NE
4	Ditch Jewel	<i>Brachythemis contaminata</i>		NE
5	Picture Wing	<i>Rhyothemis variegata</i>		NE
6	Black winged Bambootail	<i>Disparoneura quadrimaculata</i>		NE
7	Grass Mantis	<i>Archimantis latistyla</i>		NE
8	American Cockroach	<i>Periplaneta Americana</i>		NE
9	Seven spotted cockroach	<i>Thereopetiveriana</i>		NE
10	Brown Grasshopper	<i>Gomphocerippus sp.</i>		
11	Short Horned Grasshopper	<i>Neortha crissimulans</i>		
12	Spur throated grass hopper	<i>Melanophus sp.</i>		
13	Green Grass hopper	<i>Omocestus simulans</i>		
14	Cricket	<i>Gryllus sp.</i>		
15	Stick Insect	<i>Phasmatodea sp.</i>		
16	Earwig	<i>Forficula Auricularia</i>		

17	Formosa termite	<i>Coptotermes formosanus</i>		
18	Parthenium Bug	<i>Zygogramma bicolorata</i>		
19	Leaf footed bug	<i>Acanthocephaliniiter minalis</i>		
20	Plant Hopper	<i>Eurybrachys tomentosa</i>		
21	Seed bug	<i>Spilostethus pandiarus</i>		
22	Assassin Bug	<i>Platyeris biguttatus</i>		
23	Jewel bug	<i>Chrysocoris stoll</i>		
24	Ant lion	<i>Amyrmeleonitade sp.</i>		
25	Angled Castor	<i>Ariadne Ariadne</i>		
26	Blue Pansy	<i>Junonia orithya</i>		
27	Blue tiger	<i>Tirumala limniace</i>		
28	Common Crow	<i>Euploea core</i>	Schedule I (PartIV)	LC
29	Common four ring	<i>Ypthima huebneri</i>		
30	Lemon pansy	<i>Junonia lemonias</i>		
31	Plain tiger	<i>Danaus chrysippus</i>	Schedule I (PartIV)	LC
32	Striped tiger	<i>Danaus genutia</i>		
33	Twany Castor	<i>Acraea terpsicore</i>		
34	Common emigrant	<i>Carposila Pomona</i>		
35	Grass yellow	<i>Eurema hecabe</i>		
36	Indian Crimson tip	<i>Caloris damae</i>		
37	Jezebel	<i>Delias eucharis</i>	Schedule I (PartIV)	
38	Salmon Arab	<i>Colotis fausta</i>		
39	Pioneer White	<i>Belenois aurata</i>		

40	Orange Tip	<i>Colotis aurora</i>		
41	Yellow orange tip	<i>Ictas pyrene</i>		
42	White orange tip	<i>Ictas Marianne</i>		
43	Bright babul blue	<i>Azanius ubaldus</i>		
44	Common silverline	<i>Cigaritis vulcanus</i>	Schedule I (Part IV)	
45	Gram Blue	<i>Euchrysops cnejus</i>	Schedule II (Part II)	NE
46	Orange spotted grass jewel	<i>Freyeri atrochylus</i>		
47	Pierrot	<i>Tarucus sp.</i>		
48	Striped Pierrot	<i>Tarucus nara</i>		
49	Tiny Grass Blue	<i>Zizula hylax</i>		
50	Zebra blue	<i>Leptotes plinus</i>		
51	Common Mormon	<i>Papilio polytes</i>	Schedule II (Part II)	
52	Crimson Rose	<i>Pachliopta hector</i>		LC
53	Common Lime	<i>Papilio demoleus</i>		
54	Grizzled Skipper	<i>Pyrgus malvae</i>		
55	Marbled Skipper	<i>Gomalia elma</i>		
56	Indian Wasp moth	<i>Amia passalis</i>		
57	Passenger moth	<i>Dysgonia algira</i>		
58	Owlet Moth	<i>Spirama retorta</i>		
59	Silver Moth	<i>Micromia aculeate</i>		
60	Robber fly	<i>Cyrtopogon sp.</i>		
6162	Hover fly	<i>Ischiodons cutellaris</i>		
63	Mosquito	<i>Anopheles sp.</i>		

64	House fly	<i>Musca domestica</i>		
65	Flesh Fly	<i>Sarcophaga carnaria</i>		
66	Honey Bee	<i>Apis cerana</i>		
67	Wood Bee	<i>Xyllocopa larreille</i>		
68	Blue banded bee	<i>Amegilla cingulate</i>		
69	Honey bee	<i>Apis dorsata</i>		
70	Red Ant	<i>Solenopsis sp.</i>		
71	Black Ant	<i>Lasius niger</i>		
72	Black orange Wasp	<i>Cryptochellus bicolor</i>		
73	Hornet	<i>Vaspa orientalis</i>		
74	Red paper wasp	<i>Polistes Carolina</i>		
75	Yellow paper wasp	<i>Polistes versicolor</i>		
76	Six-spot ground beetle	<i>Anthiasex guttata</i>		
77	Yellow spotted ground beetle	<i>Eudema angulatus</i>		
78	Leaf Beetle	<i>Calligrapha philadelphica</i>		
79	Pumpkin Beetle	<i>Raphidopalpa foveicollis</i>		
80	Tortise shell beetle	<i>Charidotella sp.</i>		
81	Net winged beetle	<i>Lycostomus sp.</i>		
82	Blister Beetle	<i>Hycleus phymorphus</i>		
83	Striped beetle	<i>Hycleus sp.</i>		
84	Dung beetle	<i>Scarabaeida sp.</i>		
85	Black Darkling beetle	<i>Tenebrionidae sp.</i>		

86	Julus	<i>Julus scandinavus</i>		
87	Yellow spotted millipede	<i>Harpaphe haydeniana</i>		
88	Signature spider	<i>Argiope sp.</i>		
89	Garden Spider	<i>Araneus sp.</i>		
90	Wolf spider	<i>Lycosidae sp.</i>		
91	Orange Lynx spider	<i>Oxyopes salticus</i>		
92	Green Lynx spider	<i>Peucetia viridans</i>		
93	Decorative silver orb spider	<i>Leucauge decorate</i>		
94	Crab spider	<i>Ozyptila praticola</i>		
95	Jumping Spider	<i>Hasarius sp.</i>		
96	Huntsman spider	<i>Sparassidae sp.</i>		
97	Blue Darter	<i>Anaximma culifrons</i>		
98	Indian Bark Mantis	<i>Humbertiella sp.</i>		
99	Grass hopper	<i>Acridaexa latata</i>		
100	Grass hopper	<i>Aulacobothrus sp.</i>		
101	Stick Insect	<i>Ctenomorpha sp.</i>		
102	Leaf Hopper	<i>Cicadellidae sp.</i>		
103	Red Cotton Bug	<i>Dysdercus scingulatus</i>		
104	Brown Stink Bug	<i>Halyomorpha halys</i>		
105	Joker	<i>Byblia ilithyia</i>		
106	Mottled Emigrant	<i>Catopsilia pyranthe</i>		
107	Psyche	<i>Leptosiantha</i>		

108	Albatross	<i>Applias albina</i>		
109	Dark Cerulean	<i>Jamides bochus</i>		
110	Pale Grass Blue	<i>Pseudozizeeria maha</i>		
111	Long legged fly	<i>Dolichopodidae sp.</i>		
112	Fruit fly	<i>Drosophila melanogaster</i>		
113	Red potter wasp	<i>Delta dimidiatipenne</i>		
114	Apisflorea	<i>Apis florea</i>		
115	Ground beetle	<i>Carabidae sp.</i>		
116	Weevil	<i>Tanymecus indicus</i>		
117	Cyclosa	<i>Cyclosa sp.</i>		
118	Silver orb spider	<i>Leucaugea corata</i>		
119	Green Crab Spider	<i>Thomisidae sp.</i>		
120	Indian Red Scorpion	<i>Hottentotta tamulus</i>		
121	Gaint forest scorpion	<i>Heterometrus spinifer</i>		
122	Common millipede	<i>Trigoniulus sp.</i>		
123	Red velvet mites	<i>Trombididae sp.</i>		
124	Aphids	<i>Aphidoidea sp.</i>		
125	Pseudoscorpiones	<i>Pseudoscorpion Sp.</i>		
126	Earthworm	<i>Lumbricina sp.</i>		
127	Snails	<i>Gastropod sp.</i>		
128	Nematodes	<i>Nematoda sp.</i>		
129	Coccinellids	<i>Coccinellidae sp.</i>		
130	Spring tail	<i>Collembola sp.</i>		
131	Spider Mites	<i>Tetranychidae sp.</i>		
132	Termites	<i>Isoptera sp.</i>		

133	Millipede	<i>Diplopoda sp.</i>		
134	Diptera flies	<i>Diptera sp.</i>		
135	Ants	<i>Formicidae.</i>		
136	Grass hopper	<i>Caelifera sp.</i>		
137	Ground beetle	<i>Carabidae sp.</i>		
138	Protura	<i>Protura sp.</i>		
139	Silver Moth	<i>Autographa gamma</i>		
140	Water Bug	<i>Lethocerus americanus</i>		
141	Aemene moth	<i>Aemeneta probanis</i>		
142	Wood Cockroach	<i>Parco blatta</i>		
143	Green Bush Cricket	<i>Tettigonia viridissima</i>		
144	Lesser Grass Blue	<i>Zizina otis</i>		
145	Small Cupid	<i>Chilades parrhasius</i>		
146	Common Rose	<i>Pachliopta aristolochiae</i>		
147	Beet webworm Moth	<i>Hymenia perspectalis</i>		
148	Maiden Moth	<i>Syntomoides imaan</i>		
149	Blue Bottle fly	<i>Calliphora vomitoria</i>		
150	Asian Tiger mosquito	<i>Aedes taeniorhyncus</i>		
151	Black Soldier fly	<i>Hermetia illucens</i>		
152	Jewel Beetle	<i>Buprestidae sp.</i>		

IUCN: International Union for Conservation of Nature

IUCN Status: Data Deficient (DD), Least Concern (LC), Near Threatened (NT), Vulnerable (VU), Endangered (EN), Critically Endangered (CR), Extinct in The Wild (BW), Extinct (EX)

IWPA: Indian Wildlife Protection Act

5.2 Mammalian Diversity:

The mammalian community within the Harohalli Industrial Area showcases remarkable adaptability to the dynamic landscape shaped by industrialization and natural habitats. While large predators like Leopards (*Panthera pardus*) may not be commonly sighted due to habitat fragmentation, smaller mammals such as Indian Hares (*Lepus nigricollis*) and Indian Flying Foxes (*Pteropus giganteus*) are frequently encountered in the surrounding areas. Additionally, the presence of common species like Indian Palm Civets (*Paradoxurus hermaphroditus*) highlights the resilience of wildlife in adapting to anthropogenic landscapes.



Image 5: Leopard (*Panthera pardus*)

Image 6: Sloth Bear (*Melursus ursinus*)

In exploring the wildlife richness of the Harohalli Industrial Area 5.89km away from Bannerughatta, Bangalore, our study has uncovered a fascinating variety of mammalian species thriving in this dynamic landscape. These findings serve as a foundational understanding for devising effective conservation and management strategies tailored to this specific environment.

Our observations reveal a diverse tapestry of mammalian life, encompassing species from various ecological niches and taxonomic groups. From the agile Indian Palm Squirrel to the elusive Jungle Cat, each species contributes uniquely to the ecosystem's structure and function.

The presence of species such as the Indian Hare and Indian Flying Fox underscores the importance of preserving the remaining natural habitats adjacent to the Harohalli Industrial Area. These habitats serve as vital refuges for terrestrial mammals, offering crucial resources and shelter amidst the industrial surroundings.

Despite the industrial activities nearby, our study highlights the resilience of mammalian populations in adapting to anthropogenic landscapes. Species such as the Indian

Pangolin and Indian Gerbil demonstrate the capacity to coexist with human activities while utilizing available resources within the region.

Furthermore, our research emphasizes the significance of nocturnal mammals in the ecosystem and found diverse bat species which gave importance of safeguarding night-time habitats and maintaining suitable roosting sites for these essential flying mammals

5.3 Reptilian Diversity:

Reptiles within the Harohalli Industrial Area exhibit a diverse array of species adapted to varying habitat types. While some species like the Spectacled Cobra (*Naja naja*) and Common Indian Monitor (*Varanus bengalensis*) may inhabit the fringes of industrial zones, others such as the Indian Chameleon (*Chamaeleo zeylanicus*) is more commonly found in adjacent forested areas. These reptiles play essential roles in pest control and ecosystem balance, contributing to the ecological health of the region.

5.3 Amphibian Abundance:

Despite the industrial landscape, amphibians persist in the Harohalli region, particularly in areas with water bodies and vegetation cover. Species like the Indian Bullfrog (*Hoplobatrachus tigerinus*) and Common Indian Toad (*Duttaphrynus melanostictus*) may be found in temporary ponds and agricultural fields during the monsoon season, highlighting their adaptability to anthropogenic environments. Amphibians serve as indicators of environmental quality and play crucial roles in nutrient cycling and food webs.

5.4 Avian Abundance:



Image 7: Indian Peafowl (*Pavo cristatus*)

The avian community in the Harohalli Industrial Area comprises a diverse assemblage of species adapted to urban, rural, and natural habitats. While large raptors like Bonelli's Eagle (*Aquila fasciata*) may occasionally be sighted soaring overhead, more common species

such as Indian Rollers (*Coracias benghalensis*) and Black Drongos (*Dicrurus macrocercus*) are often observed in agricultural fields and open spaces. Additionally, water bodies within the industrial area may attract waterfowl and wading birds, enhancing avian diversity.

5.5 Arthropod Community:

Arthropods thrive in the varied habitats of the Harohalli Industrial Area, contributing to ecosystem processes and serving as food sources for other wildlife. Insects such as bees, butterflies, and beetles are abundant in floral-rich areas and agricultural fields, playing essential roles in pollination and nutrient cycling. Arachnids like spiders and scorpions may also be present in natural and semi-natural habitats, contributing to predator-prey dynamics and biodiversity.

Moving forward, conservation efforts in the Harohalli Industrial Area should prioritize habitat preservation, restoration, and connectivity. This includes initiatives to safeguard remaining green spaces, establish wildlife-friendly corridors, and mitigate the impacts of industrialization on sensitive habitats. Additionally, management strategies should address human-wildlife conflicts, promote sustainable land use practices, and engage local communities in conservation endeavors. By adopting a holistic approach that integrates scientific knowledge with community involvement, we can ensure the long-term survival of the diverse mammalian fauna inhabiting the Harohalli Industrial Area while fostering harmony between wildlife and human activities.

5.6 Discussion

The biodiversity observations within the proposed Harohalli Industrial Area 5th Phase reveal a promising outlook for the coexistence of industrialization and ecological preservation. Here, we discuss several key points derived from the observations of mammalian, reptilian, amphibian, avian, and arthropod communities, as well as floral diversity, emphasizing the positive implications of industrial development:

a) Enhanced Habitat Diversity and Wildlife Adaptation

Industrialization often leads to the creation of diverse habitats, which can benefit wildlife by offering new niches and resources. The presence of various mammalian, reptilian, amphibian, avian, and arthropod species within the industrial area indicates their adaptability

to anthropogenic landscapes. This adaptability underscores the potential for industrial zones to serve as alternative habitats for wildlife, contributing to overall species resilience and biodiversity conservation.

b) Ecological Restoration and Conservation Initiatives

Industrial development provides opportunities for ecological restoration and conservation initiatives that enhance habitat quality and biodiversity. Through the implementation of green infrastructure and habitat enhancement projects, industrial areas can support native flora and fauna populations while mitigating the environmental impacts of development. By integrating conservation measures into industrial planning and management, it is possible to achieve a balance between economic growth and environmental stewardship.

c) Economic Benefits and Sustainable Practices

Industrialization brings economic benefits to local communities, generating employment opportunities and fostering economic growth. By promoting sustainable practices such as resource efficiency, waste management, and pollution control, industrial zones can minimize their environmental footprint while maximizing economic productivity. Additionally, industrial development can catalyze technological innovation and research advancements in environmental management, contributing to long-term sustainability and ecological resilience.

d) Synergies between Industry and Conservation

The coexistence of industrial activities and biodiversity conservation can create synergistic outcomes that benefit both humans and wildlife. For example, the establishment of wildlife-friendly corridors and green spaces within industrial areas can enhance ecosystem connectivity and promote species dispersal. Furthermore, collaborations between industry stakeholders, conservation organizations, and government agencies can facilitate the implementation of biodiversity conservation initiatives, fostering a shared vision of sustainable development.

e) Community Engagement and Social Responsibility

Industrial development presents opportunities for community engagement and social responsibility initiatives that promote environmental awareness and stewardship. By

involving local communities in conservation activities, industrial projects can build partnerships and foster a sense of ownership over natural resources. Through corporate social responsibility programs, industrial stakeholders can invest in community development projects that support conservation efforts and enhance the quality of life for residents.

In conclusion, the observations of biodiversity within the proposed Harohalli Industrial Area 5th Phase demonstrate the potential for industrialization to coexist harmoniously with ecological preservation. By leveraging the synergies between industry and conservation, we can create sustainable development pathways that promote economic prosperity, environmental health, and social well-being for present and future generations.

6. CONSERVATION ACTION PLAN FOR WILDLIFE MANAGEMENT IN THE STUDY AREA

The Harohalli Industrial Area, situated in the outskirts of Bangalore, serves as a vital centre for industrial activities amidst a region teeming with biodiversity. As development progresses, it becomes imperative to ensure the preservation of the area's ecological integrity. This conservation action plan aims to provide comprehensive recommendations for wildlife management within the industrial area and its surrounding environs.

a) Habitat Restoration and Enhancement

Industrial activities often lead to habitat fragmentation and degradation, resulting in the loss of crucial ecosystems and biodiversity. To address this challenge, efforts must be made to prioritize habitat restoration and enhancement within and around industrial sites. This can be achieved through:

- ❖ **Reforestation Programs:** Implementing large-scale reforestation initiatives to restore degraded landscapes and create habitat corridors for wildlife. Native plant species should be prioritized to ensure ecosystem resilience and support local biodiversity.
- ❖ **Community Involvement:** Engaging local communities in tree planting and habitat restoration activities fosters a sense of ownership and stewardship over restored ecosystems. This approach not only enhances the success of restoration efforts but also promotes socio-economic benefits for nearby communities.
- ❖ **Ecological Monitoring:** Establishing long-term monitoring programs to assess the effectiveness of habitat restoration activities and track changes in biodiversity over time. This data can inform adaptive management strategies and help refine restoration techniques to maximize ecological outcomes.

b) Water Resource Management and Development

Water is a critical resource for both wildlife and human communities, and industrial operations can have significant impacts on local water systems. To ensure sustainable water management, considerations should be made for:

- ❖ **Water Conservation Measures:** Implementing measures to minimize water consumption and reduce pollution from industrial activities. This includes adopting water recycling and reuse technologies, implementing erosion and sediment control measures, and promoting responsible water use practices among employees.
- ❖ **Ecosystem Restoration:** Rehabilitating degraded aquatic habitats impacted by industrial activities. Restoring natural hydrological processes and enhancing riparian vegetation can improve water quality, provide habitat for aquatic species, and support overall ecosystem health.
- ❖ **Stakeholder Engagement:** Collaborating with local communities, government agencies, and conservation organizations to develop sustainable water management plans that balance the needs of wildlife, communities, and industry. Engaging stakeholders in decision-making processes can build trust, promote transparency, and foster collective action towards water conservation goals.

c) Community Awareness and Engagement

Effective conservation necessitates the active participation and support of local communities. Investments should be made in:

- ❖ **Education and Outreach Programs:** Conducting educational workshops, awareness campaigns, and community events to raise awareness about the importance of biodiversity conservation and sustainable resource management. These initiatives empower local residents to become stewards of their natural environment and advocate for conservation policies.
- ❖ **Capacity Building:** Providing training and capacity-building opportunities for community members, particularly youth and women, in conservation-related skills such as ecotourism, sustainable agriculture, and natural resource management. Strengthening local capacity promotes community resilience and socio-economic development while conserving biodiversity.
- ❖ **Partnerships and Collaboration:** Establishing partnerships with community-based organizations, non-profits, and government agencies to co-design and implement conservation projects that address local needs and priorities. Collaborative approaches

incorporating traditional ecological knowledge and cultural values enhance the effectiveness and sustainability of conservation efforts.

d) Wildlife Monitoring and Management

Industrial activities can disrupt wildlife habitats and lead to human-wildlife conflicts. To mitigate these impacts, strategies must be implemented for:

- ❖ **Baseline Surveys:** Conducting comprehensive wildlife surveys to assess species diversity, population dynamics, and habitat use patterns in and around industrial areas. Baseline data are essential for evaluating the ecological impacts of industrial activities and developing targeted conservation strategies.
- ❖ **Habitat Protection:** Implementing measures to protect critical wildlife habitats, including buffer zones, wildlife corridors, and key breeding or foraging areas. Designating protected areas within industrial zones and implementing land-use zoning plans can minimize habitat disturbance and safeguard vulnerable species.
- ❖ **Conflict Resolution:** Developing protocols and response strategies for managing human-wildlife conflicts, such as crop depredation, livestock predation, or human safety concerns. Employing non-lethal deterrents, wildlife monitoring technologies and community-based conflict resolution methods can mitigate conflicts and promote coexistence between humans and wildlife.

e) Habitat Connectivity and Corridor Restoration

Maintaining connectivity between fragmented habitats is crucial for wildlife dispersal, genetic exchange, and long-term population viability. Efforts should be made for:

- ❖ **Corridor Restoration:** Restoring and maintaining wildlife corridors to facilitate movement and dispersal of wildlife between isolated habitat patches. This may involve habitat restoration, land reclamation, and revegetation efforts to create contiguous habitat networks across the landscape.
- ❖ **Barrier Mitigation:** Identifying and mitigating barriers to wildlife movement, such as roads, fences, or infrastructure that impede natural dispersal patterns. Implementing wildlife-friendly infrastructure designs and incorporating wildlife crossings or underpasses can reduce wildlife-vehicle collisions and improve habitat connectivity.
- ❖ **Collaborative Conservation:** Collaborating with neighbouring landowners, government agencies, and conservation organizations to establish transboundary conservation initiatives and coordinated land management strategies. Landscape-scale conservation

efforts that transcend property boundaries can enhance habitat connectivity and promote ecological resilience across broader geographic scales.

f) Research and Innovation

Investing in scientific research and innovation is crucial for advancing conservation knowledge and developing effective management strategies. Considerations should include:

- ❖ **Applied Research:** Supporting interdisciplinary research projects focused on understanding the ecological impacts of industrial activities, evaluating conservation interventions, and identifying novel solutions to conservation challenges. Applied research findings inform evidence-based decision-making and guide adaptive management practices.
- ❖ **Technological Innovation:** Harnessing cutting-edge technologies such as remote sensing, GIS mapping, and ecological modelling to improve monitoring, assessment, and management of biodiversity and ecosystems. Integrating technology into conservation efforts enhances data collection efficiency, spatial planning accuracy, and predictive modelling capabilities.
- ❖ **Knowledge Exchange:** Facilitating knowledge exchange and collaboration between researchers, practitioners, and industry stakeholders to bridge the gap between science and practice. Establishing research partnerships, hosting workshops, and disseminating research findings through scientific publications and outreach materials facilitate information sharing and promote innovation in conservation practice.

g) Regulatory Compliance and Corporate Responsibility

Adherence to environmental regulations and ethical business practices is essential for sustainable resource management. Steps should be taken for:

- ❖ **Regulatory Compliance:** Adhering to national and international environmental laws, regulations, and industry standards to minimize environmental impacts and ensure responsible resource extraction practices. Regular environmental audits, impact assessments, and compliance monitoring identify and address potential environmental risks and liabilities.
- ❖ **Environmental Management Systems:** Implementing robust environmental management systems (EMS) and sustainability frameworks to integrate environmental considerations into business operations and decision-making processes. Establishing clear environmental policies, setting measurable targets, and promoting employee

training and awareness foster a culture of environmental stewardship within the organization.

- ❖ **Corporate Social Responsibility (CSR):** Investing in CSR initiatives that prioritize environmental conservation, community development, and stakeholder engagement. Supporting local conservation projects, sponsoring environmental education programs, and contributing to community-based conservation efforts demonstrate corporate commitment to sustainable development and social responsibility.

h) Long-Term Planning and Adaptation

Planning for long-term sustainability and resilience is crucial for navigating complex environmental challenges and uncertainties. Steps should be taken for:

- ❖ **Strategic Planning:** Developing long-term conservation plans and management strategies integrating environmental, social, and economic considerations. Clear conservation objectives, defined measurable indicators, and established adaptive management frameworks guide decision-making and prioritize resource allocation.
- ❖ **Scenario Planning:** Anticipating and preparing for potential future scenarios, including climate change impacts, socio-economic trends, and regulatory changes, affecting biodiversity conservation and ecosystem health. Scenario analyses, risk assessments, and contingency planning exercises identify adaptive responses and build adaptive capacity.
- ❖ **Learning and Adaptation:** Embracing a culture of learning, innovation, and continuous improvement to adaptively manage changing environmental conditions and emerging conservation challenges. Monitoring, evaluating, and reflecting on conservation outcomes and incorporating lessons learned into future planning and decision-making processes enhance organizational resilience and effectiveness.

In conclusion, implementing a comprehensive conservation action plan for the Haroballi Industrial Area necessitates a multifaceted approach addressing ecological, social, and economic dimensions of sustainability. By integrating habitat restoration, water resource management, community engagement, wildlife monitoring, habitat connectivity, research and innovation, regulatory compliance, corporate responsibility, and long-term planning into conservation strategies, effective mitigation of environmental impacts, promotion of biodiversity conservation, and support for sustainable development can be achieved. Through collaborative partnerships, adaptive management practices, and a commitment to

stewardship, the industrial area can demonstrate environmental leadership and contribute to the conservation of natural resources for present and future generations.

7. CONSERVATION STRATEGIES FOR SCHEDULED I SPECIES OF THE STUDY AREA: LEOPARDS AND SLOTH BEARS

a) Habitat Protection and Management:

Identification of Critical Habitat Areas: Identify and designate critical habitat areas within the Harohalli Industrial Area essential for leopard and sloth bear populations, including core habitats, movement corridors, and breeding grounds.

- ❖ **Implementation of Habitat Protection Measures:** Implement habitat protection measures such as establishing wildlife reserves, buffer zones, and conservation easements to safeguard key habitats from anthropogenic disturbances, including industrial activities.
- ❖ **Conduct Habitat Assessments:** Conduct habitat assessments to identify and address habitat degradation, fragmentation, and loss caused by industrial activities. Employ habitat restoration techniques as needed to enhance habitat quality and connectivity.

b) Anti-Poaching and Law Enforcement:

- ❖ **Strengthening Anti-Poaching Efforts:** Strengthen anti-poaching patrols, surveillance, and law enforcement efforts to combat poaching, illegal hunting, and wildlife trade targeting leopards and sloth bears in the Harohalli Industrial Area.
- ❖ **Deployment of Trained Personnel:** Deploy trained wildlife rangers, forest guards, and law enforcement personnel to monitor high-risk areas, conduct regular patrols, and investigate wildlife crime incidents.
- ❖ **Establishment of Wildlife Crime Reporting Systems:** Establish wildlife crime hotlines, informer networks, and community-based surveillance systems to facilitate reporting of wildlife crimes and prompt response by law enforcement authorities.

c) Human-Wildlife Conflict Mitigation:

Comprehensive Conflict Assessments: Conduct comprehensive assessments to identify areas of potential human-wildlife conflict within the Harohalli Industrial Area, particularly where leopards and sloth bears interact with human settlements, agricultural areas, and infrastructure.

- ❖ **Implementation of Conflict Mitigation Measures:** Implement measures to mitigate conflict incidents, such as installing predator-proof fencing, livestock enclosures, and deterrents to prevent livestock depredation by leopards.
- ❖ **Development of Community-Based Conservation Initiatives:** Develop and implement community-based conservation initiatives, including compensation schemes, livestock insurance programs, and alternative livelihood options, to promote coexistence between local communities and wildlife.

d) Research and Monitoring:

- ❖ **Scientific Research Programs:** Conduct scientific research and monitoring programs to assess the population status, distribution, and behavior of leopards and sloth bears in the Harohalli Industrial Area.
- ❖ **Monitoring of Habitat Use and Human-Wildlife Interactions:** Monitor habitat use, prey availability, and human-wildlife interactions to identify conservation priorities and inform management decisions.
- ❖ **Implementation of Long-Term Monitoring Protocols:** Implement long-term monitoring protocols and standardized data collection methodologies to track changes in leopard and sloth bear populations, habitat conditions, and ecosystem health over time.

e) Community Engagement and Awareness:

- ❖ **Engagement of Local Communities:** Engage local communities in conservation initiatives through education, awareness campaigns, and capacity-building programs focused on leopard and sloth bear conservation.
- ❖ **Fostering Positive Attitudes Towards Wildlife:** Foster positive attitudes towards leopards and sloth bears by highlighting their ecological importance, cultural significance, and economic value to local communities.
- ❖ **Establishment of Community-Based Conservation Committees:** Establish community-based conservation committees, participatory decision-making processes, and collaborative partnerships with indigenous communities and stakeholders to empower local communities as stewards of their natural heritage.

f) Policy and Advocacy:

- ❖ **Integration of Conservation Considerations:** Advocate for the integration of leopard and sloth bear conservation considerations into regional development plans, land-use policies, and environmental impact assessments in the Harohalli Industrial Area.

Engagement with Government Agencies and Industry Stakeholders: Engage with government agencies, industry stakeholders, and policymakers to promote the adoption of best management practices, conservation incentives, and regulatory frameworks that prioritize leopard and sloth bear conservation.

- ❖ **Mobilization of Public Support:** Mobilize public support for leopard and sloth bear conservation through outreach, advocacy, and media campaigns that raise awareness about the importance of preserving these iconic species and their habitats.

8. RECOMMENDATION FOR WILDLIFE HABITAT IMPROVEMENT AND CONSERVATION ACTIONS FOR THE STUDY AREA

a) Reforestation and Afforestation:

Activity: Reforesting and afforesting degraded areas with native tree species.

Description: Select suitable native tree species adapted to the local climate, soil conditions, and ecosystem requirements. Prioritize species like Indian Sandalwood, Indian Rosewood, Teak, Bamboo, and Terminalia species. Implement a systematic planting approach, considering factors such as soil preparation, spacing, and site suitability.

b) Grassland Restoration and Management:

Activity: Rehabilitating degraded grasslands through targeted management practices.

Description: Conduct a thorough assessment of degraded grassland areas within the Harohalli Industrial Area to identify causes of degradation. Develop a restoration plan including controlled burning, selective grazing management, and native grass seeding.

c) Wetland Conservation and Restoration:

Activity: Protecting and restoring natural wetland habitats within the Harohalli Industrial Area.

Description: Identify existing wetlands and assess their ecological health. Implement measures to prevent contamination and siltation from industrial activities. Restore degraded wetlands by planting native aquatic vegetation and monitoring their health over time.

d) Riparian Zone Enhancement:

Activity: Strengthening riparian habitats along water bodies within the industrial area.

Description: Assess riparian habitats and develop management plans to protect them from degradation. Implement buffer zone establishment and plant native species to stabilize soils and provide habitat for wildlife.

e) Rocky Outcrop Conservation:

Activity: Preserving and managing rocky outcrops and cliffs within the industrial area.

Description: Identify existing rocky outcrop habitats and assess their conservation status. Develop conservation plans to prevent habitat destruction and implement restoration efforts where necessary.

f) Urban Greening and Urban Wildlife Habitats:

Activity: Creating green spaces and wildlife habitats within urban areas of the Harohalli Industrial Area.

Description: Identify suitable locations for green spaces and develop landscape designs incorporating native vegetation to support urban wildlife populations.

g) Invasive Species Management:

Activity: Controlling and eradicating invasive plant species within the industrial area.

Description: Conduct surveys to identify invasive species and develop management plans to control their spread. Implement removal and eradication efforts and monitor treated areas regularly.

h) Agroforestry and Farm Hedgerows:

Activity: Promoting agroforestry practices and establishing farm hedgerows in agricultural landscapes.

Description: Work with farmers to integrate trees and shrubs into agricultural operations. Establish agroforestry systems and farm hedgerows using native vegetation to enhance biodiversity and soil health.

By implementing these habitat improvement and conservation actions tailored to the Harohalli Industrial Area, stakeholders can effectively preserve biodiversity and promote ecological sustainability amidst industrial activities.

9. BUDGET FOR CONSERVATION AND MANAGEMENT OF WILDLIFE

Table No.-3: Budget for Conservation and management of Wildlife

Sl. No.	Proposed Conservation Activities	Expenditures Rs. in Lakhs
1.	Habitat Restoration and Enhance	10.1
A	Procurement of native plant species, seeds, and saplings	4.22
B	Hiring skilled labor and engaging local communities	4.22
C	Monitoring and maintenance of restored habitat	1.66
2.	Water Resource Management and Development	20.04
A	Rainwater harvesting systems and groundwater recharge	3.31
B	Creation of waterholes	10.55
C	Installation of water quality monitoring stations	6.18
3.	Community Awareness Program	14.88
A	Integration of wildlife conservation activities	8.28
B	Installation of Informative signage and boards	5.0
C	Establishment of community-based conservation committees	1.60
4.	Wildlife Rescue and Rehabilitation	4.73
A	Development of protocols and SOPs	0.83
B	Collaboration with wildlife Researchers and Veterinarians	1.57
C	Public awareness campaign	2.33
5.	Boundary consolidation work	4.63
6.	Ecological Surveys and Biodiversity Assessment	1.00
7.	Capacity Building for Staff and Stakeholders	10.93
8.	Procurement of Wildlife capturing Equipments	6.08
	Total	72.39

All the below mentioned activities suggested activities will be carried out with prior consultation and necessary permissions from the Forest Department.

Dr. Vijaya Kumara, M.Sc., Ph.D.,
Professor & Chairman
Dept. of Wildlife & Management
Kuvempu University
SHANKARAGHATTA-577 431,
Kuvempu, India

A. Habitat Restoration and Enhancement:

Procurement of native plant species, seeds, and saplings

- ❖ **Procurement of native plant species, seeds, and saplings:** This activity involves sourcing indigenous plant species, seeds, and saplings from local nurseries or seed banks. Native plants are essential for restoring degraded habitats as they are better adapted to local environmental conditions, provide food and shelter for wildlife, and support overall ecosystem health.



Image 8: Habitat restoration

- ❖ **Hiring skilled labour and engaging local communities:** Local communities will be employed to assist in habitat restoration efforts, including planting trees, removing invasive species, and conducting maintenance activities such as watering and weeding. Engaging local labor not only provides employment opportunities but also fosters a sense of ownership and stewardship towards the restored habitats.
- ❖ **Monitoring and maintenance of restored habitat:** Regular monitoring is crucial for assessing the success of habitat restoration efforts and identifying any issues that may arise, such as invasive species encroachment or habitat degradation. Maintenance activities include ongoing care, such as watering, pruning, and replanting, to ensure the long-term viability of restored habitats.

B. Water Resource Management and Development:

- ❖ **Rainwater harvesting systems and groundwater recharge:** Installing rainwater harvesting systems, such as rooftop collection systems and check dams, helps capture and store rainwater, replenishing groundwater reserves and increasing water availability for wildlife during dry periods. Groundwater recharge techniques, such as percolation pits and recharge wells, help restore depleted aquifers, sustaining water

sources for both wildlife and local communities.

- ❖ **Creation of waterholes:** Constructing artificial waterholes in strategic locations within the forest area provides essential drinking water sources for wildlife, especially during droughts or dry seasons when natural water sources may be scarce. Waterholes also serve as important gathering points for wildlife observation and research activities.
- ❖ **Installation of water quality monitoring stations:** Monitoring water quality parameters, such as pH, turbidity, and nutrient levels, helps assess the health of aquatic ecosystems and detect any pollution or contamination issues. Installing monitoring stations at key water bodies enables regular data collection and analysis, facilitating timely interventions to address water quality concerns and safeguarding aquatic habitats.

C. Community Awareness Program:



Image 9: Awareness activities

- ❖ **Integration of wildlife conservation activities:** Integrating wildlife conservation messages into existing community outreach programs, such as educational workshops, village meetings, and cultural events, helps raise awareness about the importance of preserving biodiversity and protecting wildlife habitats.
- ❖ **Installation of Informative signage and boards:** Installing informative signage and boards at key locations within the forest area, such as entry points, trails, and visitor centers, helps educate visitors and local communities about the region's flora, fauna, and conservation initiatives. These visual aids provide valuable information on wildlife species, habitat features, and responsible behavior guidelines, promoting environmental stewardship and wildlife-friendly practices.
- ❖ **Establishment of community-based conservation committees:** Forming community-based conservation committees comprising local residents, forest department officials, and conservation experts fosters collaboration and partnership in wildlife management efforts. These committees serve as platforms for collective decision-making, problem-

solving, and implementation of conservation projects tailored to the needs and priorities of the local communities.

D. Wildlife Rescue and Rehabilitation:



Image 10 & 11: Wildlife rescue and rehabilitation

- ❖ **Development of protocols and SOPs:** Developing standardized protocols and standard operating procedures (SOPs) for wildlife rescue and rehabilitation operations ensures uniformity, efficiency, and safety in handling injured, orphaned, or distressed animals. SOPs outline step-by-step guidelines for assessing, capturing, transporting, and treating wildlife, minimizing stress and maximizing the chances of successful rehabilitation and release.
- ❖ **Collaboration with wildlife Researchers and Veterinarians:** Collaborating with wildlife researchers, veterinarians, and rehabilitation experts provides access to specialized knowledge, skills, and resources for assessing wildlife health, diagnosing injuries or illnesses, and providing appropriate medical care and treatment. These partnerships enhance the capacity for wildlife rescue and rehabilitation, improving outcomes for individual animals and contributing to broader conservation efforts.
- ❖ **Public awareness campaign:** Launching a public awareness campaign on wildlife rescue and rehabilitation raises awareness among local communities, tourists, and stakeholders about the importance of reporting wildlife emergencies and supporting conservation efforts. The campaign utilizes various communication channels, including social media, posters, leaflets, and community events, to disseminate information, educate the public, and inspire proactive engagement in wildlife conservation and welfare.

E. Boundary consolidation work:

Constructing a trench along the boundary of the forest area acts as a physical barrier to prevent domestic livestock, such as cattle and goats, from encroaching into wildlife

habitats. The trench helps reduce habitat degradation, trampling of vegetation, soil erosion, and competition for resources between wildlife and livestock, promoting ecosystem integrity and wildlife persistence.

F. Ecological Surveys and Biodiversity Assessment:



Image 12 & 13: Ecological surveys and Biodiversity Assessment

Conducting ecological surveys and biodiversity assessments provides valuable baseline data on wildlife populations, habitat types, species diversity, and ecosystem health. These surveys employ various techniques, including camera trapping, transect surveys, and habitat mapping, to assess the status and distribution of key wildlife species and identify priority conservation areas and management needs.

G. Capacity Building for Staff and Stakeholders:

Providing training and capacity-building opportunities for forest department staff, local communities, and other stakeholders enhances their knowledge, skills, and capacity to participate effectively in wildlife conservation and management initiatives. Capacity-building activities may include workshops, seminars, field training programs, and skill development courses tailored to the specific needs and roles of different stakeholders.



Image 14 & 15: Capacity building for Stake holders

H. Procurement of Wildlife Capturing Equipment:

The procurement of wildlife capturing equipment is a crucial aspect of conservation efforts aimed at managing and monitoring wildlife populations, particularly in areas where human-

wildlife conflicts are prevalent or where species of conservation concern, such as leopards and sloth bears, inhabit. This equipment includes a range of tools and devices designed to safely capture, handle, and relocate wildlife individuals for various purposes, including research, translocation, and conflict mitigation.

- a. **Tranquilizer Guns and Darts:** Tranquilizer guns are pneumatic devices used to deliver tranquilizing drugs via specialized darts to immobilize wildlife individuals safely. These guns are essential for immobilizing large mammals like leopards and sloth bears to facilitate their safe capture and handling by trained personnel.



Image 16: Tranquilizer gun with darts

- b. **Capture Nets and Baited Traps:** Capture nets and baited traps are non-lethal devices used to capture and contain wildlife individuals, allowing for their safe relocation or release. These devices are particularly useful for capturing elusive or nocturnal species such as leopards and sloth bears.



Image 17 & 18: Baited traps and Capture nets

- c. **Handling Equipment:** Handling equipment such as catch poles, gloves, and protective gear are essential for safely restraining and handling captured wildlife

individuals during translocation or veterinary procedures. Proper handling equipment minimizes stress and injury to both animals and personnel.



Image 19: Handling Equipments

- d. Transportation Crates and Vehicles:** Transportation crates and vehicles are necessary for securely transporting captured wildlife individuals to their destination, whether it be a rehabilitation centre, release site, or veterinary facility. These crates should be designed to provide adequate ventilation, protection, and comfort for the animals during transit.



Image 20 & 21: Transportation crates and vehicles

- e. Radio Collars and GPS Tracking Devices:** Radio collars and GPS tracking devices are used for monitoring the movements and behaviour of released or translocated wildlife individuals over time. These devices provide valuable data on habitat use, home range size, and dispersal patterns, aiding in conservation planning and management decisions.



Image 22&23: GPS Tracking and Radio Collar

f. Artificial bird nest installation.



Image 24: Artificial bird nest

Artificial bird nest installation is a conservation strategy aimed at mitigating the loss of natural nesting sites for avian species, particularly in areas where habitat degradation, urbanization, or other anthropogenic activities have reduced the availability of suitable nesting habitat. These artificial nests provide alternative nesting opportunities for birds, helping to maintain or enhance local bird populations and promote biodiversity conservation.

(i) Nest Box Construction: Artificial bird nests, also known as nest boxes or birdhouses, are typically constructed from durable materials such as wood, metal, or plastic. These nest boxes are designed to mimic the natural nesting cavities used by a variety of bird species, with appropriate dimensions, entrance holes, and interior features to accommodate different bird species' nesting preferences.

(ii) Strategic Placement: Artificial bird nests should be strategically placed in suitable habitat areas where birds are likely to establish nesting territories and raise their young. These habitat areas may include woodlands, forests, parks, gardens, and wetlands, depending on the target bird species' habitat requirements and ecological preferences.

10.2 Current Scenario:

The following information was discovered during the field investigation and discussions with local communities and forest officials:

- a. There is some significant wildlife in this area though the lands seems to be a degraded lands and many area which are not in agricultural use. Leopards are sighted frequently along with Porcupine, Indian Pea-fowl, Otters and Sloth bear.
- b. Apart from that there isn't significant wildlife except some common reptiles and common residential birds in the proposed expansion of the industrial area.
- c. The project area and the transportation route do not intersect with any of the forest area.
- d. The Wild boar crop damage and its compensation payment has decreased steadily and there is less conflict with the public.

10.3 General steps for mitigation to avoid Human-Wildlife Conflict

- Green belt/plantation will be developed all along the boundary, roads and other places for control of air, odour, fugitive dust emission in the proposed industrial area.
- Availability of water throughout the year will be maintained by artificial water holes and ponds deepening wherever required.
- Treated effluent water will be used for greenery development in and around the industrial area to reduce the effluent discharge. Moreover, 35% effluent recycling will be done to reduce water consumption.
- Acoustic enclosures will be provided for all the Diesel Generator sets working in proposed Industrial Area.
- Periodically Work Zone Monitoring for odour emission and Ambient Air Quality (AAQ) Monitoring will be done.

11. CONCLUSION:

Nestled on the outskirts of Bangalore, 5.89km away to the iconic Bannerghatta National Park, the Harohalli Industrial Area emerges as a testament to harmonious coexistence between industrial development and ecological preservation. Our exploration of this region has revealed a rich tapestry of biodiversity seamlessly integrated into the landscape, showcasing the resilience of nature in the face of human progress.

11. CONCLUSION:

Nestled on the outskirts of Bangalore, 5.89km away to the iconic Bannerghatta National Park, the Harohalli Industrial Area emerges as a testament to harmonious coexistence between industrial development and ecological preservation. Our exploration of this region has revealed a rich tapestry of biodiversity seamlessly integrated into the landscape, showcasing the resilience of nature in the face of human progress.

Through meticulous observation and thorough analysis, we have gained profound insights into the intricate dynamics of this ecosystem, highlighting the diverse array of flora and fauna that thrive alongside industrial activities. From lush woodlands to meandering waterways, this area exemplifies the symbiotic relationship between human enterprise and environmental stewardship.

While industrialization brings about transformative changes, it also presents opportunities for responsible resource management and sustainable development. By embracing eco-friendly practices and adopting innovative technologies, the Harohalli Industrial Area can serve as a model of environmental sustainability, demonstrating how economic prosperity can go hand in hand with ecological integrity.

As custodians of this vibrant natural heritage, we are committed to preserving and enhancing the ecological resilience of the Harohalli Industrial Area for generations to come. Our scientific inquiry not only deepens our understanding of this unique ecosystem but also guides us in implementing targeted conservation measures that complement industrial activities without compromising environmental health.

Moreover, community engagement and stakeholder collaboration are fundamental to our conservation efforts. By fostering a sense of environmental stewardship among local communities and industry stakeholders, we can cultivate a shared commitment to preserving biodiversity and promoting sustainable development practices.

The Harohalli Industrial Area stands as a shining example of how industrial progress and environmental conservation can coexist harmoniously. By embracing a holistic approach to development that prioritizes ecological sustainability, we can ensure that future generations inherit a thriving ecosystem teeming with life and opportunity.



Image 25: Biodiversity assessment at the study area



Image 26: Biodiversity assessment at the study area



Image 27: Interaction with villagers for secondary data

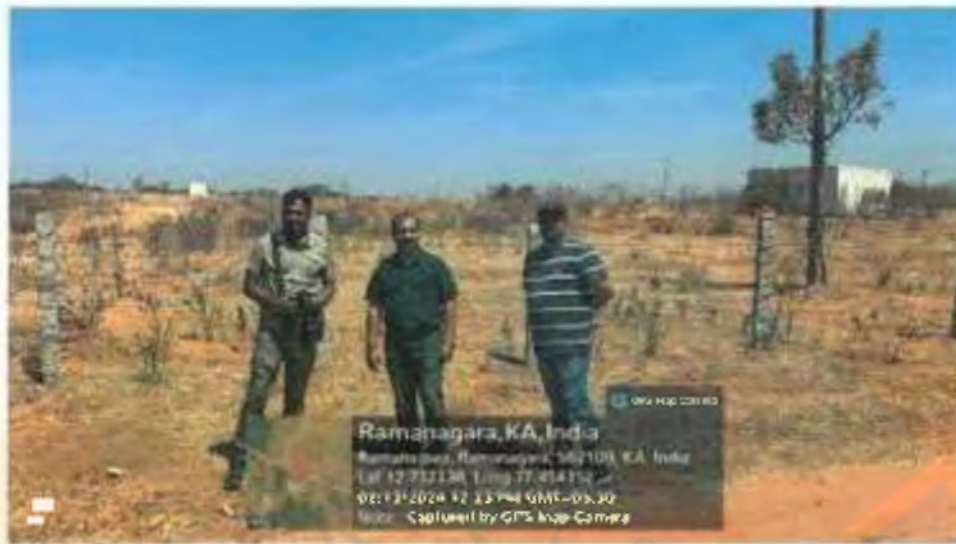


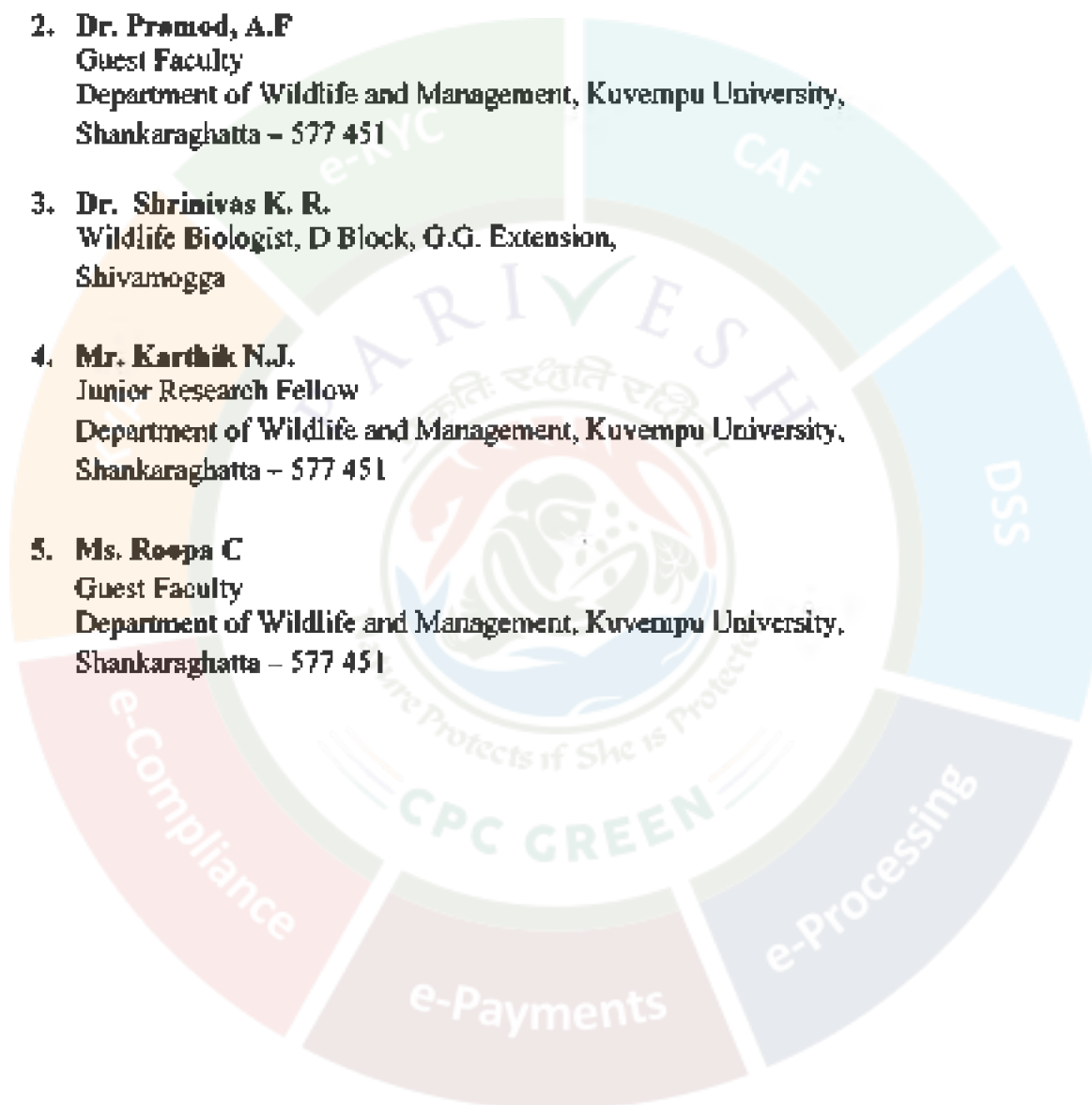
Image 28: Study team members at the study area



Image 29: Degraded dry grasslands in the project area

Biodiversity Study Team

1. **Dr. Vijaya Kumara**
Professor and Chairman
Department of Wildlife and Management, Kuvempu University,
Shankaraghatta – 577 451
2. **Dr. Pramod, A.F**
Guest Faculty
Department of Wildlife and Management, Kuvempu University,
Shankaraghatta – 577 451
3. **Dr. Shrinivas K. R.**
Wildlife Biologist, D Block, G.G. Extension,
Shivamogga
4. **Mr. Karthik N.J.**
Junior Research Fellow
Department of Wildlife and Management, Kuvempu University,
Shankaraghatta – 577 451
5. **Ms. Roopa C**
Guest Faculty
Department of Wildlife and Management, Kuvempu University,
Shankaraghatta – 577 451



12. References:

- 1) Bank, F. G.; C. L. Irwin, G. L. Evink, M. E. Gray, S. Hagood, J. R. Kinar, A. Levy, D. Paulson, B. Ruediger, R. M. Sauvajot, D. J. Scott, and P. White (2002). Wildlife habitat connectivity across European highways (Report). U. S. Department of Transportation: Federal Highway Administration, p. 1-45. Retrieved 19 July 2012.
- 2) Barnum, S.A (2003), Identifying the best locations along highways to provide safe crossing opportunities or wildlife: a handbook for highway planners and designers. Colorado Department of Transportation.
- 3) Bhaskar, V. & Kushalappa, C. G. (2017). Flora of Tumkur District Karnataka, Centre for Plant Taxonomic Studies, Bangalore. P.1-284.
- 4) Bhaskaran N. and Sukumar, R. (2011). Karnataka Elephant Census: Technical report to the Karnataka Forest Department – 2010. Asian Nature Conservation Foundation and Centre for Ecological Sciences, Indian Institute of Science, Bangalore - 560 012, Karnataka.
- 5) Cain, A.T., V.R. Tuovila, D.G. Hewitt, and M.E. Tewes (2003), Effects of a highway and mitigation projects on bobcats in Southern Texas. *Biological Conservation* 114: 189- 197.
- 6) Clevenger, A. P., and J. Wierzchowski. (2006). Maintaining and Restoring Connectivity in Landscapes Fragmented by Roads. In K.R. Crooks and M. Sanjayan (Eds.), *Maintaining Connections for Nature*, Cambridge University Press: 502-35.
- 7) Clevenger, A.P., and N. Waltho (2005), Performance indices to identify attributes of highway crossing structures facilitating movement of large mammals. *Biological Conservation* 121: 453-464.
- 8) Clevenger, A.P., B. Chruszcz, and K. Gunson (2001), Drainage culverts as habitat linkages and factors affecting passage by mammals. *Journal of Applied Ecology* 38: 1340-1349.
- 9) Environmental Impact Assessment Report of Modifications to Configurations of Moragahakanda-Kaluganga Projects (2014). Ministry of Irrigation & Water Resources, Govt. of Sri Lanka.
- 10) Environmental Management Plan - Final Report of Modernization of Rani Jamara Kulariya Irrigation Scheme Phase - I (2011). Ministry of Irrigation, Nepal
- 11) Evink, G.L (2002). Interaction between roadways and wildlife ecology. National Academy Press, Washington, D.C.

- 12) <http://environment.fhwa.dot.gov/ecosystems/wvc/cb4.asp>
- 13) http://environmentclearance.nic.in/writereaddata/Online/TOR/0_0_17_Mar_2015_1701254401ProposedToR.pdf
- 14) <https://www.iucnredlist.org/>
- 15) Jhala Y.V., Qureshi Q., Gopal R., and Sinha P.R. (eds) 2015. The status of tigers in India 2014. National Tiger Conservation Authority, New Delhi & The Wildlife Institute of India, Dehradun.
- 16) Species and planting technique models, General Guidelines by Karnataka Forest department. <https://aranya.gov.in/downloads/Planting-Techniques.pdf>
- 17) Wilcove DS, McLellan CH, Dobson AP. 1986. Habitat fragmentation in the temperate zone. In Conservation Biology, ed. ME Soulé, pp. 237-56. Sunderland, MA: Sinauer.
- 18) Wildlife crossings - Wild animals and roads, The Humane Society of the United States. Archived from the original on 27 September 2007.
- 19) Wildlife Management Plan for Ranibennur Blackbuck Wildlife(2005). Deputy Conservator of Forests, Haveri Division, Haveri, Karnataka Forest Department.
- 20) Working Plan for Tumkur Forest Division (2015). Conservator of Forests & Deputy Conservator of Forests, Working Plan & Survey, Chikmagalur, Karnataka Forest Department.

e-Compliance

e-Payments

Signature and Seal

Dr. Vijaya Kumara, M.Sc., Ph.D.,
 Professor & Chairman
 Dept. of Wildlife & Management
 Kuvempu University
 SHANKARAGHATTA-577 451,
 Shivamogga Dist. Karnataka, India

A report on rapid biodiversity assessment and wildlife conservation/mitigation plan for the proposed widening and improvement of existing 2-lane to 4/6 lane with paved shoulders from existing km 124.488 (Ch:122+200) to existing km 223.860 (Ch: 214+535) of Kushalnagara to Mysore section of NH-275 in the state of Karnataka.

**Funded by
National Highway Authority
of India**

**Submitted by
Zoological Survey of India,**

Kolkata

February, 2024

The Team

Principal investigators

1. Dr. Dhriti Banerjee, Director, ZSI, Chief Project Coordinator
2. Dr. Lalit Kumar Sharma, Scientist-D, PI (Wildlife & Landscape Ecologist)
3. Dr. Souvik Sen, Scientist-D, PI (Conservation Biologist)
4. Dr. Bheem Dutt Joshi, Scientist-D, Co-PI (Conservation Biologist)

Researchers

Ms. Amira Sharief, Research Associate, Mr. Saurav Bhattacharjee, Senior Research Fellow, Mr. Ritam Dutta, Project Biologist and Mr. Hemant Singh, Project Biologist, ZSI, Kolkata

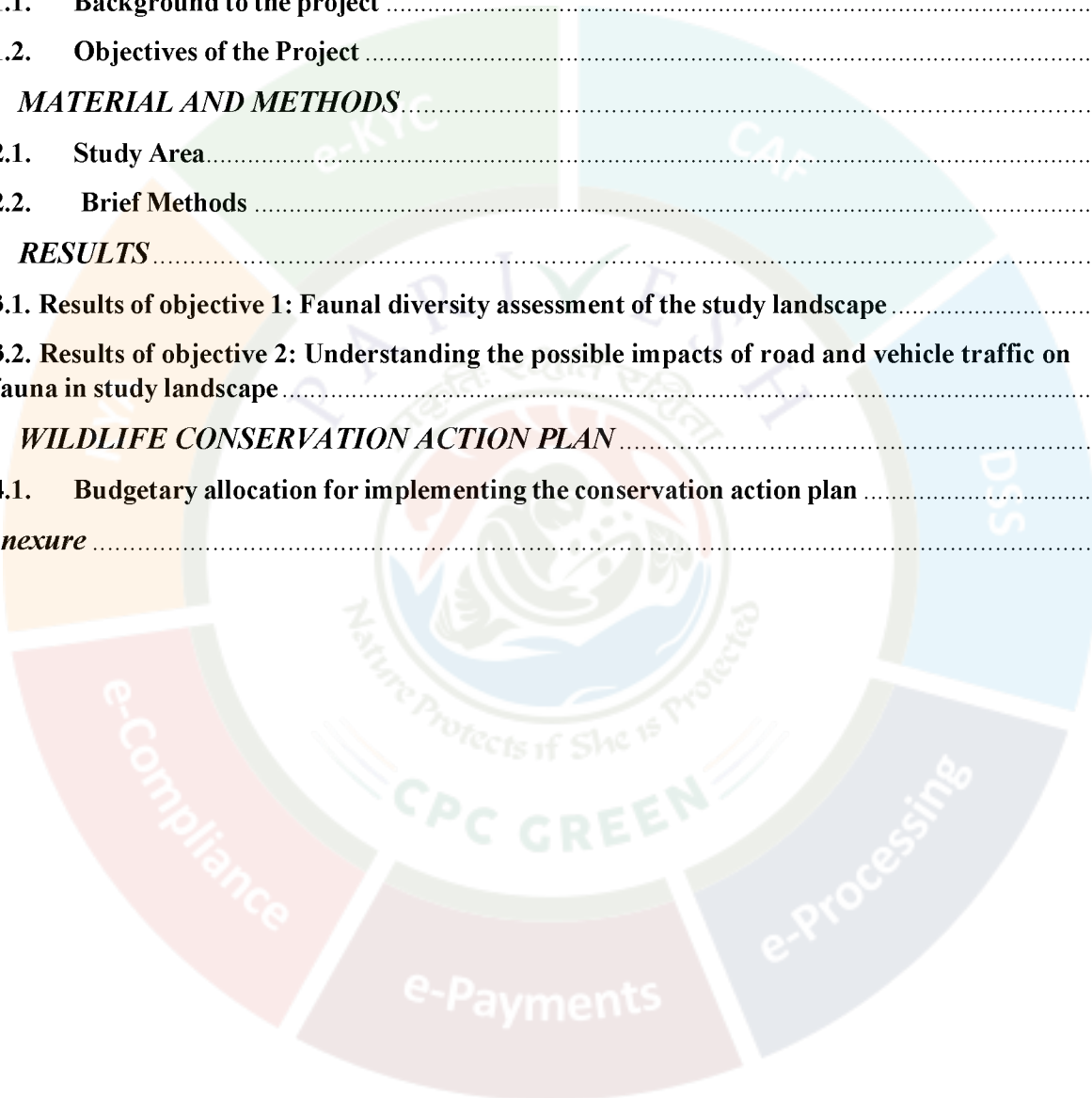
Funding Agency

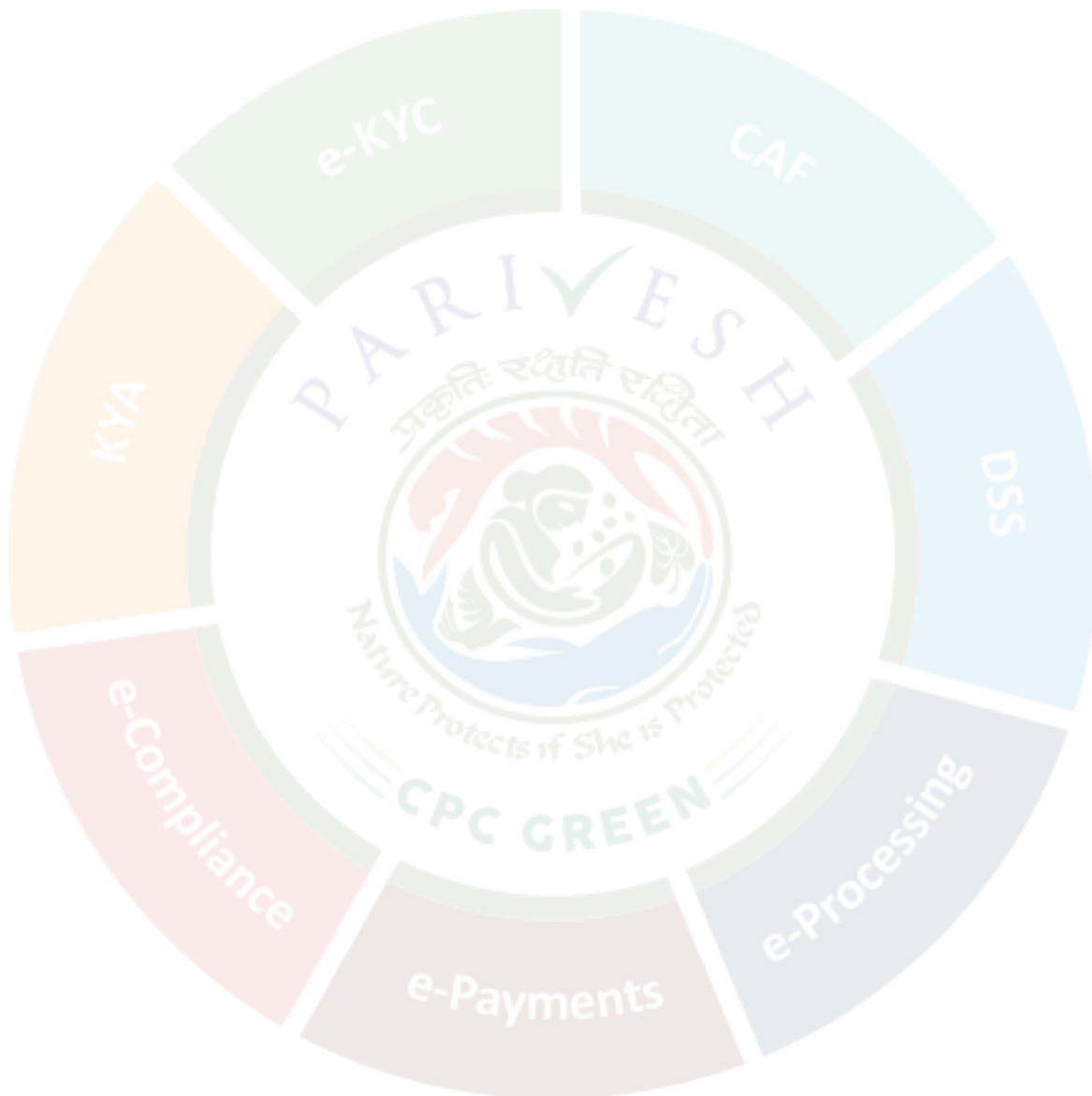
National Highway Authority of India, Government of India

© Zoological Survey of India, New Alipore, Kolkata-700053

Table of Contents

1. INTRODUCTION	1
1.1. Background to the project	1
1.2. Objectives of the Project	4
2. MATERIAL AND METHODS	5
2.1. Study Area	5
2.2. Brief Methods	6
3. RESULTS	12
3.1. Results of objective 1: Faunal diversity assessment of the study landscape	12
3.2. Results of objective 2: Understanding the possible impacts of road and vehicle traffic on fauna in study landscape	16
4. WILDLIFE CONSERVATION ACTION PLAN	19
4.1. Budgetary allocation for implementing the conservation action plan	38
Annexure	45







Chapter: 1

1. INTRODUCTION

1.1. Background to the project

India harbors massive biodiversity that is increasingly being threatened by the expanding road and rail networks across the country. Biodiversity is of tremendous importance to the region's teeming population that depends on natural and diverse ecosystems for livelihood and well-being. However, construction of roads and rail networks are widely regarded as one of the drivers for the loss of natural ecosystems even if they are considered essential for economic development and supporting vital human activities. Therefore, road development projects should also consider the habitats and wildlife species present in project areas if they are to address and conserve biodiversity as a whole. This report centers on this crucial theme.

Forest is an inherent component of our ecosystem and needs a scientific way of management, for which apart from advanced and technological innovations, involvement of locals in conservation efforts play a more meaningful role. In India, the pressure on the existing forest resources is immense in due to development activities due to increasing human population. The road transportation infrastructure is vital for promoting trade and commerce, and associated investments

Play a significant role in the country's economic development. In the present scenario, the Government of India is investing considerable funds in the infrastructure sector where construction of new roads and highways is on the top priority for the country's overall development. The national highways are considered as the lifeline of economic growth of the country and play a pivotal role in eradicating poverty from the country and especially in rural India. Most recently, the Government of India has launched a flagship programme, “Bharatmala”, which aims to development new road networks and improving the existing highways throughout the country to improve the efficiency of freight movement.

Moreover, in addition to this road network, the Government of India has also decided to create economic zones along the envisaged highways, which will surely increase the livelihood of villagers but will also put pressure on the natural resources. Often it is observed that major highways that pass through the forested landscapes threaten the faunal resources in these landscapes. In India, however, road development projects have overlooked and undervalued the environment and forest ecosystems, which apart from supporting wide variety of fauna also provide ecosystem services for the human kind. In mountainous landscapes, the severity of the threat is very high since, on one side, the topography of mountains is fragile, and on the other these mountainous landscapes are primarily covered by forests, the locals depend upon for their daily chores. Furthermore, in mountainous regions of the country, some of the most underprivileged rural communities live in remote villages and hamlets deep in forests or on the fringes. However, any such development even in plains will also have its negative impacts on the native fauna.

The highways that pass through the wide range of habitats are also home to some of the top conservation priority species. It has been observed that such linear developments have negatively impacted the species populations and resulted in degradation of habitats. Furthermore, studies are available which have highlighted that roads also play a significant role in the spreading of invasive species of plants and animals. The invasive species infestation is quite evident from the fact that today in India, much of the roads and rail networks are infested by invasive plant species such as *Parthenium* and *Lantana camera* etc.

Several studies that are available highlight that many wild animal species representing different groups are getting killed by colliding with speeding vehicles that pass through the forested habitats. By far, worldwide, roads significantly impact species populations and result in fragmentation of habitats. Since the development of roads through forest leads to the fragmentation

Of habitats into smaller and more isolated patches of habitat which animals usually tend to avoid. Such types of fragmentation of roads lead to adverse genetic effects, increasing noise pollution and visual disturbance, changing vegetative composition, altering the type and quantity of food base, disrupting the flows of energy and nutrients, increasing opportunities for exploitation by humans, and also results in increasing man-animal conflicts.

Globally, it has been realized that the linkages of ecosystem and development are deep rooted since development cannot sustain without environmental safeguards. In this context, it is imperative to preserve the forests and manage them sustainably to secure livelihood, conserve biological diversity, and develop sustainably. In India, degradation of forest and environmental pollution are major problems which have a significant bearing on developmental agenda. In view of the fact that, developments impact ecosystem while ecosystem sustain development, the investments under the mega programs of the Government of India including "Make in India" program and "Bhartmala", should be environment friendly so that such development programs can be made sustainable and eco-friendly.

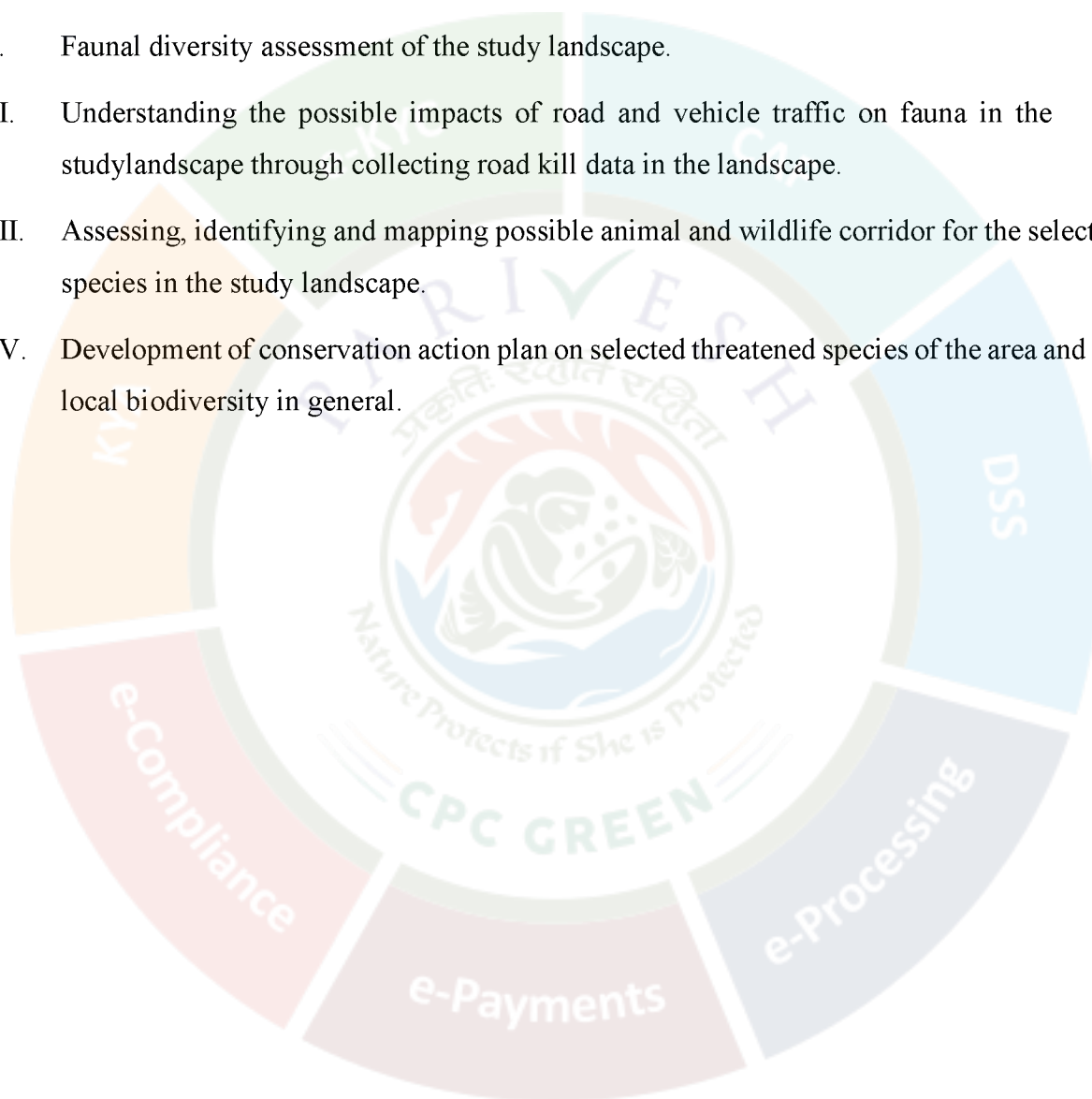
In 2015, the Ministry of Road Transport and Highways, GoI, promulgated 'Green Highways Policy 2015' to develop green corridors along the National Highways for sustainable environment and inclusive growth. The National Green Highways Mission under the National Highways Authority of India (NHAI) has been entrusted with the task of planning, implementation and monitoring plantations along one lakh km network of National Highways. These green corridors improve the environment of the highways and contribute towards conservation of local biodiversity and further contribute towards achieving the goal of bringing one third of India's land under forest cover as per the National Forest Policy, 1988 of India.

In addition to the steps taken by the NHAI under the National Green Highways Mission, there is a need to generate data about the impacts of roads and vehicle on the local biodiversity for every project under the Environment Impact Assessment (EIA) Notification, 2006 and subsequent amendments under the Environment (Protection) Act, 1986. Hence, by M/s National Highway Authority of India approached Zoological Survey of India, Kolkata for conducting a biodiversity assessment in the impact area of a road alignment project as well as to develop a conservation/mitigation plan for the anticipated impacts on the fauna of the landscape under the letter wide No. NHAI/PIU-RMNG/NH-275/14014/01/2023-24/226. Therefore, a study was conducted by the ZSI aiming at assessing the faunal distribution along the proposed road realignment route, and also identify wildlife corridor around the area and then finally to develop a

conservation action plan on selective species as per the ToR provided by the MoEFCC's EAC committee.

1.2. Objectives of the Project

- I. Faunal diversity assessment of the study landscape.
- II. Understanding the possible impacts of road and vehicle traffic on fauna in the study landscape through collecting road kill data in the landscape.
- III. Assessing, identifying and mapping possible animal and wildlife corridor for the selected species in the study landscape.
- IV. Development of conservation action plan on selected threatened species of the area and the local biodiversity in general.



Chapter: 2



2. MATERIAL AND METHODS

2.1. Study Area

A study has been conducted on the proposed road alignment starting from Kushalnagara to Mysore in Kodagu, Mysore and Mandya districts in the state of Karnataka to understand the biodiversity and to develop conservation action plan on selective species.

We have conducted field surveys in the entire landscape as per the ToR and also conducted vehicle surveys on all roads in the landscape to document road kills. We did intensive survey in the region to understand the existence of any Wildlife habitat along the proposed alignment as well as the corridor for the wildlife species to move to another suitable area nearby in selected segments of the landscape. The study was conducted on December 2023.

2.2. Brief Methods

The objectives under the proposed monitoring project have been achieved by following methodology given below:

Objective 1: Faunal diversity assessment of the study landscape.

Methodology: A systematic reconnaissance surveys were conducted on the entire study area for the identification of the intensive study area where rigorous sampling was conducted with the help of conventional Transect sampling, point sampling, and visual survey strategically with the help of advanced equipment. We classified whole study area into 2 x 2 km grids. A team of researchers systematically visited the selected grids to collect data on species diversity as well as abundance of species mammals, birds, reptiles, amphibians, and other indicator minor taxa including butterflies etc. For the sign survey, we cover selected grids by trails of different length using distance sampling method and vehicular transect, documenting the faunal diversity in the study area. Cumulatively, a total of 23 trails were walked of 2-5 km in length covering a distance of 81 km in the grids. We also performed point count method to record the avian fauna in the study area.

For all direct or indirect signs (direct sighting, fecal matter, egg nests) of vertebrates, GPS coordinates, altitude, sign type, terrain, habitat type, and photographs were recorded. The collected data with respect to a number of species, richness, and evenness were analyzed using standard biodiversity analysis indices such as Shannon index, Simpson index to understand the diversity at different levels such as alpha and beta diversity. Further we also collect data on road kills of wildlife through direct observation, from local resident villagers in the landscape to understand the magnitude of wildlife loss because of collisions with vehicles for developing strategies which can be used to avoid road kills of wildlife.

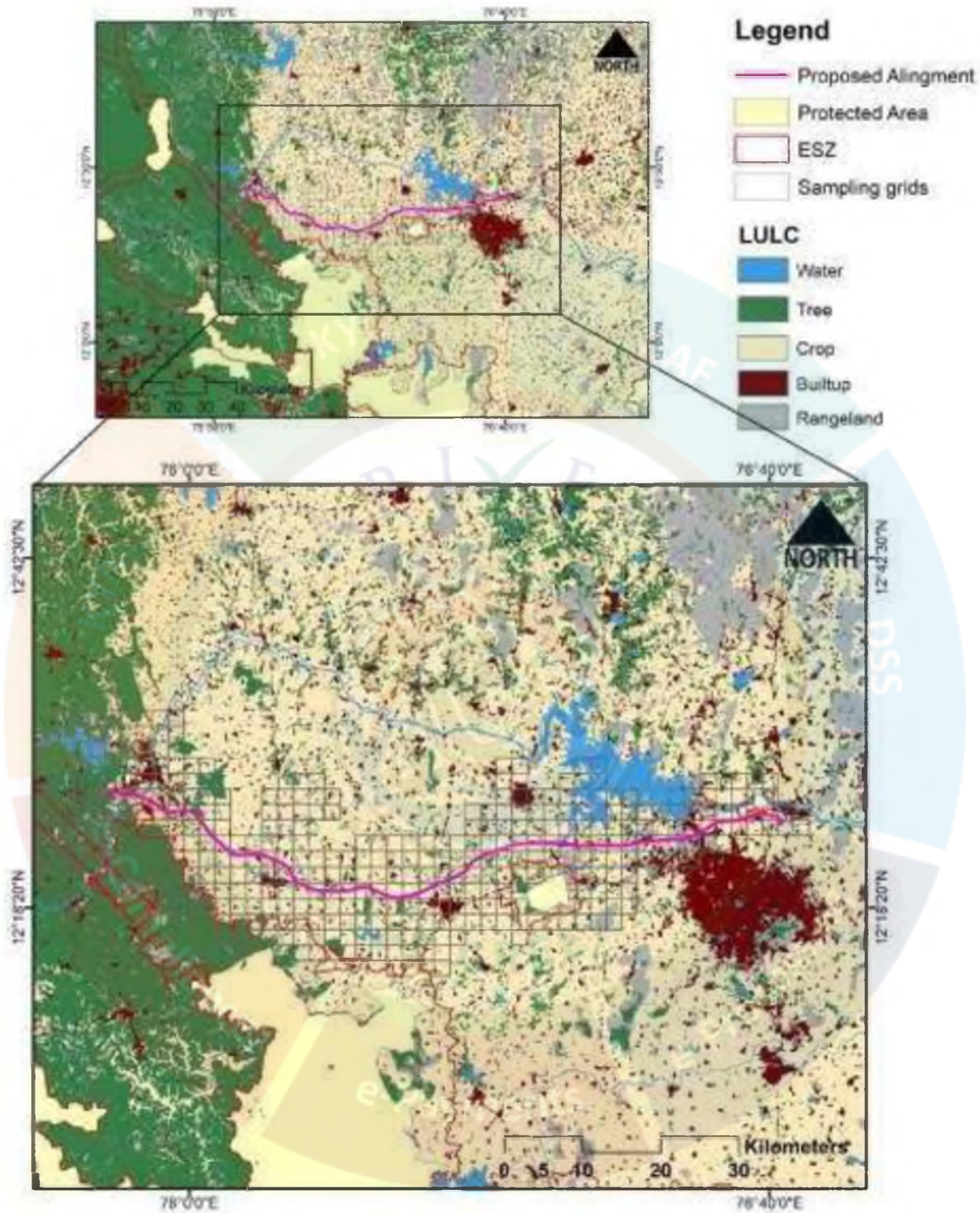


Figure 1: (a) Map showing the Study landscape with proposed alignment. (b) Intensive study area in the study landscape along with the sampling grids.

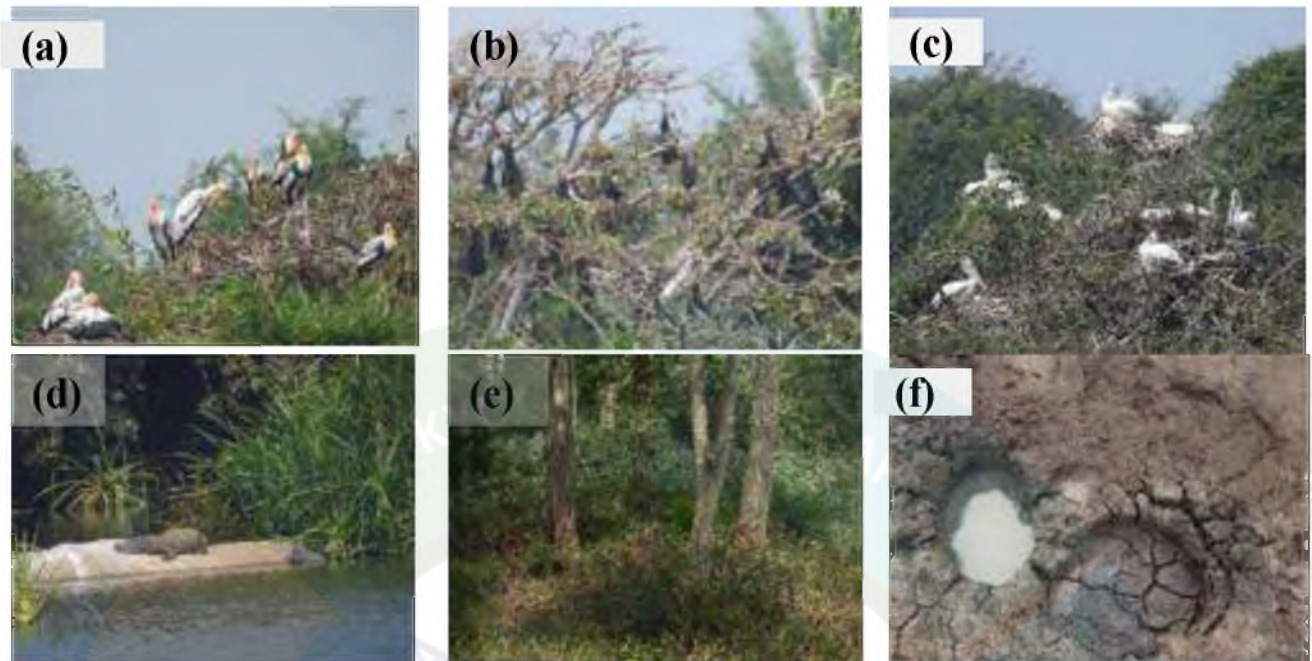


Figure 2: Pictures showing different types of animal sign (direct sitting, pug marks, nests). (a) Painted stork, (b) Flying fox, (c) Spot-billed Pelican, (d) Marsh crocodile, (e) Spotted deer, (f) hoofmark of Asian elephant near waterhole.

Objective 2: Understanding the possible impacts of road and vehicle traffic on fauna in the study landscape through collecting road kill data in the landscape.

Methodology: For understanding the direct and indirect impacts, efforts were made in about 0-6km on both the sides of the study highway. The information of the species composition and diversity was collected to understand the community structure and the ecosystem complexity. Repeated surveys were conducted in an area which is feasible using multiple strategies including line & belt transects and point sampling plots.

A combination of GIS and field data were used in the landscape to understand the impacts of proposed road alignment on the habitat quality, data on wildlife mortality (road kills) on all the types of existing roads in the study landscape. We systematically documented the road kills by the vehicles on the roads using the vehicular transects.

Objective 3: Assessing, identifying and mapping possible animal and wildlife corridor in the study landscape.

Methodology: Identification of the wildlife corridor if any in the landscape was determined based on species level primary data collected during the regular field surveys as well as data collected

from the forest department and the camera traps deployed in the landscape systematically. The occurrence data for the mammalian species and also the other vertebrates were compiled. The Occurrence records such as direct observation as well as indirect evidence viz. scats, dung piles etc. were (collected Figure 4). The geo-coordinates of all field data records were collected from these various resources, and then digitalized for this present study. After collection of these data, we used GIS software programs such as ArcGIS 10.6 for mapping and delineating the corridors. Habitat variables are foremost essential things to conclude the spatial patterns of a species distribution through a confined landscape. The selection of variables was based on the ecology and behavior of the study species. We have collected and generated habitat covariates for the species and these variables include LULC, topographic, disturbance factors etc. using the GIS platform. Spatial data preparation for the proposed study were carried out mainly in ArcGIS 10.6 platform.

Evaluation of landscape and class predictors for identification of the potential nodes for corridor building

Predictor inspection was performed by Generalized Additive Model (GAM) (Hastie 1990) using SAHM package within the VistTrails (Hastie 1990; Morissette et.al. 2013) for understanding the relative response to landscape configuration, topographic as well as anthropogenic predictors by the study species of in the particular landscape. This method has been chosen for its adaptability in dealing with non-linear relationships between response and explanatory variables (Tao et.al 2012). After development of habitat model for the entire landscape we modeled the possible connectivity for selected species throughout the study area. For estimating the connectivity, we adopted both circuit theory and least cost path algorithms. The Circuitscape software (version 4.0) was used for understanding the connectivity among the habitats of the selected species in the study landscape, which was based on the circuit theory and has been applied in a number of studies aimed at mapping intuitive ecological connections between the habitat patches (McRae & Shah, 2009; Wang et al.2014). Landscape resistance surface in the study landscape was generated based on environment, our proposed study revealed the suitable areas of the wildlife species' habitat range in the landscape and the use of corridor were evaluated, we assessed the connectivity between highly suitable habitat areas of the selected animal species based on the intensity of use using the field data as well as the Circuitscape software (version 4.0). Circuit theory is the baseline of the Circuitscape software (version 4.0) which help to understand the movement ecology and gene flow of animals by random-walk theory, and the random-walk approach also helps to perform

ecological interpretations via parameters and predictions of circuit-theory (McRae et al. 2008). Furthermore, Least Cost Method (LCM) which is another approach to describe the least resistance path in between two points in a surface that is source and destination, where the movement can be done in both orthogonal and diagonal directions (Adriaensen et al. 2003, Theobald 2006). Least-cost method evaluates limited pathways for animal movement which is basically a species follows a specific path for travel from one patch to another habitat patches (Adriaensen et al. 2003, Theobald 2006, Sharma et al. 2019). Whereas circuit theory which is the most acceptable method for conservation of a species because of its ability to predict the contribution of numerous paths in between the studied patches in a heterogeneous landscape (McRae et al. 2014, Sharma et al. 2019). Here we have used the conductance values from the raster surface, which help to evaluate the connectivity of the species of its habitat. The Circuitscape need focal nodes which serve as points between multiple habitat patches of studied species draw the connectivity in the habitat landscape, which assign with the raster call value which mainly represents the conductance or resistance value for the model. Circuit theory depicts the current flow in a surface, so conductance value is the foremost criteria to build the connectivity model, which can show the direction and quantity of current flow. The higher degree of movement of animal among its potential habitats refers to higher conductance value (McRae et al. 2008). The landscape Suitability score has been used to construct the connectivity model of the species (Carroll et al. 2011, Kabir et al. 2017, Sharma et al. 2019). Pairwise mode of Circuitscape operates been used to calculate the current flow in between the individual pairs of nodes, to evaluate the electrical resistance value (McRae et al. 2009). We used the potential habitat model result as conductance surface, which is used in numerous studies (Roscioni et al. 2014, Cushman et al. 2013, Saura et al. 2011, Sharma et al. 2019). Nodes were used for the pairwise mode of connectivity model. Considering the complexity of the connectivity model we didn't run the model with all nodes, we rarefied the occurrence points and select the nodes which can completely represent each habitat of selected species from its entire range. The outcome of the circuitscape map generates the graphical representation of aggregated current flow in the disturbed surface through the nodes, which the representative of the connected areas between the nodes, Furthermore, the current flow map also helps us to understand the degree of current flux between the potential habitat for the species. This connectivity map also a good illustrator of animal movement, which divulges the most liked routs of animal movement as well as the least movable path. This study provided the key findings for NHAI to know the high priority routs and any deterioration of these routs can affect negatively on the selected species population in the

landscape. Accordingly, the mitigation measures were provided to mention animal movement using the best practices available.

Objective 4: Development of conservation action plan on selected threatened species of the area and the local biodiversity in general.

Methodology: Based on the biodiversity assessment study and after the identification of wildlife corridors which may or may not get impacted by the habitat fragmentation and by the movement of vehicular traffic, practical conservation and management plan which can mitigate the impacts of the developmental project on the wildlife present in the landscape will be developed.

The conservation plan was based on the core principles of wildlife management and the guidelines developed by Wildlife Institute of India in relation to linear infrastructure development. The management plan also suggested the methods and strategies to avoid road kills of wildlife in the proposed alignment.



Chapter: 3



3. RESULTS

3.1. Results of objective 1: Faunal diversity assessment of the study landscape:

The study area predominantly consists of agricultural land interspersed with small patches of dry deciduous scrub forest. Notably, it encompasses the culturally rich and economically vibrant city of Mysore, renowned for its cultural heritage, economic activities, educational institutions, and popularity as a tourist destination. Amidst the urban expanse, riverine habitats along the banks of the Kaveri River play a vital role, supporting diverse aquatic, terrestrial, and avian fauna. These habitats, marked by dynamic seasonal variations and a braided channel pattern, create small islets that serve as breeding and roosting sites for birds and bats. Additionally, the bedrocks offer basking spots for reptiles, while submerged vegetation fosters habitats for aquatic insects, fish, and other aquatic organisms. The interface between the expanding smart city and these riverine habitats provides a unique opportunity to explore ecological dynamics, environmental impacts, and conservation challenges in this evolving landscape.

Moreover, the proposed alignment of the study area is in close proximity to the Eco-sensitive zone of significant protected areas, including Ranganathittu Bird Sanctuary, Arabithittu Wildlife Sanctuary, and Nagarahole Tiger Reserve, within a range of 0 to 4 km.

Ranganathittu Bird Sanctuary, spanning 0.67 sq. km in Srirangapatna taluk of Mandya district, consists of six islets in the Kaveri River, serving as breeding grounds for various local and migratory birds. The Arabithittu Wildlife Sanctuary, extending over 13.50 sq. km in Mysore district, is surrounded by private agricultural land and houses the Arabithittu State Forest. Notably, the sanctuary harbour few important species such as Tiger, Leopard, Spotted deer and others.

Furthermore, Nagarhole Tiger reserve also known as the Rajiv Gandhi National Park is an integral part of the Nilgiri Biosphere Reserve fall under Mysore and Kodagu district. It is one of India's premier tiger reserves. The term 'Nagarhole' derives its name from two Kannada terms, 'Naga' meaning 'snake' and 'Hole' meaning 'streams', a reference to the river Nagarhole which flow eastwards through the park. Nagarhole national park is renowned for being a best place to spot the Asiatic Elephants. In addition to elephants, the park hosts a diverse array of wildlife including Tigers, Leopards, dhole and others. It also sustains a substantial population of ungulates such as Sambar, Spotted deer, Barking deer, Gaur, Wild pigs and Mouse deer.

We classified the study area into 2 x 2km grids for understanding the bird's diversity in the study landscape we used Point Count method along with the opportunistic sampling during the transects/ trails walked. At the confluence of Kaveri River in Ranganathittu Bird Sanctuary, a large congregation of Spot-billed Pelican, Painted stock, Little Cormorant, Grey Heron, Little Egret observed (Figure3). The field survey effort resulted in the documentation of 128 species of birds were reported (Annexure 1) and rank abundance test revealed that Accipitridae family was the most dominant family followed by Phalacrocoracidae, Ciconiidae, Hirundinidae, Ardeidae, Corvidae, Dicruridae, Pelecanidae, Columbidae, Apodidae etc. (Figure 4). Moreover, a total of Fourteen (14) species of mammals were recorded in the study area using signs, animal droppings, direct sightings.

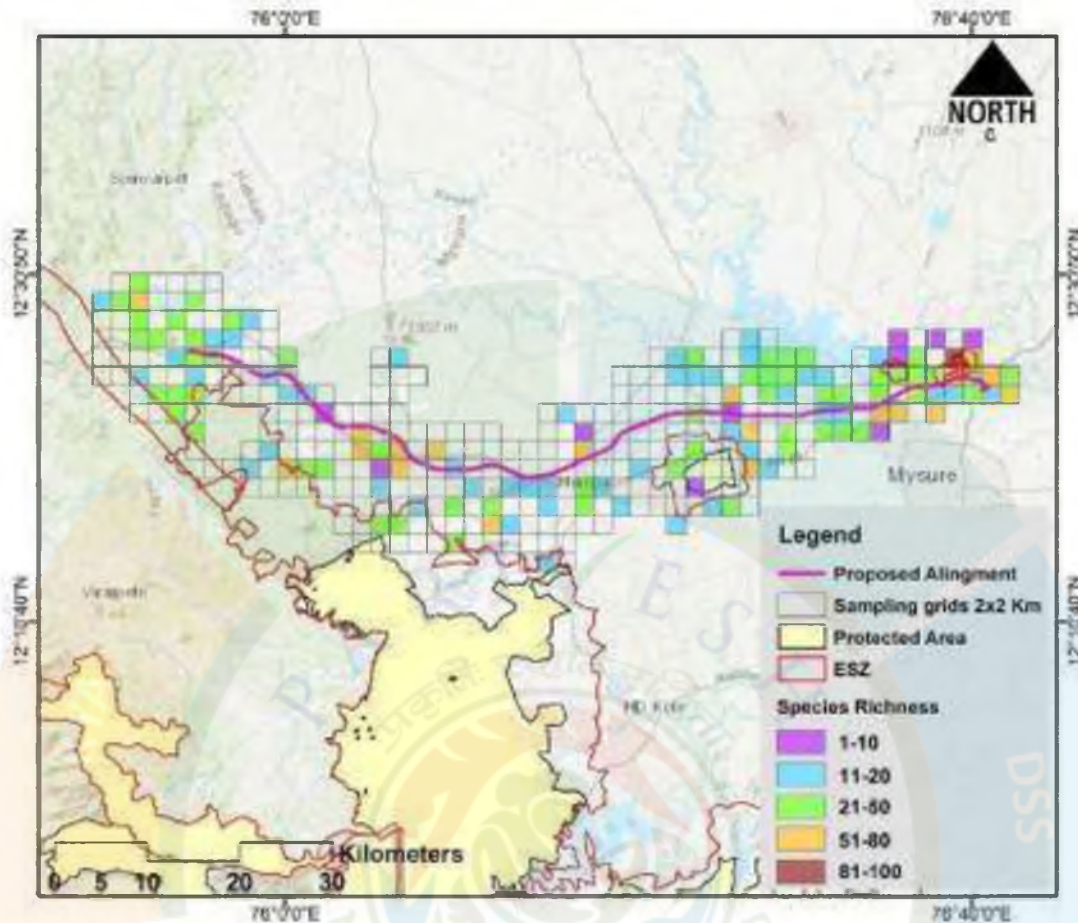


Figure 3: Map showing the Avian richness in the study landscape of Karnataka.

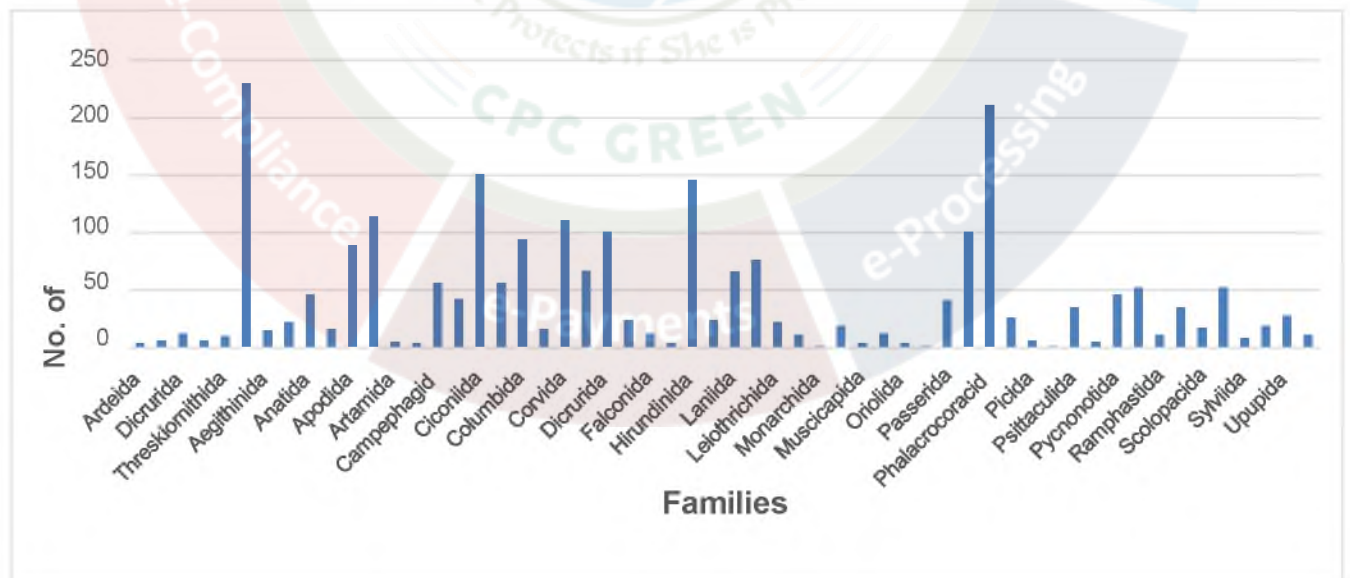


Figure 4: Bar depicts the rank abundance of families of Aves in the studied landscape.



Spot-billed Pelican



Great Cormorant



Painted stock



Pond Heron



Brahminy kite



Little Cormorant

Figure 5: Pictures of few Bird species documented during the study period

3.2. Results of objective 2: Understanding the possible impacts of road and vehicle traffic on fauna in study landscape

To understand and predict the possible anticipated negative impacts of the vehicular movement on the proposed alignment, we have conducted surveys on the Mangalore -Mysore Highway, KR Nagar road, Mysore-Hassan road, SH-117, Thalassery-Mysore road, Pollibetta road, SH-91, KRS road, SR road and other selected linked roads located close to the proposed new alignment. These roads were surveyed daily in early morning and late evening hours to document the animal movement and road kills if any as per the proposal. In addition, we have used vehicular transects where two observers were recording the presence of road kills on both sides of the existing roads.



Figure 6: A view of existing road to the proposed alignment.

However, our survey of vehicle transect of about 804.14 km covered in 58.4 hours has resulted in documentation of only two road kills of free ranging dogs. Moreover, local people also reported about the road kill of Bonnet Macaque in the link roads near connected to Mangalore -Mysore Highway. Simultaneously people also mentioned about the elephant movement, contributing to human-elephant conflict within the landscape. The moderate intensity of road kills observed in the primary survey can be attributed with the fact that the landscape near the proposed alignment has moderate abundance of wildlife species. However, to draw definitive conclusions, an in-depth field survey is imperative, complemented by a thorough analysis of records from the forest department.

Usually, species which feed from the surface of the roads are prone to get hit by a vehicle and in the case of the birds flying low are very often killed whilst crossing roads. The main reason for the road kill of the species is food, whether anthropogenic or natural. For example, vehicles often kill carnivorous birds while feeding on the road kills. In addition to searching for food, road crossing by wildlife species is been associated with breeding, i.e., finding a mate or following a mate. Hence, considering the fact that the study area has a low connectivity corridor along the proposed road alignment may have little impact on wildlife species of the landscape directly and indirectly. However, focus should also be given to riverine habitat as we have found many direct and indirect evidence that establishes the presence of rare and threatened species in the riverine habitat.

Many studies are available that have highlighted that linear infrastructures, vehicular disturbance may have greater ramifications to wildlife conservation. Similarly, in this case of the present study area, such anticipated impacts can possibly occur because the riverine habitat is ecologically rich in terms of wildlife species abundance. All roads, specifically the broad highways, may serve as barriers or filters to some animal movement. The taxons such as reptiles and amphibians are the most impacted vertebrate groups by road networks. Additionally, the road support infrastructure such as lobes and coves on the outer road side boundaries, probably affect crossing locations and rates. Hence, there is a need to create more permeable infrastructure to reduce the demographic threats expected to be because of the barrier effects. Therefore, the creation of movement support infrastructure will diminish the barriers effect in the following mentioned chainage no.as suggested. The structures include construction of underpasses, culverts

structures which are feasible as per the road design and the topography of the landscape. Nevertheless, considering the possibility of wildlife movement the NHAI must construct an underpass or a duct for providing safe passage by enlarging the size of the planned culvert. The underpass should have at least 2-4 m height and length equal to the width of the proposed road (Figure7). The ground inside an underpass should be natural and have vegetation palatable to ungulates. The vegetation or bushes should be planted on both openings of the underpass to facilitate animal movement through the underpass.

We suggest having cattle underpass as well as culverts at regular intervals throughout the road passing through the non-forest areas to facilitate movement of reptiles and other ground dwelling animals. This will reduce the possibility of ground dwelling animals getting killed on roads as several studies have revealed that these passages are very effective in decreasing levels of road mortality and isolation.



Figure 7: Example of an underpass below highway with good openness index and suitable for the movement of large mammals as well as other wildlife species of the landscape. (Google images).



4. WILDLIFE CONSERVATION ACTION PLAN

In recent years, the ecological effects of roads on ecosystems and landscapes have extensively been recognized (Andrews, 1990; Bennett, 1991; Forman and Alexander, 1998; Spellerberg, 1998; Carr et al., 2002; Havlick, 2002; Trombulak and Frissell, 2002). We understand that the roads are the basic infrastructures for the country's development. However, it is also essential to consider the wildlife species inhabiting areas where such large-scale linear infrastructures are planned. Hence, a proper assessment of the landscape with respect to landscape utilization by the wildlife species is pro-vital to ensuring long term viability of wildlife species. These linear infrastructure results in local extirpation of wildlife species if due considerations are not given to landscape assessment in terms of animal movements.

We found that the study landscape is relatively rich in terms of biodiversity, religious and cultural importance. The riverine habitats were largely home to some of the top conservation priority species like Smooth Coated Otter, Marsh Crocodile, River tern and many other winter migratory birds. The terrestrial landscape is largely home to some of the top conservation priority species including Tiger, Leopard, Asiatic elephant etc. in the landscape. Hence, there is a need to have conservation and management plan for all the threatened and scheduled species reported and present in the study landscape to mitigate the possible impacts of the proposed alignment.

The proposed alignment with chainage no. 122+300 to 122+000 passing near the ESZ (Eco Sensitive zone) of Nagarhole Tiger Reserve, which is one of the important forest areas for Tiger as well as Asiatic elephant thus the area needs to have energized fencing thus to prevent human-elephant conflict in the area. Elephants, by nature attract to crops; posing a challenge for farmers and villagers. However, the human-elephant coexistence needs to develop, emphasizing the co-occurrence of humans and elephant in the same landscape by separation at a habitat scale rather than a broader landscape scale to prevent crop raiding. The most effective way of achieving this objective involves “community-based energized fencing”.

Community-based energized fencing will be a collaborative and locally driven approach to mitigating human-wildlife conflicts, particularly in areas prone to encounters with elephants. This innovative strategy involves the installation of electrified fences powered by a community-shared energizer. In order to prevent crop damage and reduce conflicts between elephants and local residents, a barrier of protection is intended to deter elephants from entering agricultural areas. This model promotes shared responsibility, fosters a sense of ownership among community members, and contributes to sustainable coexistence between humans and elephants by preventing conflicts at a grassroots level.

Solar-powered fences that are non-lethal prove highly effective in deterring elephants from encroaching into villages or agricultural areas. One such example could be the “**Ele-fence**” developed by WWF-20239 (for more detail visit: <https://www.wwfindia.org/?21522/The-Ele-fence-Manual>). The Ele-fence, an affordable solar-powered fencing solution utilizing single-strand construction with bamboo or wooden posts, is specifically designed to safeguard human life, property, and crops from wild elephants. Elephants and other animals experience a non-lethal

shock when they make contact with the fence while standing on the ground. This fencing system is most effective in areas with moist soil, where elephants seldom breach fences, and in situations where budgetary constraints exist. Additionally, the Ele-fence is ideal for seasonal use, as it can be easily dismantled and reinstalled as needed. However, it is also crucial to avoid using barbed wire or concertina wire for electric fences, as animals entangled in such materials may face repeated shocks and potential harm. The energized parts of the fence are isolated so the current does not leak to the ground. Vegetation touching the fence will cause leakage and result in dysfunctional fence will receive only a mild shock or no shock. In such case elephants may break fences. Therefore, meticulous maintenance is essential to prevent dysfunction and maintain the effectiveness of the electrified fence.

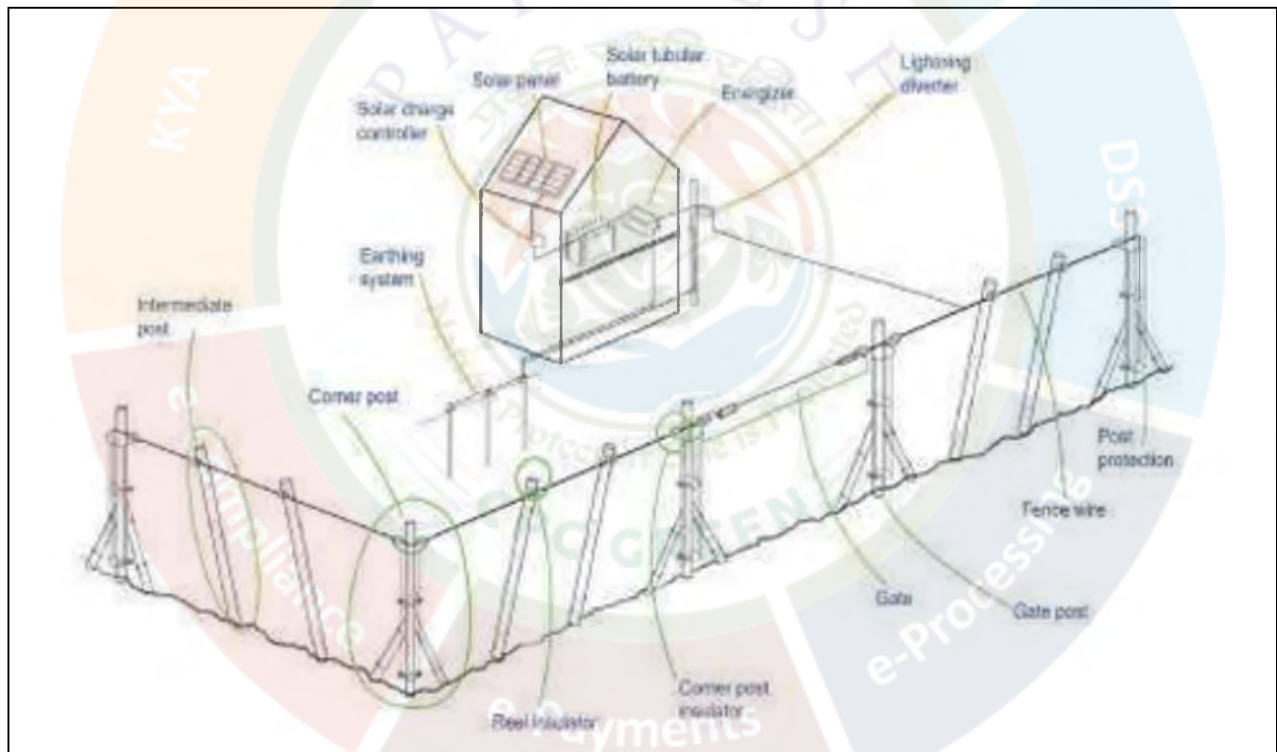


Figure 8: A diagrammatic representation of Ele-fencing. [Source @WWF-2023]

Moreover, the proposed alignment also consists of Rest area near chainage no. 124+500 to 125+100 near the bank of Kaveri River. The Kaveri River is home to several conservation priority species thus a comprehensive mitigation steps need to be taken focusing on specific actions to safeguard the ecological integrity of Kaveri River and its surroundings.

Firstly, a stringent waste disposal strategy must be adopted, ensuring that construction-

generated waste is systematically managed and disposed of in designated areas. This involves establishing dedicated waste disposal sites equipped with proper containment measures to prevent any runoff or seepage into the river. Simultaneously, the fencing of the Kaveri River should be undertaken as a preventive measure against pollution. This fencing initiative serves a dual purpose by restricting human access to sensitive riverbank areas and acting as a deterrent against potential littering or unauthorized disposal of waste into the river. The fencing should be designed to be wildlife-friendly to maintain the natural movement of species along the river corridor. Regular monitoring and maintenance of the fencing and waste disposal sites should be integral components of the mitigation plan to ensure its ongoing effectiveness. This approach will not only protect the Kaveri River ecosystem but also contribute to the overall conservation of the priority species inhabiting this crucial riverine habitat.

Further the alignment also passing through the ESZ of Ranganathittu Bird Sanctuary from the Chainage no 209+800 to 209+100. The Ranganathittu Bird Sanctuary is one of the important habitats for winter migratory birds, especially the roosting sites near the banks of the Kaveri River, thus a comprehensive management plan is essential to safeguard and conserve this critical avian habitat. The sanctuary is surrounded by vast stretch of irrigated agricultural fields where aquatic insects are available in plenty thus serving as the food source of some bird species. Abundance of these insects attracts numerous birds to the sanctuary. Proper management of the agricultural areas within the sanctuary is crucial, as these spaces serve as feeding grounds for birds. Implementing responsible agricultural practices, such as organic farming and avoiding the use of harmful pesticides, will contribute to maintaining the quality of foraging areas for the avian population.

Further during the construction phase the management should include measures to minimize any potential impact on the bird sanctuary. Strict adherence to designated construction pathways and the implementation of temporary barriers around sensitive areas can help mitigate disturbances to the roosting sites. Additionally, construction activities should be scheduled considering the birds' breeding and migratory patterns to avoid peak nesting periods.

Educational initiatives within the local community can raise awareness about the importance of conserving the sanctuary and garner support for responsible behavior around these sensitive habitats. Regular monitoring and surveillance programs should be integrated into the management plan to assess the effectiveness of conservation efforts.

However, to safeguard the biodiversity of the landscape, it is recommended to adopt a conservation action plan which is futuristic and data-driven. The conservation action plan should be based on a specific objective which is on priority considering the threats to wildlife species because of the proposed development project. The wildlife conservation action plan, in the present study aims to provide remedies or strategies for the long-term viability of wildlife species. These strategies should be implemented with the active support and supervision of the Divisional Forest Officer of the area. The construction activities of the project could result in impacting the flora as well as the fauna of the area through the clearing of native vegetation (habitat), works around and within the forested habitat, noise, vibration, light impacts, disturbance or contamination of soil by construction material, barrier effects on wildlife (such as genetic isolation, increased competition, impacts of home ranges and territories of large territorial mammals which might be using the area occasionally), the spread of weeds, infestation of invasive species, road kills.

Hence, considering the above possible impacts on wildlife and biodiversity of the area based on the wildlife assessment in the study area, a set of few management strategies are recommended: -

- 1. Habitat improvement in selected segment of the proposed alignment:**
- 2. Conservation Action Plan for Schedule – I species found in the study area:**
- 3. Soil and water conservation:**
- 4. Forest fire management.**
- 5. Monitoring and Evaluation:**

1. Habitat improvement in selected segment of the proposed alignment:

We suggest having cattle underpass as well as culverts at regular intervals throughout the road passing through the non-forest areas to facilitate movement of reptiles and other ground dwelling animals. The alignment segment from Chainage no 208+900 to 209+550 passing through the ESZ of Ranganathittu Bird Sanctuary, Chainage no near 124+500 near the bank of Kaveri River and Chainage no.122+200 to 122+000 were identified as an important area. Hence, precautionary management strategies such as improvement of habitat for wildlife species should be taken up by the National Highway Authority with the active support of the local Forest Department of Karnataka. Habitat improvement activities includes plantation of local species of shrubs, herbs and trees. The aim is to ensure water and food availability for the wildlife species in the landscape because linear structures results in fragmentation and degradation of habitat. Local plantation

models with a composite of all three grasses, shrubs, and trees should be adopted for plantation in the area avoiding the introduction of non-native plants. In the case of trees and shrubs, preference should be given to local fruit-bearing species used by the wildlife species. Further Human-elephant conflict are also frequent by way of depredating on crops.

The crop-raiding behavior of elephants not only poses a threat to the livelihood and security of affected farmers but also puts the conservation of elephants at risk. The frequent conflicts between elephants and farmers result in economic losses and often lead to retaliatory measures against these magnificent creatures. This vicious cycle perpetuates negative attitudes towards elephants and hampers conservation efforts. Therefore, it is crucial to develop effective strategies that address the root causes of human-elephant conflicts while ensuring the safety and well-being of both farmers and elephants. Thus, implementing scientifically approved measures, promoting habitat management, and fostering community engagement are key steps towards achieving harmonious coexistence and securing the future of elephants in these landscapes. Further habitat modification can be implemented within the forested habitat adjacent to agricultural areas by creation of buffer zones or corridors with natural vegetation that provide alternative food sources for elephants, thereby reducing their dependence on crops.

2. Conservation Action Plan for Schedule – I species found in the study area:

a) Conservation and management strategies for Asiatic Elephant in the study area:

General Description: The Asian elephant (*Elephas maximus*) is characterized by its smaller size compared to the African bush elephant and is known for having the highest body point on the head. It possesses a distinctive trunk, which is an elongation of the nose and upper lip, containing numerous muscles used for various functions such as breathing, feeding, communication, defense, and more. Asian elephants exhibit sexual dimorphism, with males being larger in size and stature compared to females. This difference is evident in their height, body size, and bulkiness, as well as in the presence of tusks, which are usually absent in females. Age estimation in both male and female elephants is determined through various factors such as shoulder height, body length, skull size, and the presence of skin folds (Vidya et al. 2014). Asian elephants inhabit a range of habitats, including plains, forests (dry mixed deciduous and dry deciduous scrub) and cultivated lands. They exhibit social behavior, living in herds led by the oldest female who guides the group in search of food and water. Their diet consists primarily of grasses, leaves, roots, bark, and other plant materials. Asian elephants are polygynous, and mating occurs throughout the year. The species

faces significant threats primarily due to human activities such as hunting for ivory, deforestation, and agricultural expansion, which contribute to the loss and fragmentation of their habitat in this landscape. The Asian elephant is classified as Endangered (EN) by the IUCN Red List, with a declining population trend.

Management Plan: Threats faced by elephants is a huge loss to our environment, as Asian elephants have a huge impact on the ecosystem of their habitat. The impact of the threats faced by Asian elephants extends beyond the individual level and has significant consequences for the environment and ecosystem. These magnificent creatures play a crucial role in shaping and maintaining their habitat. As herbivores, elephants contribute to the dispersal of seeds, which aids in the regeneration of forests and promotes biodiversity. Their feeding behavior also influences vegetation structure and composition, leading to changes in plant communities. Additionally, elephants create water sources by digging holes and wallows, benefiting various other species in the ecosystem. These water sources serve as vital watering holes for numerous animals during periods of drought, supporting their survival. Furthermore, their movement patterns and foraging activities help maintain open areas within forests, promoting habitat diversity and providing opportunities for other wildlife species.

Human-elephant conflicts are a recurring challenge in the vicinity of Bylakuppe, Kushalnagar, Chermappa area of Kodagu district, particularly due to crop depredation in areas near the coffee plantations. The conflict arises as elephants venture into these agricultural zones, often resulting in significant damage to crops. This not only causes economic losses for local farmers but also exacerbates tensions between humans and elephants. It is important to address this issue through strategic management strategies that aim to minimize human-elephant conflicts and protect the livelihoods of the affected communities. By implementing measures to mitigate crop raiding incidents, such as the use of deterrents, barrier methods, or innovative techniques, we can create a more harmonious coexistence between humans and elephants. Additionally, raising awareness among local communities about elephant behavior and providing guidance on appropriate preventive measures can contribute to reducing conflicts and promoting peaceful interactions.

Elephants heavily rely on their sense of olfaction during foraging activities (Plotnik and de Waal, 2014; Schmitt et al., 2018). The aromatic properties of chili peppers (*Capsicum*) believed to be potential repellent and deterrent for elephants (Le Bel et al., 2015; Karidozo and Osborn, 2015). These could include using establishing a buffer of chili pepper plants around their fields, regularly applying chili pepper grease to string or metal fences. However one could also burn chili pepper

briquettes on frequent interval during the raiding season of specific crops this could act as repellent for elephant. Another effective method to deter elephants from crop raiding is the use of beehives as a natural barrier. Elephants have a strong aversion to bees, and by placing beehives along the perimeters of fields, the presence of bees acts as a deterrent, significantly reducing crop raiding incidents. However, it is important to note that regular management of the beehives is crucial to ensure the success of this strategy. Others methods include proper **Energized fencing** along the stretch as well as the ESZ of the Nagarhole Tiger reserve on western side of the proposed road alignment including the agricultural lands in villages mentioned above under Kodagu district thus could minimize the crops raiding.

One of the reasons for human-elephant conflict could be due to the scarcity of water during summer, compounded by its availability near human habitation. For this reason, we suggest the construction of a few more water resources in the interior forest areas as protection of important water sources. Posting of Forest Department watchers at some of the important sites during summer is recommended as poachers of other wildlife tend to camp around waterholes during summer.

Introduction of habitat enrichment plots consisting of preferred food plants such as bamboo and grass needed to establish by the Forest Department. The plantation of bamboo species, known for its rapid growth and high nutritional value, will provide a sustainable food source for elephants. Bamboo shoots and leaves are a vital part of their diet, and by establishing bamboo plantations in strategic locations within or near elephant habitats, we can help ensure a readily available and abundant food supply, thereby diverting their attention away from agricultural lands and towards more suitable feeding grounds. Collaborating with local communities, forest departments, and conservation organizations will be crucial in identifying appropriate sites, preparing the land, and maintaining the plantations. This approach not only helps conserve the Asian elephant population but also fosters coexistence between elephants and local communities, ensuring a more harmonious relationship between humans and wildlife. Furthermore, promoting community-based conservation initiatives, such as the establishment of village-level task forces or elephant conservation committees, can facilitate better understanding and cooperation between local communities and forest officials.

b) Conservation and management strategies for feline species (Tiger, Leopard)

General descriptions: The large cats such as tiger, leopard are the top carnivore species in the study landscape. Among these two large cats leopard is present in fairly good numbers in the entire landscape however, there are report of tiger presence in the landscape. Predominantly these cats

comes out from the Protected Areas located in the surrounding landscape. Although these PAs are not inside the impact area of the project but the local committees have reported about the utilization of coffee plantations and at some instances these species were sighted on the existing road under the proposed alignment. However, our survey did not yield any direct or indirect evidence pertaining to the species utilization. Hence, considering the presence of these species it is vital to have mitigation measures such as underpass on regular distance following the standard guidelines for liner infrastructure projects developed by the Wildlife Institute of India, Dehradun.

Conservation and management strategy: The strategies should help in minimizing the impacts of developmental activities as well as to mitigate human-wildlife conflict by the felids/ cats species in the landscape. The habitat improvement, protection should be considered only in areas close to the native forests with canopy, the scrublands should not be used for plantation of tree species. Creation of waterholes at few locations in the designated forest lands and properly managing existing water bodies is essential to maintain the flow of rain waters. Strategic management of these species in this study landscape requires a comprehensive approach that addresses habitat conservation, protection from threats, and community involvement. Emphasize the preservation of large continuous forest patches, which are crucial for maintaining viable populations. Implement habitat management practices, including regular anti-poaching patrols, fire management, and prevention of illegal logging/poaching and encroachments, to ensure the integrity and connectivity of these habitats.

Further focus also need to give on improving the prey availability by managing herbivore population. This can be achieved through habitat restoration, plantation of fodder species for sustenance of prey species, awareness programs among the local communities, presence of wildlife corridors in this landscape and scientific studies on prey abundance, distribution and habitat preferences (as very few studies have been conducted in this landscape) thereby help in identifying the population status and help in better conservation and management of the species. Further efforts should be made towards plantation and management of fodder species in the landscape. Additionally, the implementation of awareness programmes about the importance of the species among the local communities will greatly benefit the species

c) Conservation action plan for Canidae species (Golden Jackel):

General description: A medium-sized canid, the Golden Jackal has a scraggly, buff-gray coat that is neither as dense nor as silky as that of foxes or wolves. The head and sides of the legs are tawny red in colour, and the buff coat is dotted with black hair, especially on the back as if it had

on a grizzled coat. White areas can be found on the throat, underbelly, and vicinity of the eyes and lips. Seasonally, the color of pelage can change from light cream to tawny. Like the wolf and Indian Fox, the tail is medium in size, bushy, and has a black tip. The jackal has an unjustified reputation as a scavenger despite the fact that it is an effective hunter, particularly of rodents. Its unearthly cries are typical of the Indian jungle and countryside. It favors urban and semi-urban regions, grasslands, mangroves, and forests. Since it is more tolerant of humans than the wolf, it is frequently found near human settlements.

Conservation and management strategy: The plan should be concentrated on goals to raise the habitat quality in the current environment. With in this developed urban infrastructure measures such as wildlife crossings, underpasses to minimize roadkill and enhance connectivity between fragmented habitats. Install fencing or barriers to prevent jackals from entering hazardous areas like highways or railway tracks. Implement measures like raising awareness among residents about the importance of coexistence and providing guidance on securing garbage bins, managing pet animals to reduce conflicts between Golden Jackals and humans. Developing protocols for the safe capture and relocation of problem animals if necessary. Increasing the capacity of the local forest frontline employees to monitor the population of the species for conservation and management. As a result, it is recommended to have integrated habitat improvement planning in the landscape with an emphasis on strengthening prey base in its distribution area as well as improving connectivity.

d) Conservation action plan for Primate species:

General description: In the study area, two primate species, namely the Bonnet Macaque (*Macaca radiata*) and the Black-footed Gray Langur (*Semnopithecus hypoleucos*), have been documented. The Black-footed Gray Langur, also referred to as the dark-legged Malabar langur or Malabar sacred langur, is endemic to the Western Ghats, thriving in altitudes ranging from 300 to 3,900 feet amidst patchy rainforests and deciduous or scrub forests. With their slender build, long limbs, and distinctive black triangular faces, these langurs epitomize the elegance of arboreal life. Males typically stand at about 29 inches tall and weigh between 35 and 40 pounds, while females are slightly smaller, averaging 25 inches in height and 19 pounds in weight. Their lengthy tails, measuring 35–39 inches, aid in balance and agility as they navigate their arboreal habitats. These langurs primarily subsist on a herbivorous diet, consisting of leaves, fruits, flowers, and occasionally seeds. On the other hand Bonnet Macaque inhabit the southern region of India, exhibiting remarkable versatility in their behavioral traits. Thriving in diverse environments,

including evergreen high forests and dry deciduous forests of the Western Ghats, these diurnal primates exhibit a unique blend of arboreal and terrestrial lifestyles. Their grayish-brown or golden-brown fur and distinctive hairless faces characterize them, with females displaying pinkish facial skin. Living in multi-male multi-female groups, Bonnet Macaque populations often interact with human settlements, relying on a varied diet that includes fruits, foliage, insects, and occasional bird eggs or lizards obtained through foraging or raiding food sources near their habitats.

Conservation and management strategy: Given the critical importance of fragmented forests in maintaining biodiversity, efforts must prioritize the protection and restoration of these ecosystems. Collaboration with governmental agencies, conservation organizations, local communities, and scientific institutions is essential for the successful implementation of conservation initiatives aimed at ensuring the long-term survival of these iconic primate species. Additionally, public awareness campaigns emphasizing the negative consequences of feeding wildlife and promoting responsible behavior are essential. These campaigns can educate locals and tourists about the natural behaviors and dietary needs of primates, highlighting the importance of allowing them to forage naturally within their forest habitats. Further addressing the issue of human-wildlife interaction, particularly along roadsides where primates may encounter tourists or locals, is paramount. Installation of signboards advising do not feed wild animals can help minimize the risk of road accidents

e) Conservation action plan for Mugger/Marsh crocodile (*Crocodylus palustris*):

General description: The marsh crocodile is the largest surviving species of the *Crocodylus* genus, with a snout that is roughly 4.5 metres long at its longest. This species is reported to be present in the river Kavari of the landscape however, the presence is rare. The Marsh Crocodile, a keystone species and top predator, is essential to maintaining the composition and efficiency of the freshwater environment. It is an essential species in an ecology of slowly moving fresh water. Small fish, insects, and crustaceans are the main sources of food for marsh crocodile juveniles. Adults consume larger fish, as well as various deer, buffalo, snake, turtle, and frog species. The hole's closest to water bodies is where the mugger crocodiles reside. Crocodiles go through aestivation in the summer, a period of inactivity during which they burrow deep into the ground to maintain humidity. Marsh crocodiles emerge in the winter to bask in the sunlight to regulate their body temperature. To lay her eggs, marsh crocodile females create holes in the sand that are roughly 2 feet deep. The building of dams, the redirection of water channels for irrigation, soil erosion, and increasing habitat degradation are some of the factors contributing to the reduction.

Conservation and management strategy: The degradation and fragmentation of its habitat, drowning in fishing nets, human egg predation, and the use of crocodile parts as medicine were originally listed as the main threats to the Mugger. By predating on fish, recycling nutrients in food chains, and maintaining aquatic habitat during droughts, crocodiles are important stone species that play a significant role in helping to maintain the ecosystem's structure and function. By making the importance of these factors clear to the locals, this helps in conservation. According to past studies, the marsh crocodile faces major dangers from harmful chemical contaminants, pollution, and metabolites. As a result, the government should take efforts to ensure that no industrial growth takes place in the region and that no trash is dumped into the water. The Gharials, or muggers, are affected by the increased sand mining along the river for construction purposes and agricultural activity on the sandy banks since they need to do basking to assist them maintain body temperature. Due to sand mining, crocodiles have less space for basking, which impacts their ability to maintain body temperature. When they wish to cool off again, they can migrate from the sun into the shade or the water. Reduced anthropogenic strain on the habitat is essential for the preservation of the species.

f) Conservation action plan for Smooth Coated Otter (*Lutrogale perspicillata*):

General descriptions: Smooth-coated otters are relatively larger than other species. They may be distinguished from other species of otters by a more rounded head and a hairless nose in the shape of a distorted diamond. The tail is flattened, in contrast to the more rounded tails of other species, which with shorter front legs makes swimming smooth and easy. The fur is thick and velvety with two layers; the guard fur keeps the underfur dry underwater to retain body heat. Males are larger than females. Otters prefer rocky stretches for den and resting. River stretches with bank side vegetation and marshes are used in proportion to their availability, especially in summer, as they provide ample cover while travelling or foraging. Open clayey and sandy banks are largely avoided as they lack escape covers. Smooth-coated otters are social and hunt in groups and are mainly diurnal, and have a short lull in activity during midday.

Conservation and management plan: Habitat destruction due to developmental activities such as canalization of rivers, removal of bank side vegetation, dam construction, draining of wetlands and aquaculture activities. Decrease in prey species due to acidification of rivers and lakes. Poaching for pelt. Coastal populations are vulnerable to oil spills, while the inland populations are vulnerable to organic pollution by nitrate fertilizers, untreated sewage, or farm slurry. A potential risk comes from traps designed to kill other species; especially underwater cages constructed to

drown muskrats. The Smooth-coated otter is the most studied otter in Asia, but the status surveys conducted for this species cover only patches scattered across the whole of its range. Occupancy based surveys need to be carried out in protected and unprotected areas to monitor its population trends. Studies should also focus on phylogeographic and conservation genetics, foraging ecology and habitat use. This species has greatly suffered due to indiscriminate poaching for its pelt, particularly in South and Southeast Asia. Sensitization workshops need to be organized for enforcement agencies such as custom officials, forest rangers and for university student.

g) Conservation action plan for Eupleridae family:

General description: In this family Indian grey Mongoose (*Herpestes edwardsii*) and Stripe-necked Mongoose (*Herpestes vitticollis*) were recorded from the study site exhibit distinct characteristics and habitats. Indian Grey Mongooses are commonly found in thickets adjacent to cultivated fields and fragmented forest habitats, as well as open areas, grasslands, and scrub. Identified by their silver-grey fur speckled with salt-and-pepper markings, they possess thick coats, short legs, and long bodies, measuring 38 to 46 centimeters in length with a tail spanning 35 centimeters. Sporting 40 teeth, they weigh between 0.5 to 4 kilograms. In contrast, Stripe-necked Mongooses are restricted in distribution to the southern regions of India, primarily inhabiting the Eastern and Western Ghats as well as Sri Lanka. Their stout bodies, short legs, and distinctive black lateral neck stripes characterize them. With head-to-body lengths ranging from 46 to 50 centimeters and tails measuring 32 centimeters, males outweigh females, with males averaging 3.1 kilograms and females approximately 1.7 kilograms. Both species are terrestrial and diurnal solitary hunters, with Indian Grey Mongooses showing heightened activity in the early morning and evening. Preying opportunistically, they feed on mice, rats, lizards, snakes, beetles, ground birds, eggs, and plant materials, including fruits, berries, and roots. However, these mongooses face multifaceted threats, including habitat destruction, collection of fuelwood, grazing practices, and unsustainable land use and agricultural practices. Additionally, the illegal trade for their hair, utilized in paintbrush manufacturing, poses a significant danger.

Conservation and management strategy: To address the threats facing the Indian grey mongoose, efforts should prioritize habitat restoration and preservation through the establishment of protected areas and reserve forests (Roberts, 1997; Santiapillai et al., 2000; Gilchrist et al., 2009). Additionally, implementing sustainable land use practices is crucial to maintain suitable habitat conditions. Strict enforcement of regulations is necessary to combat the illegal trade in mongoose hair, which is utilized for paintbrush manufacturing. Public awareness campaigns are

essential to underscore the ecological significance of mongooses and raise awareness about the detrimental impacts of their exploitation, thereby reducing retaliatory killings by locals due to poultry predation incidents. Collaborative action among governmental agencies, local communities, and scientific institutions is imperative for the effective implementation of conservation initiatives. Continuous monitoring and research-based management strategies, informed by scientific literature, are essential to ensure the long-term survival of the Indian grey mongoose and the preservation of its habitat.

h) Conservation action plan for Indian Crested Porcupine:

General description: Exhibiting distinctive characteristics within India's diverse ecosystems, the Indian crested porcupine (*Hystrix indica*) is the largest rodent species in the country (Jain and Tripathi, 1988). With an average head-to-tail body length ranging from 78 to 100 cm and a weight of approximately 11 to 18 kg (Prater, 1965), its defining feature lies in the highly modified hairs arranged in superimposed layers of spines or quills of varying sizes. These quills, characterized by alternating brown or black bands with white bands, vary in length across the body, with those on the neck and shoulders measuring 15 to 30 cm (Gurung and Singh, 1996). Thriving in a variety of habitats such as rocky hill sides, tropical and temperate scrublands, grasslands, forests, arable land, plantations, and gardens, the Indian crested porcupine demonstrates remarkable adaptability. Typically solitary foragers, they may occasionally form pairs or small family groups, with mothers teaching their young. Nocturnal by nature, they seek shelter in caves, rock crevices, or self-constructed burrows during the day, relying on keen senses of smell and hearing while possessing limited vision. Their diet primarily consists of fruits, grains, and roots, with occasional bone chewing to obtain essential minerals such as calcium (Prater, 1965; Gurung and Singh, 1996). Despite their adaptability, habitat loss and hunting pose significant threats to their long-term survival, emphasizing the urgent need for conservation efforts to ensure the stability of their populations.

Conservation and management strategy: Despite their relatively stable conservation status, Indian crested porcupines face various threats, including anthropogenic disturbances such as habitat loss, fragmentation, and agricultural expansion. These activities pose significant risks to their populations, leading to a loss of food and shelter and increasing human-porcupine conflict as the animals are pushed closer to human settlements. Furthermore, hunting for meat or quills, which are utilized in traditional medicine and handicrafts, poses a direct threat to their survival. Additionally, they are sometimes targeted as agricultural pests, resulting in retaliatory killings. To

address these threats, proactive conservation measures are essential. Efforts should focus on habitat preservation through the establishment of protected areas and sustainable land use practices. Public awareness campaigns highlighting the ecological importance of Indian crested porcupines and the consequences of their exploitation are crucial. Strict enforcement of regulations against hunting and illegal trade is imperative to safeguard their populations. Collaborative action among governmental agencies, local communities, and conservation organizations is vital for the effective implementation of conservation initiatives. Continuous monitoring and research-based management strategies are essential to ensure the long-term survival of Indian crested porcupines and the preservation of their habitats.

i) Conservation action plan for Phasianidae family species (Indian peafowl):

General description: The Indian peafowl (*Pavo cristatus*) is one of the well-known and common avifauna of India and also in the study area. They are seen in small groups of mixed individuals. Indian peacocks mainly are ground feeders. They forage primarily in the early morning and before sunset, preferring shaded sites to avoid hot temperatures during the day. However, insects, small reptiles and small mammals are also included in their diet. This species is so versatile, that any species can be found, given food, water availability, and trees for roosting. These birds are well adapted to landscapes modified by humans and are closely related to human civilization. The Hindus acknowledge the bird to be sacred because of its association with Hindu deities. Moreover, they help humans as a bio controlling agent because they feed on insects, snakes and small mammals, which destroy crops. They also feed on invasive species and environmental weed like *Lantana camara* and *Ziziphus oenoplia* (Rajeshkumar & Balasubramanian, 2011). Further, Indian peafowl and jungle fowl also plays an important role of seed dispersal in forested habitat.

Conservation and management strategy: The measures ought to aid in reducing the negative effects of developmental activities as well as crop losses suffered by the species. To keep the flow of rainwater going, a few waterholes must be created in the allocated forest lands, and existing water bodies must be managed appropriately. The bird will have places to rest and roost if the habitat is improved by the planting of fruit and berry species in the impact area and the establishment of tiny tree groves in a few spots close to water bodies. Furthermore, increasing insect density an important component of peafowl and other bird species' diets will be a result of increased tree and plant density. Moreover, the implementation of educational campaigns regarding the significance of the species among the local communities will be very helpful in its preservation.

j) Conservation action plan for Accipitridae family bird species in the study area:

General description: In this family Booted Eagle (LC), Changeable Hawk Eagle (LC), Crested Serpent Eagle (LC), Greater Spotted Eagle (VU), Indian Spotted Eagle (VU), Pallid Harrier (NT), Shikra (LC), Short-toed Eagle (LC) and Egyptian vulture (EN) is sighted in the study area. The size and call vary from one to the other. They vary according to their diet. They feed on prey items from insects to medium-sized mammals. Some feed on carrion and a few feeds on fruit. The Accipitridae have a cosmopolitan distribution, being found on all the world's continents (except Antarctica) and a number of oceanic island groups. Some species are migratory. They kill their prey by squeezing and puncturing it with their talons. They usually nest in trees, and most pairs mate for more than one year. They are excellent fliers and have a great sense of sight.

Conservation and management strategy: This species is very commonly found in human settlements as well as around agricultural habitats and scrublands near human habitations. It can be conserved by increasing the tree cover in the study area which will provide shelter and roosting to the Species in the family. Awareness programmes (community and school level) for conservation of Bird of Preys in the study area as well as negative effects of Chemical pesticide and how it is harmful to the food chain of such species is very essential and the same can be achieved through organizing competitions during “Wildlife Week” and “Van Mahotsav” celebrations by active involvement of local community. - Some provision of rewards to informers for the control of poaching and illegal trade in wildlife. Carrying out census and research projects to know the potential threats and population status of the species in collaboration of local schools, colleges, panchayats and forest department. Another way to help preserve the endangered species is to create society dedicated to ecological ethics. All the conservation measures will be implemented with the help of and in the consultation of the district forest department.

k) Conservation action plan for Campephagidae family bird species:

General description: In this family Small Minivet (*Pericrocotus cinnamomeus*) is sighted in the study area. The Small Minivet is a small bird measuring 15 to 16 cm in length and weighing between 6 to 12 grams. Sporting a varied plumage across its subspecies, the male of the nominate subspecies exhibits a striking blend of gray upperparts complemented by vibrant orange underparts, accentuated by an arresting orange wing patch. In contrast, the female boasts a more subdued palette of gray upperparts and whitish or pale creamy yellow underparts. This species, often observed in small flocks, displays agile aerial maneuvers reminiscent of flycatchers, adeptly capturing insects mid-flight for sustenance. Its habitat preferences encompass a diverse array of

forested landscapes, particularly favoring thorny jungles, scrub patches, and open dry forests. Habitat alteration, destruction, and deforestation, coupled with the capture of adults and juveniles for the pet trade, pose significant risks to the survival of Small Minivet species. Additionally, the indiscriminate use of pesticides in agricultural areas further threatens their existence by contaminating prey species and reducing food availability.

Conservation and management strategy: Firstly, concerted efforts must be made to preserve and restore its critical habitats through targeted reforestation. Collaborating with local communities to promote sustainable land management practices can help alleviate habitat pressures. Moreover, implementing strict regulations and enforcement mechanisms to combat illegal poaching and trade activities is essential. Public awareness campaigns and educational programs can also play a pivotal role in fostering appreciation for these birds and garnering support for conservation efforts. By prioritizing habitat preservation, combating illegal activities, and engaging stakeholders, we can ensure the continued survival of the Small Minivet for generations to come.

I) Conservation action plan for aquatic birds in the study area:

General description for Laridae family bird species in the study area: In this family Black-bellied tern (Endangered), River tern (Vulnerable), need to be conserved. They are slender, lightly built birds with long, forked tails, narrow wings, long bills, and relatively short legs. Most species are pale grey above and white below, with a contrasting black cap to the head. Breeding is observed between February and May with peak activity in April. Chicks run away from intruders or predators, fledglings and adults usually fly when rapid movement is necessary. They often perch on rocks, or boats within and above nesting or feeding territories.

Conservation and management strategy: Anthropogenic activities pose a greater threat to aquatic birds than do natural predators hence Long term ecological monitoring (LTEM) is essential. Water release from barrages and dams for irrigation purposes is a delicate humanitarian problem, but when it is sudden, high, or uncontrolled, it has the potential to disrupt the annual nesting efforts of birds. Additionally, water birds that depend on rivers for food are impacted by over fishing, and pollution of the water owing to industrial and agricultural toxins. There may be long-term repercussions on nesting islands from activities like sand mining and the transfer of fishing and tourist boats to the nesting grounds. The river's water level fluctuates, which causes flooding of nests. Feral dog also preys on eggs and newborn chicks. The species can be preserved by public awareness initiatives in partnership with the forest department, local colleges, panchayats, and schools.

3. Soil and water conservation:

The study landscape is predominately an agriculture landscape where soil and water conservation measures are essential for the conservation of biodiversity as well as for preventing the land degradation. Hence, soil and water conservation strategies such as contour trenches should be constructed in areas close to forested habitats. The process involves aligning the pits with drip lines to facilitate precise planting and irrigation of saplings. This approach ensures uniform wetting of the root zone, a critical factor for the successful establishment and growth of young tree saplings. The pits, designed with specific water harvesting features, are larger and deeper than traditional planting holes. An essential component of this method is the construction of berms or bunds on the downhill side of the pit, serving as barriers to slow down and capture rainwater runoff. Dug along the contour lines of the slope, the pits intercept and retain rainwater, forming a series of small basins that collect and store water. Following tree planting, a layer of mulch is applied around each sapling to reduce evaporation and retain soil moisture. Leveraging the rocky terrain of the plantation site, rocks in the soil are strategically utilized as natural barriers to control erosion, aid in water retention, and stabilize the soil. Careful consideration of the slope during the pit digging process ensures strategic placement, enabling the pits to intercept and hold rainwater, preventing rapid downhill runoff. This ensures that water is available for the nourishment of planted trees over an extended period.

Another is cover cropping, and planting windbreaks of one or more tree or shrub species to provide shelter from wind and to protect soil from erosion should be adopted. Rainwater harvesting structure shall also be developed in selected sites in the designated forest lands which can act as a water source in dry seasons for wildlife species. A survey pertaining to identifying such sites should be conducted in the study landscape with the help of the agriculture department and a research organization with expertise in this domain.

4. Forest fire management:

Considering the fact that the landscape is prone to forest fire which is largely anthropogenic in nature it is imperative to have stringent fire management strategy. There is a need to adopt a proactive forest fire management strategy by developing a fire management calendar at range level and by creating new and maintaining old fire lines to prevent large-scale fires. In addition to the conservation and management measures discussed earlier, it is crucial to equip the front-line staff with modern firefighting tools and equipment to effectively combat wildfires. This includes

providing them with fire-resistant clothing, boots, and personal protective equipment (PPE) to ensure their safety during fire suppression operations. To enhance the firefighting capabilities, dedicated firefighting vehicles equipped with water tanks, pumps, and hoses should be made available. Establishing an efficient communication network for quick response and coordination during fire incidents. Furthermore, awareness creation among the locals as well as installation of forest fire vulnerability signage's will be of great help in reducing the forest fire vulnerability in the landscape. The map provided below provides forest fire vulnerable areas based on the forest fire records of last 10 years downloaded from MODIS fire data. The map suggests that significant area in the landscape is vulnerable to forest fire (Figure 8).

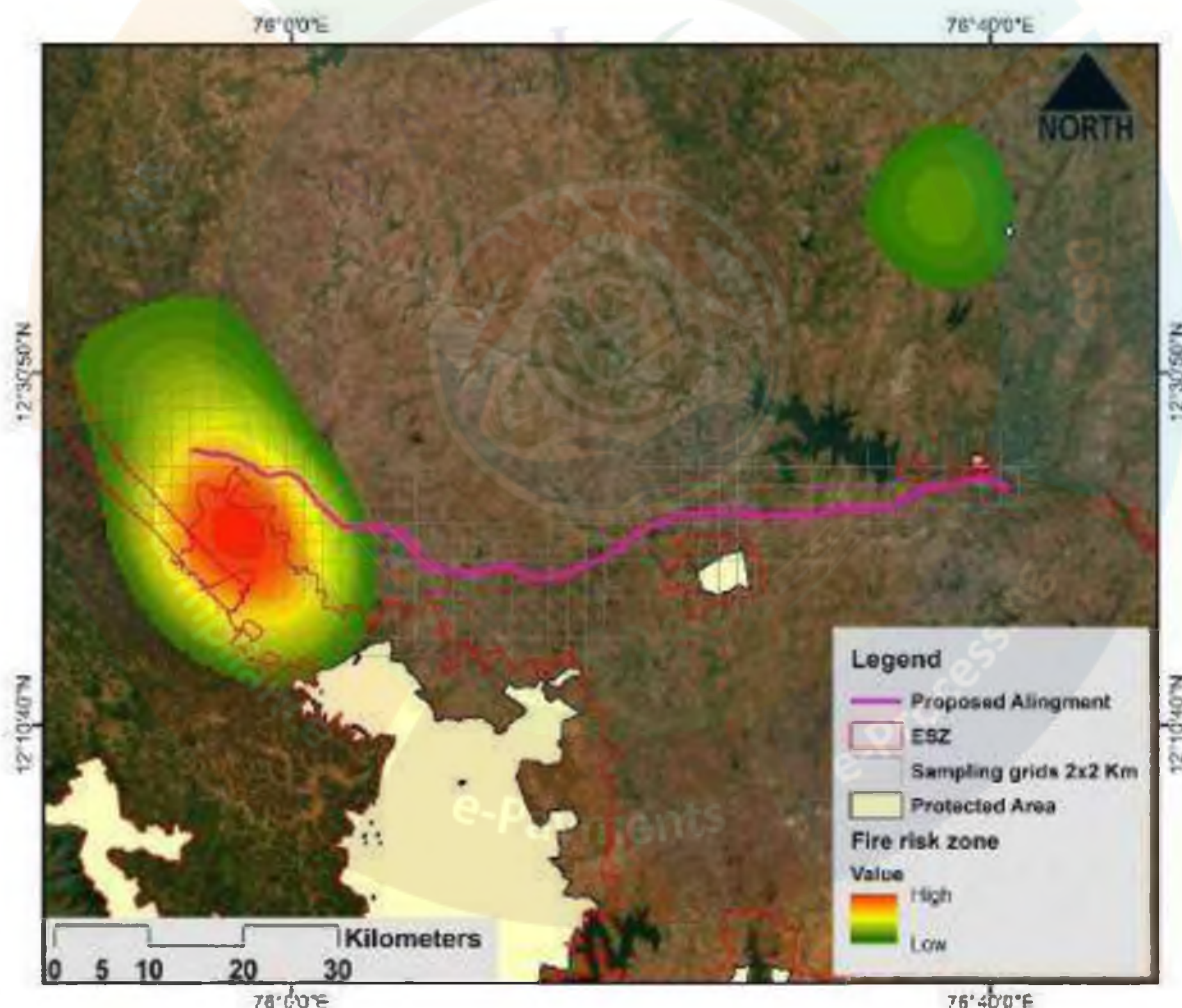


Figure 8: Forest fire risk map for the intensive study site

5. Monitoring and Evaluation:

The monitoring and evaluation (M&E) framework is important to ensure the implementation of

management strategies suggested in the plan. Monitoring and Evaluation Indicator Framework, in context to the present study is an overarching framework for biodiversity conservation which is intended for assessing the management outputs as intended in the objective of the management plan. The M&E shall be carried out systematically every year to identify the nesting grounds and ensure protection, construction activities comply and adhere to environmental provisions and standard specifications. It is the responsibility of the local Forest Department in collaboration with the National Highway Authority of India to conduct regular monitoring of the project to verify the results of implementation of wildlife management activities suggested in the conservation action plan. The responsibility for mitigation monitoring during the operation phase shall lie with the project authorities. A midterm impact review is also essential for the implementation of the management plan hence, progress and outcomes of the suggested strategies shall be reviewed once in five years. Furthermore, the project management authority shall hire a third-party evaluation to report the compliance on activities suggested in the conservation action plan.

4.1. Budgetary allocation for implementing the conservation action plan

The wildlife conservation and mitigation action plan has been designed considering the impacts of the proposed alignment on the landscape biodiversity. The actions suggested in the plan need to be implemented by two agencies, i.e., the project authorities (National Highway Authority of India) and the Divisional Forest Offices of the landscape.

Activities to be done by NHAI

The details of the activities that need to be implemented by the NHAI are given below: -

1. Construction of wildlife-friendly structures such as bridges with a minimum span of 75m/ in Chainage no 124+300 to 124+500 thus provide safe riverine habitat. Based on the geology and topography of the landscape to minimize disruption to the natural flow of rivers and riverine habitats. Further installation of sound and light barriers on both sides of the bridges to mitigate noise and light pollution to minimize disturbance. Additionally, proper fencing should be installed along the bridges to prevent the dumping of waste, which can negatively impact the riverine habitat.
2. Creation of Proper fencing in the rest area of the proposed alignment around the bank of Kaveri River in the chainage no. 124+500 to 125+100 thereby preventing the dumping of waste in the river. Further a dedicated waste disposal sites equipped with proper containment

measures to prevent any runoff or seepage into the river.

3. Creation of viaducts/Underpass/Culverts of adequate length on chainage no, 209+100, 209+200 and 209+700 with at least 2-4m height and length equal to the width of the proposed road and should be rectangular in shape. Also, sound and light barriers should also be installed on both sides to mitigate noise and light pollution thus minimizing the disturbance. Additionally, proper fencing should be installed along the segment to prevent the dumping of waste, which can negatively impact habitat in the mentioned segment.
4. Creation of cattle underpass as well as culverts at regular intervals throughout the road passing through the non-forest areas to of the proposed alignment. Construction of Underpass/culverts for providing safe passage by enlarging the size of planned culvert at given chainage. This recommended underpass should have at least 2-4m height and length equal to the width of the proposed road and should be rectangular in shape.
5. Further installation of sound and light barriers on both sides of the bridges to mitigate noise and light pollution to minimize disturbance. Additionally, proper fencing should be installed along the bridges to prevent the dumping of waste, which can negatively impact the riverine habitat.
6. Installation of signage along the bridges and adjacent areas about the conservation of wildlife including do's and don'ts to minimize disturbance to the ecosystem.
7. Signages for the speed limit at necessary locations.

The budget for implementing the above shall be included in the planned project by the NHAI.

Activities to be done by Divisional Forest Offices of the landscape

The management activities that need to be implemented by the DFOs are below: -

1. Habitat improvement in selected segments of the proposed alignment. Area base habitat management including habitat improvement through adopting agroforestry plantation models, plantation of aonla at the agro-forestry interface, promotion of fruit bearing plants such as Hill Mango (*Commiphora caudata*), Indian Ivy Fig (*Ficus heterophylla*), Jamun (*Syzygium cumini*), Mesquite tree (*Prosopis juliflora*), Ber (*Zizypus mauritiana*), Arjun Indian almond (*Terminalia arjuna*), and large canopy trees like Neem (*Azadirachta indica*), Axlewood (*Anogeissus latifolia*) Babul (*Acacia sp*), *Prosopis sp* and other the large crowned trees which can support the nesting of birds in the study landscape.

2. Construction of Energized fencing, watch towers and a guard post in the forested segment for enhancing patrolling, monitoring and to improve protection thereby minimizing the human-wildlife conflict in the area of ESZ of Nagarhole tiger Reserve.
3. Conservation and management activities for the schedule-I species as per the plan suggested to mitigate the possible impacts. Further creation of water sources, check dams etc. help in long term sustenance of the wildlife species. However, it is also important to carry out regular monitoring and studies of the conservation priority species in the landscape
4. Soil and water conservation strategies in selected sites should be based on the topography of the area. Best practices such as mulching, cover cropping, and sediment trapping in gullies, cross slope plantation of cacti species, construction of check dams, and at least two rainwater harvesting structures in the nearby hill belt in the designated forest land. These strategies should be adopted by following the principles of integrated watershed management. Further the management recommendations activities for soil and water conservation as per the plan suggested.
5. Conducting regular monitoring and assessment of the river's water quality, flow dynamics, and habitat conditions to identify potential impacts.
6. Training programmes for the local communities for rural enterprise development, wildlife monitoring training programmes for the Forest Department frontline staff, and capacity enhancement of the Forest Division through procurement of equipments necessary for monitoring and animal handling to mitigate human-wildlife conflicts.
7. Conducting the workshops and creating awareness programs among the local farmers, community receding near the of river banks regarding reducing and replacing the use of chemicals and pesticides in agricultural lands near riverbanks with organic farming methods and encouraging farmers to adopt natural resource-friendly practices can help minimize the negative impacts of chemical runoff on soil and water quality. Implementing agroforestry, crop rotation, and cover cropping can also enhance soil health, reduce erosion, and conserve water resources.
8. To prevent and controlling forest fires in the landscape the Divisional Forest Officer should create new fire lines as well as maintain the existing fire lines and other structures ahead of fire season. Furthermore, awareness shall be created among the communities about the impacts of fire and the do's and don'ts to mitigate fires. Further, signage should be in installed

in most vulnerable sites. In case of the proposed alignment road such types of signage shall be installed after an interval of 5km in the areas near to forests to prevent accidental fires.

9. Monitoring and Evaluation of the progress towards achieving the management recommendations as well as the impacts of the strategies through hiring a third-party agency (ZSI, WII, SACON) once in five years.

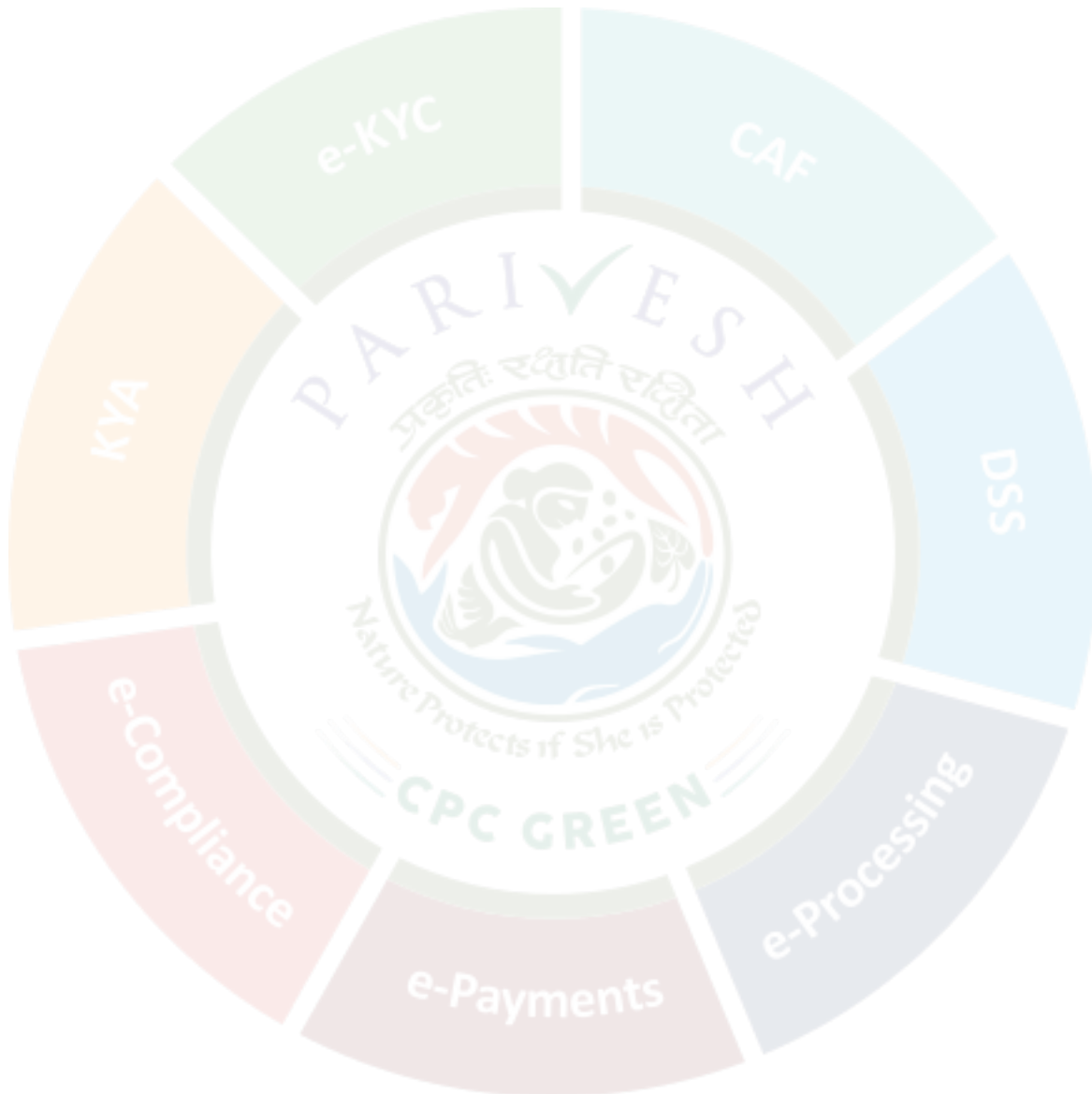
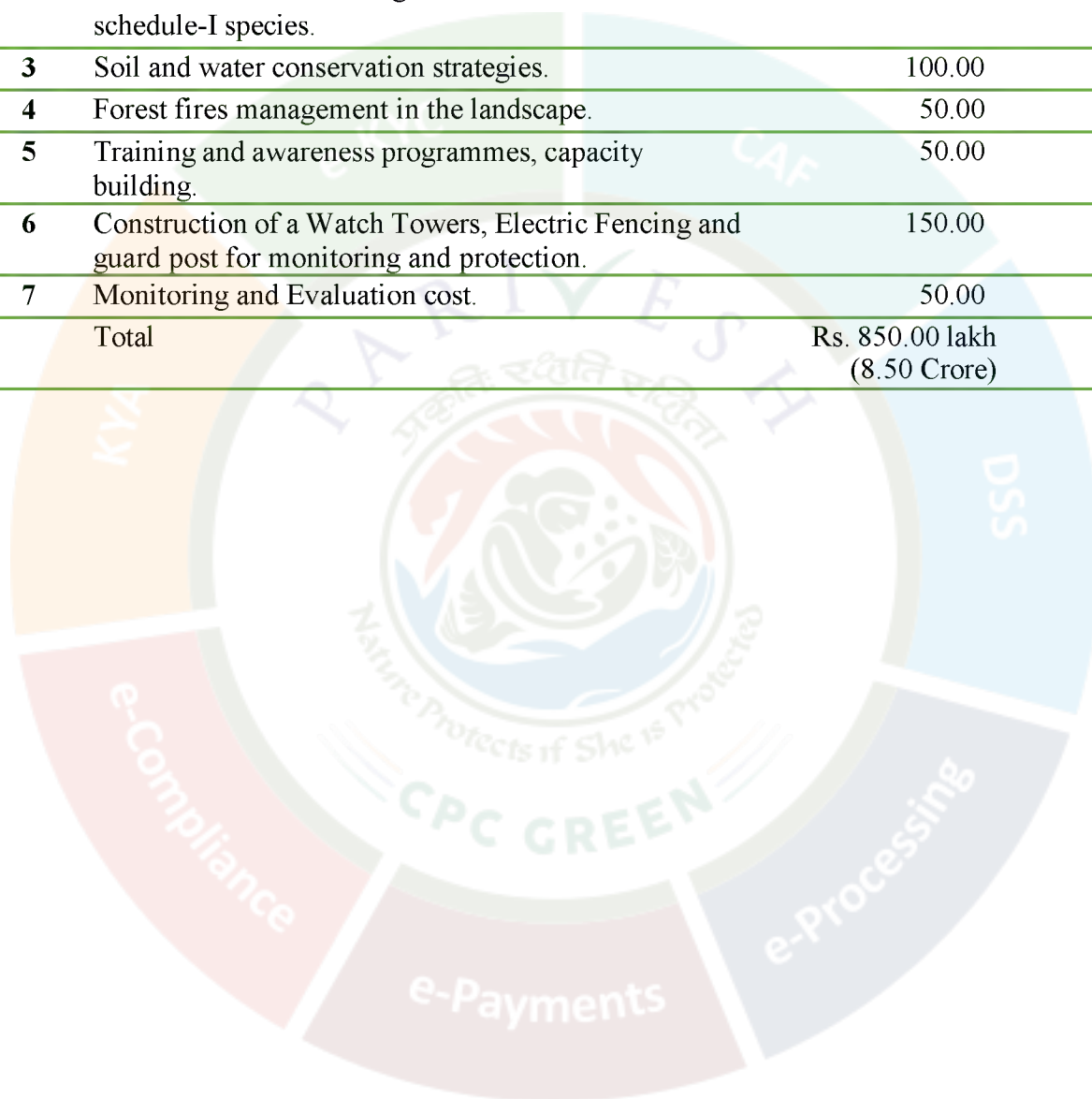


Table 1: Proposed Budget for interventions to be implemented by Divisional Forest Offices

S no.	Activity	Estimated cost (in lakh)
1	Habitat improvement and protection in selected segments of the proposed alignment	200.00
2	Conservation and management activities for the schedule-I species.	250.00
3	Soil and water conservation strategies.	100.00
4	Forest fires management in the landscape.	50.00
5	Training and awareness programmes, capacity building.	50.00
6	Construction of a Watch Towers, Electric Fencing and guard post for monitoring and protection.	150.00
7	Monitoring and Evaluation cost.	50.00
	Total	Rs. 850.00 lakh (8.50 Crore)



GLIMPSES OF FIELD ACTIVITIES DURING THE STUDY

References

- Andrews, A., 1990. Fragmentation of habitat by roads and utility corridors: a review. *Australian Zoologist* 23, 130–141.
- Angelsen, A., Kaimowitz, D., 1999. Rethinking the causes of deforestation: lessons from economic models. *The World Bank Research Observer* 14, 73–98.
- Ashley, E. Paul; Robinson, Jeffrey T. (1996). "Road mortality of amphibians, reptiles and other wildlife on the Long Point Causeway, Lake Erie, Ontario". *Canadian Field Naturalist*. 110 (3): 403–412
- Bennett, A.F., 1991. Roads, roadsides and wildlife conservation: a review. In: Saunders, D.A., Hobbs, R.J. (Eds.), *Nature Conservation 2: The Role of Corridors*. Chipping Norton, Australia, Surrey Beatty, pp. 99–117.
- Carr, L.W., Fahrig, L., Pope, S.E., 2002. Impacts of landscape transformation by roads. In: Gutzwiller, K.J. (Ed.), *Applying Landscape Ecology in Biological Conservation*. Springer-Verlag, New York, pp. 225–243.
- Forman, R.T.T., Alexander, L.E., 1998. Roads and their major ecological effects. *Annual Review of Ecology and Systematics*, 207–232.
- Havlick, D.G., 2002. *No Place Distant: Roads and Motorized Recreation on America's Public Lands*. Island Press, Washington.
- Jeganathan, P., Green, R. E., Norris, K., Vogiatzakis, I. N., Bartsch, A., Wotton, S. R., .. & Rahmani, A. R. (2004). Modelling habitat selection and distribution of the critically endangered Jerdon's courser *Rhinoptilus bitorquatus* in scrub jungle: an application of a new tracking method. *Journal of Applied Ecology*, 41(2), 224-237.
- Kušta, Tomáš; Keken, Zdeněk; Ježek, Miloš; Holá, Michaela; Šmíd, Petr (2017). "The effect of traffic intensity and animal activity on probability of ungulate-vehicle collisions in the Czech Republic". *Safety Science*. 91: 105–113.
- Spellerberg, I.F., 1998. Ecological effects of roads and traffic: a literature review. *Global Ecology and Biogeography* 7, 317–333.
- Theobald, D.M., Miller, J.R., Hobbs, N.T., 1997. Estimating the cumulative effects of development on wildlife habitat. *Landscape and Urban Planning* 39, 25–36.
- Trombulak, S.C., Frissell, C.A., 2002. Review of ecological effects of roads on terrestrial and aquatic communities. *Conservation Biology* 14, 18–30.
- Gibbs J. P. and Shriver W. G. 2002. Estimating the effects of road mortality on turtle populations. *Conservation Biology* 16: 1647-1652.
- Gibbs J. P. and Shriver W. G. 2002. Estimating the effects of road mortality on turtle populations. *Conservation Biology* 16: 1647-1652.
- Bhave, R., Nagesh, T., ... Sekar, N., 2023. The Ele-fence Manual Installation of low-cost solar-powered fences to manage human-elephant conflict. WWF. [Assessed on 10-01-2024]



Annexure

Annexure 1: Checklist of avian fauna of the studied landscape.

Sl. No	Family	Common name	Scientific Name	IUCN	WPA
1	Ardeidae	Purple Heron	<i>Ardea purpurea</i>	LC	Schedule II
2	Caprimulgidae	Indian Nightjar	<i>Caprimulgus asiaticus</i>	LC	Schedule II
3	Dicruridae	Bronzed Drongo	<i>Dicrurus aeneus</i>	LC	Schedule II
4	Megalaimidae	White-cheeked Barbet	<i>Psilopogon viridis</i>	LC	Schedule II
5	Threskiornithidae	Red-naped Ibis	<i>Pseudibis papillosa</i>	LC	Schedule II
6	Accipitridae	Black Kite	<i>Milvus migrans</i>	LC	Schedule II
7	Accipitridae	Black-winged Kite	<i>Elanus caeruleus</i>	LC	Schedule II
8	Accipitridae	Booted Eagle	<i>Hieraaetus pennatus</i>	LC	Schedule I
9	Accipitridae	Brahminy Kite	<i>Haliastur indus</i>	LC	Schedule II
10	Accipitridae	Changeable Hawk Eagle	<i>Nisaetus cirrhatus</i>	LC	Schedule I
11	Accipitridae	Crested Serpent Eagle	<i>Spilornis cheela</i>	LC	Schedule I

12	Accipitridae	Egyptian Vulture	<i>Neophron percnopterus</i>	EN	Schedule I
13	Accipitridae	Greater Spotted Eagle	<i>Clanga clanga</i>	VU	Schedule I
14	Accipitridae	Indian Spotted Eagle	<i>Clanga hastata</i>	VU	Schedule I
15	Accipitridae	Oriental Honey Buzzard	<i>Pernis ptilorhynchus</i>	LC	Schedule II
16	Accipitridae	Pallid Harrier	<i>Circus macrourus</i>	NT	Schedule I
17	Accipitridae	Shikra	<i>Accipiter badius</i>	LC	Schedule I
18	Accipitridae	Short-toed Eagle	<i>Circaetus gallicus</i>	LC	Schedule I
19	Aegithinidae	Common Iora	<i>Aegithina tiphia</i>	LC	Schedule II
20	Alcedinidae	Common Kingfisher	<i>Alcedo atthis</i>	LC	Schedule II
21	Alcedinidae	Pied Kingfisher	<i>Ceryle rudis</i>	LC	Schedule II
22	Alcedinidae	White-throated Kingfisher	<i>Halcyon smyrnensis</i>	LC	Schedule II
23	Anatidae	Bar-headed Goose	<i>Anser indicus</i>	LC	Schedule II
24	Anatidae	Indian Spot-billed Duck	<i>Anas poecilorhyncha</i>	LC	Schedule II
25	Anatidae	Lesser Whistling Duck	<i>Dendrocygna javanica</i>	LC	Schedule II
26	Anatidae	Northern Shoveler	<i>Spatula clypeata</i>	LC	Schedule II
27	Anhingidae	Oriental Darter	<i>Anhinga melanogaster</i>	NT	Schedule II
28	Apodidae	Asian Palm Swift	<i>Cypsiurus balasiensis</i>	LC	Schedule II
29	Apodidae	Little Swift	<i>Apus affinis</i>	LC	Schedule II
30	Ardeidae	Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	LC	Schedule II
31	Ardeidae	Cattle Egret	<i>Bubulcus ibis</i>	LC	Schedule II
32	Ardeidae	Grey Heron	<i>Ardea cinerea</i>	LC	Schedule II
33	Ardeidae	Indian Pond Heron	<i>Ardeola grayii</i>	LC	Schedule II
34	Ardeidae	Intermediate Egret	<i>Ardea intermedia</i>	LC	Schedule II
35	Ardeidae	Little Egret	<i>Egretta garzetta</i>	LC	Schedule II
36	Artamidae	Ashy Woodswallow	<i>Artamus fuscus</i>	LC	Schedule II
37	Burhinidae	Great Thick-knee	<i>Esacus recurvirostris</i>	NT	Schedule II
38	Campephagidae	Large Cuckooshrike	<i>Coracina javensis</i>	LC	Schedule II
39	Campephagidae	Small Minivet	<i>Pericrocotus cinnamomeus</i>	LC	Schedule I

40	Campephagidae	White-bellied Minivet	<i>Pericrocotus erythropygus</i>	LC	Schedule II
41	Charadriidae	Little Ringed Plover	<i>Charadrius dubius</i>	LC	Schedule II
42	Charadriidae	Red-wattled Lapwing	<i>Vanellus indicus</i>	LC	Schedule II
43	Ciconiidae	Asian Openbill	<i>Anastomus oscitans</i>	LC	Schedule II
44	Ciconiidae	Painted Stork	<i>Mycteria leucocephala</i>	NT	Schedule II
45	Ciconiidae	Woolly-necked Stork	<i>Ciconia episcopus</i>	VU	Schedule II
46	Cisticolidae	Ashy Prinia	<i>Prinia socialis</i>	LC	Schedule II
47	Cisticolidae	Common Tailorbird	<i>Orthotomus sutorius</i>	LC	Schedule II
48	Cisticolidae	Jungle Prinia	<i>Prinia sylvatica</i>	LC	Schedule II
49	Cisticolidae	Plain Prinia	<i>Prinia inornata</i>	LC	Schedule II
50	Columbidae	Laughing Dove	<i>Streptopelia senegalensis</i>	LC	Schedule II
51	Columbidae	Oriental Turtle Dove	<i>Streptopelia orientalis</i>	LC	Schedule II
52	Columbidae	Red Collared Dove	<i>Streptopelia tranquebarica</i>	LC	Schedule II
53	Columbidae	Rock Dove	<i>Columba livia</i>	LC	Not listed
54	Columbidae	Spotted Dove	<i>Streptopelia chinensis</i>	LC	Schedule II
55	Columbidae	Yellow-footed Green Pigeon	<i>Treron phoenicopterus</i>	LC	Schedule II
56	Coraciidae	Indian Roller	<i>Coracias benghalensis</i>	LC	Schedule II
57	Corvidae	House Crow	<i>Corvus splendens</i>	LC	Schedule II
58	Corvidae	Large-billed Crow	<i>Corvus macrorhynchos</i>	LC	Schedule II
59	Corvidae	Rufous Treepie	<i>Dendrocitta vagabunda</i>	LC	Schedule II
60	Cuculidae	Asian Koel	<i>Eudynamys scolopaceus</i>	LC	Schedule II
61	Cuculidae	Common Hawk Cuckoo	<i>Hierococcyx varius</i>	LC	Schedule II
62	Cuculidae	Common Koel	<i>Eudynamys scolopaceus</i>	LC	Schedule II
63	Cuculidae	Greater Coucal	<i>Centropus sinensis</i>	LC	Schedule II

64	Dicruridae	Ashy Drongo	<i>Dicrurus leucophaeus</i>	LC	Schedule II
65	Dicruridae	Black Drongo	<i>Dicrurus macrocercus</i>	LC	Schedule II
66	Estrildidae	Indian Silverbill	<i>Euodice malabarica</i>	LC	Schedule II
67	Estrildidae	Scaly-breasted Munia	<i>Lonchura punctulata</i>	LC	Schedule II
68	Estrildidae	White-rumped Munia	<i>Lonchura striata</i>	LC	Schedule II
69	Falconidae	Common Kestrel	<i>Falco tinnunculus</i>	LC	Schedule II
70	Glareolidae	Little Pratincole	<i>Glareola lactea</i>	LC	Schedule II
71	Hirundinidae	Asian Green Bee-eater	<i>Merops orientalis</i>	LC	Schedule II
72	Hirundinidae	Barn Swallow	<i>Hirundo rustica</i>	LC	Schedule II
73	Hirundinidae	Red-rumped Swallow	<i>Cecropis daurica</i>	LC	Schedule II
74	Jacanidae	Bronze-winged Jacana	<i>Metopidius indicus</i>	LC	Schedule II
75	Jacanidae	Pheasant-tailed Jacana	<i>Hydrophasianus chirurgus</i>	LC	Schedule II
76	Laniidae	Bay-backed Shrike	<i>Lanius vittatus</i>	LC	Schedule II
77	Laniidae	Brown Shrike	<i>Lanius cristatus</i>	LC	Schedule II
78	Laridae	Black-bellied Tern	<i>Sterna acuticauda</i>	EN	Schedule I
79	Laridae	River Tern	<i>Sterna aurantia</i>	VU	Schedule I
80	Leiothrichidae	Jungle Babbler	<i>Turdoides striata</i>	LC	Schedule II
81	Leiothrichidae	Large Grey Babbler	<i>Argya malcolmi</i>	LC	Schedule II
82	Meropidae	Blue-tailed Bee-eater	<i>Merops philippinus</i>	LC	Schedule II
83	Meropidae	Green Bee-eater	<i>Merops orientalis</i>	LC	Schedule II
84	Monarchidae	Indian Paradise-Flycatcher	<i>Terpsiphone paradisi</i>	LC	Schedule II
85	Motacillidae	Grey Wagtail	<i>Motacilla cinerea</i>	LC	Schedule II
86	Motacillidae	Paddyfield Pipit	<i>Anthus rufulus</i>	LC	Schedule II
87	Motacillidae	Yellow Wagtail	<i>Motacilla flava</i>	LC	Schedule II
88	Muscicapidae	Asian Brown Flycatcher	<i>Muscicapa dauurica</i>	LC	Schedule II
89	Muscicapidae	Black Redstart	<i>Phoenicurus ochruros</i>	LC	Schedule II
90	Muscicapidae	Blue Rock Thrush	<i>Monticola solitarius</i>	LC	Schedule II
91	Muscicapidae	Bluethroat	<i>Luscinia svecica</i>	LC	Schedule II

92	Muscicapidae	Indian Robin	<i>Saxicoloides fulicatus</i>	LC	Schedule II
93	Muscicapidae	Oriental Magpie Robin	<i>Copsychus saularis</i>	LC	Schedule II
94	Muscicapidae	Pied Bush Chat	<i>Saxicola caprata</i>	LC	Schedule II
95	Muscicapidae	Verditer Flycatcher	<i>Eumyias thalassinus</i>	LC	Schedule II
96	Nectariniidae	Purple Sunbird	<i>Cinnyris asiaticus</i>	LC	Schedule II
97	Oriolidae	Indian Golden Oriole	<i>Oriolus kundoo</i>	LC	Schedule II
98	Pandionidae	Osprey	<i>Pandion haliaetus</i>	LC	Schedule II
99	Passeridae	House Sparrow	<i>Passer domesticus</i>	LC	Schedule II
100	Pelecanidae	Spot-billed Pelican	<i>Pelecanus philippensis</i>	NT	Schedule II
101	Phalacrocoracidae	Great Cormorant	<i>Phalacrocorax carbo</i>	LC	Schedule II
102	Phalacrocoracidae	Indian Cormorant	<i>Phalacrocorax fuscicollis</i>	LC	Schedule II
103	Phalacrocoracidae	Little Cormorant	<i>Microcarbo niger</i>	LC	Schedule II
104	Phasianidae	Grey Francolin	<i>Francolinus pondicerianus</i>	LC	Schedule II
105	Phasianidae	Indian Peafowl	<i>Pavo cristatus</i>	LC	Schedule I
106	Picidae	Black-rumped Woodpecker	<i>Dinopium benghalense</i>	LC	Schedule II
107	Picidae	White-naped Woodpecker	<i>Chrysocolaptes festivus</i>	LC	Schedule II
108	Ploceidae	Baya Weaver	<i>Ploceus philippinus</i>	LC	Schedule II
109	Psittaculidae	Rose-ringed Parakeet	<i>Psittacula krameri</i>	LC	Schedule II
110	Pteroclididae	Painted Sandgrouse	<i>Pterocles indicus</i>	LC	Schedule II
111	Pycnonotidae	Red-vented Bulbul	<i>Pycnonotus cafer</i>	LC	Schedule II
112	Pycnonotidae	Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	LC	Schedule II
113	Rallidae	Common Coot	<i>Fulica atra</i>	LC	Schedule II
114	Rallidae	Common Moorhen	<i>Gallinula chloropus</i>	LC	Schedule II
115	Rallidae	White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	LC	Schedule II
116	Ramphastidae	Coppersmith Barbet	<i>Psilopogon haemacephalus</i>	LC	Schedule II

117	Recurvirostridae	Black-winged Stilt	<i>Himantopus himantopus</i>	LC	Schedule II
118	Scolopacidae	Common Sandpiper	<i>Actitis hypoleucos</i>	LC	Schedule II
119	Scolopacidae	Green Sandpiper	<i>Tringa ochropus</i>	LC	Schedule II
120	Sturnidae	Brahminy Starling	<i>Sturnia pagodarum</i>	LC	Schedule II
121	Sturnidae	Common Myna	<i>Acridotheres tristis</i>	LC	Schedule II
122	Sturnidae	Jungle Myna	<i>Acridotheres fuscus</i>	LC	Schedule II
123	Sturnidae	Rosy Starling	<i>Pastor roseus</i>	LC	Schedule II
124	Sylviidae	Yellow-eyed Babbler	<i>Chrysomma sinense</i>	LC	Schedule II
125	Threskiornithidae	Black-headed Ibis	<i>Threskiornis melanocephalus</i>	NT	Schedule II
126	Threskiornithidae	Indian Black Ibis	<i>Pseudibis papillosa</i>	LC	Schedule II
127	Upupidae	Common Hoopoe	<i>Upupa epops</i>	LC	Schedule II
128	Vangidae	Common Woodshrike	<i>Tephrodornis pondicerianus</i>	LC	Schedule II



Annexure 2: Species list of Mammals during the present survey in the study landscape.

SL.NO	Family	Common Name	Scientific Name	IUCN Status	WPA
1	Canidae	Golden Jackel	<i>Canis aureus</i>	LC	Schedule I
2	Cercopithecida	Bonnet Macaque	<i>Macaca radiata</i>	VU	Schedule I
3	Cercopithecida	Black-footed Gray Langur	<i>Semnopithecus hypoleucos</i> <i>ssp. Hypoleucos</i>	NT	Schedule I
4	Cervidae	Spotted Deer	<i>Axis axis</i>	LC	Schedule II
5	Elephantidae	Asian Elephant	<i>Elephas maximus</i>	EN	Schedule I
6	Eupleridae	Indian grey Mongoose	<i>Herpestes edwardsii</i>	LC	Schedule I
7	Eupleridae	Stripe-necked Mongoose	<i>Herpestes vitticollis</i>	LC	Schedule I
8	Felidae	Tiger	<i>Panthera tigris</i>	EN	Schedule I
9	Felidae	Common Leopard	<i>Panthera pardus</i>	EN	Schedule I
10	Hystricidae	Indian Crested Porcupine	<i>Hystrix indica</i>	LC	Schedule I
11	Muridae	House Rat	<i>Rattus rattus</i>	LC	Not listed
12	Mustelidae	Smooth-coated Otter	<i>Lutrogale perspicillata</i>	VU	Schedule I
13	Sciuridae	Three striped palm squirrel	<i>Funambulus palmarum</i>	LC	Not listed
14	Suidae	Indian Wild Boar	<i>Sus scrofa</i>	LC	Schedule II



सत्यमेव जयते

Government of India
Ministry of Environment, Forest and Climate Change
IA Division
(INFRA-1)



Minutes of 368th meeting of Expert Appraisal Committee to be held on 04th July, 2024 for Projects related to Infrastructure Development, All Ship breaking yards including ship breaking units 7(b); Industrial Estate/Parks/Complexes/Areas, Export Processing Zones, Spec meeting INFRA-1 held from 04/07/2024 to 04/07/2024

Date: 23/07/2024

MoM ID: EC/MOM/EAC/235929/6/2024

Agenda ID: EC/AGENDA/EAC/235929/6/2024

Meeting Venue: Satlej Conference Hall, Ground Floor, Jal Wing, Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi

Meeting Mode: Hybrid

Date & Time:

04/07/2024	10:30 AM	05:30 PM

1. Opening remarks

At the outset, Shri. Manmohan Singh Negi, 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 previous meeting

The Committee confirmed the Minutes of 367th EAC meeting held on 26th June, 2024.

3. Details of proposals considered by the committee

Day 1 -04/07/2024

3.1. Agenda Item No 1:**3.1.1. Details of the proposal**

Development of Multipurpose Cargo Berth (Berth No. 17) at New Mangalore Port Authority by NEW MANGALORE PORT AUTHORITY located at DAKSHINA KANNADA, KARNATAKA			
Proposal For		Fresh EC	
Proposal No	File No	Submission Date	Activity (Schedule Item)

<u>IA/KA/INFRA1/472985/2024</u>	10/55/2021-IA.III	24/06/2024	Ports, harbors, breakwaters, dredging (7(e))

3.1.2. Project Salient Features

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.1.1 The aforementioned proposal was placed before the EAC during its 368th meeting of the Expert Appraisal Committee held on 04th July, 2024. The project proponent along with the EIA consultant M/s Ultra Tech, Thane made a presentation through Video Conferencing and provided the following information:

[illegible]

3.1.3. Deliberations by the committee in previous meetings

N/A

3.1.4. Deliberations by the EAC in current meetings

© 2015 Pearson Education, Inc. or its affiliate(s). All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage or retrieval system, without prior written permission from the publisher.

3.1.5. Recommendation of EAC

Recommended

3.1.6. Details of Environment Conditions

3.1.6.1. Specific

Specific Conditions

1.	
2.	
3.	
4.	
5.	
6.	
7.	Construction activity shall be carried out strictly according to the provisions of the CRZ Notification, 2019. No construction works other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.
8.	
9.	
10.	
11.	Necessary approvals be taken during implementation and commissioning from statutory bodies concerned
12.	
13.	
14.	
15.	PP shall ensure the loading and unloading process shall not cause any spillage in the water and storm water drains should be built to collect spillage, if any
16.	
17.	Effective and efficient pollution control measures like covered conveyors/stacks (IOF/IOC, Gypsum and other bulk cargo) with fogging/back filters and water sprinkling commencing from ship unloading to stacking to evacuation shall be undertaken. Coal and iron ore stack yards shall be bounded by thick two tier green belt with proper drains and wind barriers wherever necessary
18.	
19.	
20.	

2 1.	
2 2.	
2 3.	
2 4.	
2 5.	
2 6.	
2 7.	
2 8.	
2 9.	A site specific biodiversity conservation plan including mitigation measures prepared by NIO specifically for the Mangroves, Peacock, Marine Sea turtles, Sharks, and Marine mammals shall be implemented later in spirit in consultation with the state forest department. In addition, during implementation period if any specific mitigation measures recommended by the Forest department the same shall be implemented and the status of the compliance shall be submitted to the Concern IRO, MoEFCC along with the EC compliance report.
3 0.	
3 1.	The project proponents would also inventories the floral composition of the biota of marine and intertidal biotopes and draw up a detailed marine bio diversity conservation management plan based on possible impacts. The management plan shall be submitted also to the State Biodiversity Board and implemented to their satisfaction during the project cycle.
3 2.	Marine ecology shall be monitored regularly also in terms of sea weeds, sea grasses, mudflats, sand dunes, fisheries, echinoderms, shrimps, turtles, corals, coastal vegetation, mangroves and other marine biodiversity components as part of the management plan. Marine ecology shall be monitored regularly also in terms of all micro, macro and mega floral and faunal components of marine biodiversity.
3 3.	All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented
3 4.	
3 5.	
3	

6.	

3.1.6.2. Standard

7(e)	Ports, harbors, breakwaters, dredging
Statutory compliance	
1.	Construction activity shall be carried out strictly according to the provisions of CRZ Notification, 2019 and the State Coastal Zone Management Plan as drawn up by the State Government. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.
2.	A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
3.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Coast Guard, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.
Air quality monitoring and preservation	
1.	The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the project area at least at four locations, covering upwind and downwind directions.
2.	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed emission standards.
3.	Shrouding shall be carried out in the work site enclosing the dock/proposed facility area. This will act as dust curtain as well achieving zero dust discharge from the site. These curtain or shroud will be immensely effective in restricting disturbance from wind in affecting the dry dock operations, preventing waste dispersion, improving working conditions through provision of shade for the workers.
4.	Dust collectors shall be deployed in all areas where blasting (surface cleaning) and painting operations are to be carried out, supplemented by stacks for effective dispersion.
5.	The Vessels shall comply the emission norms prescribed from time to time.
6.	Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
7.	A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.
Water quality monitoring and preservation	

1.	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.
2.	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality. Silt curtains shall be used to contain the spreading of suspended sediment during dredging within the dredging area.
3.	No ships docking at the proposed project site will discharge its on-board waste water untreated in to the estuary/ channel. All such wastewater load will be diverted to the proposed Effluent Treatment Plant of the project site.
4.	Measures should be taken to contain, control and recover the accidental spills of fuel and cargo handle.
5.	The project proponents will draw up and implement a plan for the management of temperature differences between intake waters and discharge waters.
6.	Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
7.	Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
8.	Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression.
9.	A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.
10.	No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.
11.	All the erosion control measures shall be taken at water front facilities. Earth protection work shall be carried out to avoid erosion of soil from the shoreline/boundary line from the land area into the marine water body.
Noise monitoring and prevention	
1.	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
2.	Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.
3.	Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.
4.	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.
Energy Conservation measures	
1.	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
2.	Provide LED lights in offices and project areas.

Waste management	
1.	Dredged material shall be disposed safely in the designated areas.
2.	Shoreline should not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring reports.
3.	Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.
4.	The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
5.	Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.
6.	A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
7.	Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.
8.	Oil spill contingency plan shall be prepared and part of DMP to tackle emergencies. The equipment and recovery of oil from a spill would be assessed. Guidelines given in MARPOL and Shipping Acts for oil spill management would be followed. Mechanism for integration of terminals oil contingency plan with the overall area contingency plan under the co-ordination of Coast should be covered.
Green Belt	
1.	Green belt shall be developed in area as provided in project details with a native tree species in accordance with CPCB guidelines.
2.	Top soil shall be separately stored and used in the development of green belt.
Marine Ecology	
1.	Dredging shall not be carried out during the fish breeding and spawning seasons.
2.	Dredging, etc shall be carried out in the confined manner to reduce the impacts on marine environment.
3.	The dredging schedule shall be so planned that the turbidity developed is dispersed soon enough to prevent any stress on the fish population.
4.	While carrying out dredging, an independent monitoring shall be carried out through a Government Agency/Institute to assess the impact and necessary measures shall be taken on priority basis if any adverse impact is observed.
5.	A detailed marine biodiversity management plan shall be prepared through the NIO or any other institute of repute on marine, brackish water and fresh water ecology and biodiversity and submitted to and implemented to the satisfaction of the State Biodiversity Board and the CRZ authority. The report shall be based on a study of the impact of the project activities on the intertidal biotopes, corals and coral communities, molluscs, sea grasses, sea weeds, sub-tidal habitats, fishes, other marine and aquatic micro, macro and mega flora and fauna including benthos, plankton, turtles, birds etc. as also the productivity. The data collection and impact assessment shall be as per standards survey methods and include underwater photography.
6.	Marine ecology shall be monitored regularly also in terms of sea weeds, sea grasses, mudflats, sand dunes,

	fisheries, echinoderms, shrimps, turtles, corals, coastal vegetation, mangroves and other marine biodiversity components including all micro, macro and mega floral and faunal components of marine biodiversity.
7.	The project proponent shall ensure that water traffic does not impact the aquatic wildlife sanctuaries that fall along the stretch of the river.
Public hearing and human health issues	
1.	The work space shall be maintained as per international standards for occupational health and safety with provision of fresh air respirators, blowers, and fans to prevent any accumulation and inhalation of undesirable levels of pollutants including VOCs.
2.	Workers shall be strictly enforced to wear personal protective equipments like dust mask, ear muffs or ear plugs, whenever and wherever necessary/ required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration.
3.	In case of repair of any old vessels, excessive care shall be taken while handling Asbestos & Freon gas. Besides, fully enclosed covering should be provided for the temporary storage of asbestos materials at site before disposal to CTSDF.
4.	Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/ accidents.
5.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
6.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
7.	Occupational health surveillance of the workers shall be done on a regular basis.
Environment Responsibility	
1.	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
2.	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
3.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
4.	Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
Miscellaneous	

1.	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
2.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
3.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
4.	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
5.	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
6.	The criteria pollutant levels namely; PM2.5, PM10, SO2, NOx (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
7.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
8.	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
9.	No further expansion or modifications in the project shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
10.	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
11.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
12.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
13.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information/monitoring reports.
14.	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
15.	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

Specific Conditions	
1.	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.

3.2. Agenda Item No 2:

3.2.1. Details of the proposal

Environmental clearance for PM MITRA textile park adjacent to @Addl. Amravati Industrial Area. by MAHA RASHTRA INDUSTRIAL DEVELOPMENT CORPORATION located at AMRAVATI, MAHARASHTRA			
Proposal For		Fresh EC	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/MH/INFRA1/475511/2024	10/69/2023-I A.III	25/06/2024	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (7(c))

3.2.2. Project Salient Features

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.2.1 The aforementioned proposal was placed before the EAC during its 368th meeting of the Expert Appraisal Committee held on 04th July, 2024.

3.2.3. Deliberations by the committee in previous meetings

N/A

3.2.4. Deliberations by the EAC in current meetings

The project proponent did not attend the EAC meeting, the committee **deferred** the proposal and informed to the Ministry that the proposal may be considered only after receiving the request from the PP

3.2.5. Recommendation of EAC

Deferred for ADS

3.3. Agenda Item No 3:

3.3.1. Details of the proposal

DEVELOPMENT/IMPROVEMENT OF INFRASTRUCTURE FACILITIES AT CHENNAI PORT AUTHORITY

TY by CHENNAI PORT TRUST located at CHENNAI, TAMIL NADU			
Proposal For		Fresh EC	
Proposal No	File No	Submission Date	Activity (Schedule Item)
IA/TN/INFRA1/478862/2024	10/55/2023-IA.III	28/06/2024	Ports, harbors, breakwaters, dredging (7(e))

3.3.2. Project Salient Features

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.3.1 The aforementioned proposal was placed before the EAC during its 368th meeting of the Expert Appraisal Committee held on 04th July, 2024.

3.3.2 The project proponent along with the EIA consultant M/s SV Enviro Labs & Consultants, Visakhapatnam made a presentation through Video Conferencing and provided the following information:

3.3.3 The proposal is for ‘Development/Improvement of 6 Infrastructure Facilities at Chennai Port, Tamil Nadu by M/s Chennai Port Trust’.

3.3.4 The proposed project falls under 7(e), Category-A, Ports, Harbors, breakwater, dredging as per EIA notification 2006. Total Project Cost is Rs.590.59 Crores.

3.3.5 Port Infrastructure facilities were created prior to the EIA Notification of 1994. Details of ECs obtained by the PP in chronological order area as below

- a. Initially the Environmental Clearance vide letter J-16011/18/90-IA.III dated 14th December, 1995 was obtained from the Ministry of Environment and Forest for the Schemes (i) Further extension of Container Terminal (ii) Integrated Scheme of Extension of South Quay III and Modernization of East Quay (iii) Modernization of West Quay and North Quay Berth; and (iv) Construction of one number Multi-storied Transit Shed at West Quay, from Madras Port Trust, Madras.
- b. Further, Environmental Clearance vide letter no. J-16011/21/2001-IA-III dated 1st August, 2001 was obtained from the Ministry of Environment and Forest for “Construction of New Hazardous Cargo Shed to replace the existing one at Chennai Port by M/s Chennai Port Trust.
- c. Thereafter CRZ clearance vide letter no.10-26/2005-IA-III dated 2nd February, 2006 was obtained from Ministry for ‘Construction of revetment for the control of erosion in the eastward of East Quay by M/s Chennai Port Trust, Chennai”
- d. CRZ clearance vide letter no.11-82/2005-IA.III dated 1st November, 2006 was obtained for “Development of second container terminal at the modernized East Quay and South quay III berth of Chennai Port” by M/s Chennai Port Trust.
- e. Further, Environmental Clearance vide letter no. F.No.10-83/2007-IA-III Dated 8th March, 2013 was obtained Extension of validity of the Environmental Clearance dated 16.01.2008 granted for Ro-Ro Berth at Southern side of Bharathi Dock at Chennai Port by M/s Chennai Port Trust.
- f. Further, CRZ clearance vide letter no.10-104/2007-IA.III dated 1st January, 2014 was obtained for “Shore protection measures at Southern Foreshore of Chennai Port” by M/s Chennai Port Trust.
- g. There after EC and CRZ clearance vide letter no. F.No.11-45/2012-IA-III dated 27th August, 2014 was obtained for “Development of Barge handling facility which includes construction

of berth in Chennai Port, Tamil Nadu” by M/s Chennai Port Trust and CRZ clearance vide letter no. 11-31/2014-IA-III dated 23rd September, 2014 was obtained for “Construction of a coastal road with necessary shore protection along the sea shore adjacent to leased plot of M/s Suraj Agro Industries to Old harbour entrance on eastern side in Chennai Port, Tamil Nadu” by M/s Chennai Port Trust.

- h. Thereafter EC and CRZ clearance vide letter no. 10-127/2007-IA.III dated 20th March, 2015 was obtained for “Development of Mega Container Terminal at Chennai Port, Tamil Nadu” by M/s Chennai Port Trust.
- i. Further, CRZ clearance vide letter no.11-23/2009-IA-III dated 25th February, 2011 was obtained for “Construction of Elevated Road from Chennai Port to Madhuravoyal, Tamil Nadu” by M/s Chennai Port Trust.
- j. Subsequently CRZ clearance vide letter no.11-33/2020-IA-III dated 23rd September, 2020 was obtained for “Construction of Elevated Road from Chennai Port to Maduravoyal (NH-4) in Tamil Nadu” by M/s Chennai Port Trust.
- k. Subsequently, CRZ clearance vide letter no. 11-6/2023-IA.III dated 17th April, 2023 for “Development of New Four Lane Elevated Road from Chennai Port to Maduravoyal (NH-4), Chennai and Tiruvallur Districts, Tamil Nadu” by M/s Chennai Port Trust.

3.3.6 For the above said proposal ToR was obtained by the Ministry vide letter no.F.no.10-127/2007-IA.III dated 05.02.2016. Subsequently extension of ToR was obtained on 02.02.2019. Further public hearing was conducted on 24.04.2018 and DCZMA recommendations were obtained on 22.06.2020. Subsequently TNCZMA recommendations obtained on 25.07.2022. However, the ToR issued on 05.02.2016 has been expired and hence PP applied for obtaining the fresh ToR with a request to exempt the public hearing considering the above. The proposal was considered in the 338th meeting during 24th August, 2023 and recommended the proposal for grant of Terms of Reference (ToR). Ministry granted the ToR vide letter 10/55/2023-IA.III dated 29/12/2023 with exemption of public hearing, since public hearing was already conducted on 24.04.2018 and there is no change in the proposal.

3.3.7 The public hearing was conducted on 24.04.2018 at M/s Chennai Port Trust (Old Dock Labour Building Premises) Rajaji Salai, Chennai-1 presided by the district collector, Chennai.

3.3.8 Land use/ Land cover of project site.

S.No.	Land use/Land cover	Area (ha)	Percentage (%)
1	Agricultural land	76.80	6.47
2	Grazing Land	235.93	19.19
3	Barren Land	112.90	9.51
4	Waste Land	100.36	8.45
5	Surface water Bodies	79.3	6.68
6	Marshy Land	104.80	8.82
7	Settlement	1.21	0.1
8	Roads Other infrastructure	4.85	0.41
9	Scrub	471.45	39.7
Total		1187.75	100

3.3.9 Terrain and Topographical features: Chennai district forms part of coastal plains of Tamil Nadu. Major part of the district is having flat topography with very gentle slope towards east. The altitudes of land surface vary from 10m above MSL in the west to sea level in the east. Fluvial, marine and erosional landforms are noticed in the district. Marine transgression and regressions and neo-tectonic activity during the recent past have influenced the morphology and resulted in various present landforms. Meandering streams with small sand bars are present along the course of Adyar River. The pediment and buried pediment in Guindy area in and around the reserved forest, is the only area where the ecological system is less disturbed, while the other areas are completely disturbed by built up area with large-scale human interference and pollution.

3.3.10 Details of water bodies, impact on drainage: Adyar River originates at the confluence (Thiruneermalai) of two streams that drains the upstream area of Chembarambakkam tank. It is a small river of 42 km length and a catchment of 800 Sq.km. the river carries flow all through 365 days of a year with an average discharge of 89.43MCM/Year at Kattipara Cause way. It drains the southern part of the district and remains flooded during monsoon. During the high tides, the backwaters from the Bay of Bengal enter inland up to 3-4Km. Cooum is the other main river flowing through the central part of the district and carries only drainage water, which is highly polluted. It originates from the surplus waters from the Cooum tank in Tiruvallure taluk and the tanks, which are in enroute, discharge their surplus water into the river during flood season. The flow of Cooum river at Korattur is 40.2MCM/year for an average duration of 31 days in a year. Otteri Nulla is another small stream flowing in the northern part of the city. Buckingham canal is the man made one for navigation purposes earlier, but now it act as sewerage carrier in the city.

3.3.11 Water requirements: Water Requirement during Construction Phase is 68.36KLD the details of water requirement are as following:

S. No	Description of Activity	Quantity (KLD)
1	Improvement to the existitng Jawahar Dock (East) Berths for handling bulk cargoes	30.0
2	Improvement to the existing Bharathi Dock II berth for handling bulk cargoes	24.0
3	Relocation of existing Sand trap and Capital Dredging	Nil
4	Development of Multi level car parking facility	1.865
5	Development of Coastal Terminal at northern sheltering arm at east of Bharathi Dock turning circle	12.5
Total		68.36

3.3.12 Water Requirement during Operation Phase: Water Requirement during Operational Phase is 3.00KLD. The details water requirement component wise is as following:

S. No.	Description of Activity	Project Type	Quantity(KLD)
1	Improvement to the existing Jawahar Dock (East) Ber	Modernizatio	--

	ths for handling bulk cargoes	n	
2	Improvement to the existing Bharathi Dock II berth for handling bulk cargoes	Modernization	--
3	Relocation of existing Sand trap and Capital Dredging	Relocation of Sand Trap	--
4	Development of Multi level car parking facility	New	--
5	Development of Coastal Terminal at northern sheltering arm at east of Bharathi Dock turning circle	New	--
6	Construction of tank farm and storage sheds	New	3.00
Total			3.00

3.3.13 Basin dimensions of the dock is 655m x 152m. The total quay length is around 2 x 650m with 3 berths each on either side. The entrance width of the dock is narrow. Berth particulars of the dock have been presented below. Details of Cargo Handling at Jawahar Dock (East).

Berth Ref	Commodity	Length (m)	Draft (m)
JD I	Food grains/General Cargo	218	11.50
JD II	Coal/Other liquids	218	13.0
JD III	Food Grains/ General Cargo	218	12.0
JD IV	Coal/Other Liquids	218	11.0
JD V	Food grains/ General Cargo	218	12.0
JD VI	Coal/ General Cargo	218	11.0
Total		1308	70.5

3.3.14 Port is drawing water from CMWSSB for the operations of Port. The surplus water will be shared during construction phase by the Port, which can be met through existing sources.

3.3.15 Diversion of forestland: The project does not involve diversion of forestland. The project is not located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc. The project is also not located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC.

3.3.16 Waste Management: Construction Phase: During construction phase, about 50-75 nos of labour and technical staff is likely to congregate. No labour camp is envisaged and all the workers will come from nearby area of Chennai. Construction workers will use the existing canteen facility. Operation Phase: Solid wastes from office, operational area etc is being disposed through Chennai Corporation Municipal Authority to the dumping yard whereas, waste oil, lubricants, Used Batteries is being disposed through authorized recyclers. The same arrangement will be continued. During operation phase all

projects except shore tank farms, will be under ChPA only. The solid waste generated in and around port area is segregated categorically as biodegradable, non-biodegradable and hazardous waste and collected in separate colour coded dustbins. The garbage thus collected is being disposed at dumping yard of Chennai Corporation. Solid waste like corroded steel plates, rubber pieces, discarded spares/equipments are being disposed on regular basis. STP details: STP of 40 KLD near officer quarters is under operation. The treated water is being used for non-potable purposes such as flushing, washing, greenbelt development/ plantation. And 90 KLD STP is under construction. No wastewater shall be discharged either into the ground or to any water bodies, thereby adopting Zero Liquid Discharge (ZLD).

3.3.17 Tree cutting and Green belt development: There is no tree cutting in the present proposal. Multi-layered plantation comprising of medium height trees (7 m to 10 m) and shrubs (5 m height) are proposed for the green belt. Moreover, in future creepers will be planted along the boundary wall to enhance its insulation capacity.

3.3.18 Details of Rain Water Harvesting: Chennai Port Authority is having approximately 121 Rain Water Harvesting pits in its existing facility and will be maintained.

3.3.19 Details of CRZ area:

S.No.	Particular	Classification	Area in Sq.m
1.	Improvement works to existing Jawahar Dock (East) berths and stocking yard	CRZ-II	143515.98
2.	Improvement works to existing Bharathi Dock II Berth	Sea	11143.47
		CRZ-II	90319.82
		Jetty	8456.84
		Non-CRZ	18863.96
3.	Relocation of existing Sand Trap	Sea	125071.44
4.	Development of Multilevel Car Parking facility	Sea	2541.77
		CRZ-II	7306.85
5.	Development of Coastal Terminal	Jetty	4.24
		Sea	4864.02
		CRZ-II	96800.93
6.	Development of Tank Farms	CRZ-II	79903.49
7.	Proposed Disposal Location 1	Sea	250023.3
8.	Proposed Disposal Location 2	Sea	12312531.53

Tamilnadu State Coastal Zone Management Authority (TCZMA) vide letter no. 12455/EC-3/2022-1, dated 25.07.2022 recommended the proposal and forwarded to the Ministry.

3.3.20 Commodity wise traffic handled during the last five years (in tonnes).

Commodity	2018-19	2019-20	2020-21	2021-22	2022-23
Liquid Bulk					
Pol - Crude	10256	10281	8180	9192	11365
Product	3041	3139	2049	2658	2783
Edible Oil	1421	1212	874	960	1219
Chemicals	123	110	120	130	119
Other Liquid	87	74	45	65	76
<i>Total Liquid Bulk</i>	14928	14816	11268	13005	15562
Container					
Cctl	12649	9332	10404	14095	12730
Citpl	18589	17357	16361	16828	15641
Inner Harbour	25	21	3	2	6
<i>Total Container</i>	31263	26710	26768	30925	28377
Dry Bulk					
Pellets	0	0	33	0	113
Barytes	859	602	380	850	793
Fert. Finished	26	0	135	0	0
Fert. Raw	225	187	202	268	280
Yellow Peas	57	0	0	0	0
Maize	0	0	62	84	32
Dolomite	609	334	142	56	70
Industrial/Salt	44	33	53	45	122
Gypsum	421	235	145	188	347
Limestone	1864	346	1770	73	12

Cobble Stone	157	159	130	202	174
Cem. Clinkers	84	8	0	0	0
Silica Sand	124	111	86	87	152
Clay	6	0	0	0	0
Scrap	34	9	30	106	1088
Laterite	0	0	0	422	0
Other Dry Bulk Cargo	57	80	25	20	6
<i>Total Dry Bulk</i>	4567	2104	3193	2401	3189
Break Bulk					
Granite	290	250	33	78	61
Iron & Steel	1523	2411	1900	1400	984
Cement	0	3	5	15	1
Project Cargo	184	204	155	191	285
Timber And Logs	5	0	0	0	0
Ro-Ro	165	243	175	227	304
Other/Misc	87	18	56	322	186
<i>Total Break Bulk</i>	2254	3129	2324	2233	1821
<i>Grand Total</i>	53012	46759	43553	48564	48949

3.3.21 Proposed cargo handling details in addition to the existing capacities

Products handled	Bulk Cargo	Food grains	Total capacity
	Bunkering oil, Edible oil, Motor Spirit, & Naphtha	Maize, Wheat, & other Food grains	1 MMTPA

3.3.22 Marine disposal: No marine disposal is proposed. Zero Liquid Discharge will be followed. The treated water from STP will be used for non- potable purposes such as flushing washing, greenbelt development or plantation.

3.3.23 IRO, MoEF&CC, Chennai has visited the port and issued the EC and CRZ compliance report vide letter no EP/12.1/2016-17/19/TN/737 dated 21st May, 2014.

3.3.24 R&R issues involved: The proposed development is within the port limits and does not involved R&R in the present project.

3.3.25 Employment potential: The project will employ on an average of 75-150 workers in different levels during the Construction phase. Benefits of the project: With improvement and development of Chennai port, more economic opportunities would be created for local community. Increase in business activity that consequently would bring better access to social and physical infrastructure. Multilevel Car park reducing out anchorage expenses for vessel operators.

3.3.26 Details of Court cases: No stay orders etc. are pending in any Court against the Proposed Project.

3.3.3. Deliberations by the committee in previous meetings

N/A

3.3.4. Deliberations by the EAC in current meetings

3.3.1 During the EAC, the committee observed the following:

- i. IRO, MoEF&CC, Chennai visited the port and issued the EC and CRZ compliance report vide letter no EP/12.1/2016-17/19/TN/737 dated 21st May, 2014 and noted some partial compliances and non-compliances which need to be complied with immediately

3.3.2 The EAC based on the information submitted and clarifications provided by the project proponent and detailed discussions held on all the issues during 368th meeting during 04th June, 2024, **recommended** the project for grant of environment and CRZ clearance with specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

3.3.5. Recommendation of EAC

Recommended

3.3.6. Details of Environment Conditions

3.3.6.1. Specific

Specific Conditions	
1.	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.
2.	All the recommendations and conditions specified by the Tamil Nadu State Coastal Zone Management Authority (TCZMA) vide letter No 12455/EC-3/2022-1, dated 25.07.2022.
3.	IRO, MoEF&CC, Chennai visited the port and issued the EC and CRZ compliance report vide letter no EP/12.1/2016-17/19/TN/737 dated 21st May, 2014 and noted some partial compliances and non-compliances. All the conditions stipulated in ECs which remained not complied or partially complied shall be complied with within next 6 months and the compliance shall be submitted along with 6 monthly monitoring report.

4.	The approach road shall be constructed strictly follow the Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area and road should be built on stilts.
5.	Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
6.	Necessary approvals be taken during implementation and commissioning from statutory bodies concerned.
7.	No underwater blasting is permitted
8.	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.
9.	Cargo handling area shall be provided with the adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
10.	Effective and efficient pollution control measures like covered conveyors/stacks (Cement, Limestone, Silica sand Iron/Steel, Laterite, Dolomite, Gypsum and other bulk cargo) with fogging/back filters and water sprinkling commencing from ship unloading to stacking to evacuation shall be undertaken. Coal and iron ore stack yards shall be bounded by thick two tier green belt with proper drains and wind barriers wherever necessary.
11.	PP shall ensure the loading and unloading process shall not cause any spillage. The water and storm water drains should be built to collect spillage, if any.
12.	Cargo handling area shall be provided with the adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
13.	Garland drains and collection pits of adequate capacity shall be provided for each stock pile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface runoff and disposed only after treatment.
14.	Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high level of particulate matter such as around loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.

1 5.	Risk assessment for spill scenarios and Disaster Management Plan as prepared shall be in place in the environment Management cell of the port authority with all SOP's for various scenarios.
1 6.	Spillage of fuel/engine oil and lubricants from the construction site are a source of organic pollution, which impacts marine life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage
1 7.	The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the port area at least at four locations (one within and three outside the port area at an angle of 120°each), covering upwind and downwind directions.
1 8.	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed fugitive emission standards
1 9.	Records of regular dredging shall be maintained with periodic survey data
2 0.	Sediment analysis of harbor at identified locations shall be analyzed and records for past and present period shall be maintained.
2 1.	Sediment concentration should be monitored fortnightly at source and disposal location of dredging while dredging.
2 2.	Periodical study on shoreline changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring report.
2 3.	All the recommendations mentioned in the Marine ecology report prepared by NIO, Goa shall be implemented and the compliance of the recommendations shall be submitted to the concern IRO, MOEF&CC along with the six monthly EC compliance report.
2 4.	All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented
2 5.	A continuous monitoring programme covering all the seasons on various aspects of the coastal and marine environs need to be undertaken by a competent organization available in the State or by entrusting to the National Institutes/renowned Universities/accredited Consultant with rich experiences in marine science aspects. Monitoring should include sea weeds, sea grasses, mudflats, sand dunes, fisheries, mangroves and other marine biodiversity components as part of the management plan.
2 6.	Necessary arrangements for the treatment of the effluents and solid wastes/ facilitation of reception facilities under MARPOL must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986. The provisions of Solid

	Waste Management Rules, 2016. E- Waste Management Rules, 2016, and Plastic Waste Management Rules, 2016 shall be complied with.
2 7.	As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30 th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Aforestation etc, either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.

3.3.6.2. Standard

7(e)	Ports, harbors, breakwaters, dredging
Statutory compliance	
1.	Construction activity shall be carried out strictly according to the provisions of CRZ Notification, 2011 and the State Coastal Zone Management Plan as drawn up by the State Government. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.
2.	A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
3.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Coast Guard, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.
Air quality monitoring and preservation	
1.	The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the project area at least at four locations, covering upwind and downwind directions.
2.	Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed emission standards.
3.	Shrouding shall be carried out in the work site enclosing the dock/proposed facility area. This will act as dust curtain as well achieving zero dust discharge from the site. These curtain or shroud will be immensely effective in restricting disturbance from wind in affecting the dry dock operations, preventing waste dispersion, improving working conditions through provision of shade for the workers.
4.	Dust collectors shall be deployed in all areas where blasting (surface cleaning) and painting operations are to be carried out, supplemented by stacks for effective dispersion.
5.	The Vessels shall comply the emission norms prescribed from time to time.
6.	Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules

	made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
7.	A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.

Water quality monitoring and preservation

1.	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.
2.	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality. Silt curtains shall be used to contain the spreading of suspended sediment during dredging within the dredging area.
3.	No ships docking at the proposed project site will discharge its on-board waste water untreated in to the estuary/ channel. All such wastewater load will be diverted to the proposed Effluent Treatment Plant of the project site.
4.	Measures should be taken to contain, control and recover the accidental spills of fuel and cargo handle.
5.	The project proponents will draw up and implement a plan for the management of temperature differences between intake waters and discharge waters.
6.	Spillage of fuel / engine oil and lubricants from the construction site are a source of organic pollution which impacts marine life. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
7.	Total fresh water use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
8.	Sewage Treatment Plant shall be provided to treat the wastewater generated from the project. Treated water shall be reused for horticulture, flushing, backwash, HVAC purposes and dust suppression.
9.	A certificate from the competent authority for discharging treated effluent/ untreated effluents into the Public sewer/ disposal/drainage systems along with the final disposal point should be obtained.
10.	No diversion of the natural course of the river shall be made without prior permission from the Ministry of Water resources.
11.	All the erosion control measures shall be taken at water front facilities. Earth protection work shall be carried out to avoid erosion of soil from the shoreline/boundary line from the land area into the marine water body.

Noise monitoring and prevention

1.	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six-monthly compliance report.
2.	Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipments.

3.	Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.
4.	The ambient noise levels should conform to the standards prescribed under E(P)A Rules, 1986 viz. 75 dB(A) during day time and 70 dB(A) during night time.
Energy Conservation measures	
1.	Provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights, parking around project area and maintain the same regularly;
2.	Provide LED lights in offices and project areas.
Waste management	
1.	Dredged material shall be disposed safely in the designated areas.
2.	Shoreline should not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring reports.
3.	Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.
4.	The solid wastes shall be managed and disposed as per the norms of the Solid Waste Management Rules, 2016.
5.	Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.
6.	A certificate from the competent authority handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project.
7.	Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination.
8.	Oil spill contingency plan shall be prepared and part of DMP to tackle emergencies. The equipment and recovery of oil from a spill would be assessed. Guidelines given in MARPOL and Shipping Acts for oil spill management would be followed. Mechanism for integration of terminals oil contingency plan with the overall area contingency plan under the co-ordination of Coast should be covered.
Green Belt	
1.	Green belt shall be developed in area as provided in project details with a native tree species in accordance with CPCB guidelines.
2.	Top soil shall be separately stored and used in the development of green belt.
Marine Ecology	
1.	Dredging shall not be carried out during the fish breeding and spawning seasons.
2.	Dredging, etc shall be carried out in the confined manner to reduce the impacts on marine environment.
3.	The dredging schedule shall be so planned that the turbidity developed is dispersed soon enough to prevent any stress on the fish population.

4.	While carrying out dredging, an independent monitoring shall be carried out through a Government Agency/Institute to assess the impact and necessary measures shall be taken on priority basis if any adverse impact is observed.
5.	A detailed marine biodiversity management plan shall be prepared through the NIO or any other institute of repute on marine, brackish water and fresh water ecology and biodiversity and submitted to and implemented to the satisfaction of the State Biodiversity Board and the CRZ authority. The report shall be based on a study of the impact of the project activities on the intertidal biotopes, corals and coral communities, molluscs, sea grasses, sea weeds, sub-tidal habitats, fishes, other marine and aquatic micro, macro and mega flora and fauna including benthos, plankton, turtles, birds etc. as also the productivity. The data collection and impact assessment shall be as per standards survey methods and include underwater photography.
6.	Marine ecology shall be monitored regularly also in terms of sea weeds, sea grasses, mudflats, sand dunes, fisheries, echinoderms, shrimps, turtles, corals, coastal vegetation, mangroves and other marine biodiversity components including all micro, macro and mega floral and faunal components of marine biodiversity.
7.	The project proponent shall ensure that water traffic does not impact the aquatic wildlife sanctuaries that fall along the stretch of the river.

Public hearing and human health issues

1.	The work space shall be maintained as per international standards for occupational health and safety with provision of fresh air respirators, blowers, and fans to prevent any accumulation and inhalation of undesirable levels of pollutants including VOCs.
2.	Workers shall be strictly enforced to wear personal protective equipments like dust mask, ear muffs or ear plugs, whenever and wherever necessary/ required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration.
3.	In case of repair of any old vessels, excessive care shall be taken while handling Asbestos & Freon gas. Besides, fully enclosed covering should be provided for the temporary storage of asbestos materials at site before disposal to CTSDf.
4.	Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/ accidents.
5.	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
6.	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
7.	Occupational health surveillance of the workers shall be done on a regular basis.

Environment Responsibility

1.	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/deviation/violation of the environmental / forest /wildlife norms/ conditions. The company shall have defined system of reporting infringements / deviation / violation of the environmental / forest / wildlife norms / conditions and / or shareholders / stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
2.	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.

3.	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
4.	Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
Miscellaneous	
1.	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
2.	The copies of the environmental clearance shall be submitted by the project proponents to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
3.	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
4.	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the ministry of Environment, Forest and Climate Change at environment clearance portal.
5.	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
6.	The criteria pollutant levels namely; PM _{2.5} , PM ₁₀ , SO ₂ , NO _x (ambient levels) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
7.	The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
8.	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Expert Appraisal Committee.
9.	No further expansion or modifications in the project shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
10.	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
11.	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory under the provisions of the Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
12.	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
13.	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data /

	information/monitoring reports.
14.	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India / High Courts and any other Court of Law relating to the subject matter.
15.	Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
Specific Conditions	
1.	The unit shall make the arrangement for protection of possible fire hazards during manufacturing process in material handling. Fire fighting system shall be as per the norms.

4. Any Other Item(s)

4.1.1. Details of the proposal

widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Telangana State. The total Length is 45.5 km in the State of Telangana under NH (O) on Hybrid Annuity Mode by M/s National Highway Authority of India located at N/A,N/A,Telangana		
Proposal For		N/A
Proposal No	File No	
IA/TG/INFRA1/457022/2024	10/78/2023-IA.III	

4.1.2. Project Salient Features

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.” 3.4.1 M/s NHAI vide letter dated 22.06.2024 submitted the EIA report to the Ministry in compliance of the Terms of References and also in compliance with the recommendations of the Sub-Committee site visit report. 3.4.2 The aforementioned proposal was placed before the EAC during its 368th meeting of the Expert Appraisal Committee held on 04th July, 2024. The M/s NHAI also submitted the following: 3.4.3 The project proponent along with the EIA consultant M/s Ampl Environ Pvt. Ltd, made a presentation in the Ministry and provided the following information:- 3.4.4 The proposal is for ‘Widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Telangana State. The total Length is 45.5 km in the State of Telangana under NH (O) on Hybrid Annuity Mode by

M/s National Highway Authority of India'. The alignment starts at 17°20'56.61"N 78°21'29.30"E and ends at longitudes of 17°17'53.21"N 77°59'30.74"E.

3.4.5 The Hon'ble National Green Tribunal vide Judgment dated 6th November, 2023 in the matter of Balantrapu Vs. Union of India and NHAI 6th November, 2023 in Original Application No.242 of 2021(SZ) I.A. Nos.17 & 75 of 2023 (SZ) directed as following:

3.4.6 Accordingly, M/s NHAI on 02/01/2024 submitted the online application on PARIVESH Portal, the proposed project was considered under Schedule 7(f), Highways, Category "A" of EIA Notification 2006. Total estimated civil cost of the project is about Rs. 928.41 Cr.

3.4.7 In compliance of the order of the Hon'ble NGT the proposal was placed in the 353rd EAC meeting held on 10th&12th January, 2024 and recommended for TOR inter alia with the condition that a site visit will also conducted by the EAC-Subcommittee for on-the-spot assessment of the trees being effected by the project and to suggest the means for saving these trees. Subsequently on 28th-30th January, 2024 the subcommittee of the EAC visited the project site and made some recommendations for change in alignment and design of road to save more trees, especially the heritage banyan trees. The Ministry granted the ToR on 17/02/2024 along with the Public Consultation. However, a representation dated 22.04.2024 was received from the NHAI mentioning that the Hon'ble National Green Tribunal vide its Judgment dated 6th November, 2023 directed the NHAI to undertake only Environmental Impact Assessment (EIA) Study specific to minimize the loss to the trees before proceeding further. NGT further directed MoEF&CC to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months time. It has been mentioned by the NHAI that the present proposal, as such, does not falls under the ambit of EIA Notification, 2006, however, it is because of the directions of NGT, an application has been made requesting the Ministry to grant ToR specific to the undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.

3.4.8 In view of the above judgment, NHAI requested the Ministry to exempt the conduct of Public Hearing, since the project does not falls under the ambit of EIA Notification, 2006 and also there is no additional acquisition of land envisaged for the project and the project shall be completed within the same ROW.

3.4.9 The above request was placed in the 363rd EAC meeting held on 25th-26th April, 2024. The EAC, taking into account the submission made by the project proponent after detailed deliberation in its 363rd meeting on 25th-26th April, 2024 accepted the request made by NHAI and exempted the conduct of Public Hearing for the project with an advice to include the recommendations of the subcommittee submitted in its site visit report as additional terms of reference (Report Annexed) for conducting EIA.

3.4.10 Land Use Land Cover of the 500 m Buffer of Proposed Alignment.

S.No.	Classes	Area(Ha)	Percentage (%)
1	Agricultural Land	2978.9	64.0
2	Forest	681.85	14.64
3	Built Up Land	782.66	16.82
4	Water Body	0.13	0.01
5	Road	211.01	4.53

Total	4654.55	100.00

3.4.11 Right of Way (RoW): The Proposed ROW for Forest Area is 30m and in Rural /Urban areas is 45m and in Bypass is 60m.

3.4.12 Terrain and topographical features: The terrain on the project stretch is predominantly plain and rolling. The elevation varies from ~585m to ~691m above MSL at different locations. Average elevation of the project stretch is ~625 m above MSL.

3.4.13 Details of water bodies, impact on drainage: This project is crossing 2 nallas. Elevated structures are proposed along the water bodies being crossed. Silt fencing is proposed near major canals and pond. 2 minor bridges and 117 culverts are proposed to avoid any impact on local hydrology. Cross drainage structures are designed to avoid any compromise on the flow part.

3.4.14 Water requirements: The total demand of water for construction phase shall be about 2000 KLD. The demand of water shall be met through surface sources after obtaining necessary permission.

3.4.15 Diversion of Forestland: Total 42.74 Ha of forestland is required for the project. Stage-II approval has been obtained from the IRO, MoEF&CC vide letter no.4-TSB132/2018-CHN/93 dated 20th October, 2021.

3.4.16 Total 915 Banyan trees are falling within the ROW. NHAI submitted EIA/EMP report to MOEF&CC on 22.06.2024 with modified design of replacing underpass @ Km 26+300 with at-grade junction resulting into savings of 50 nos. of additional Banyan trees. Thus, total 393 nos of Banyan trees retained and 522 nos. proposed to be translocation. Almost 1/4 of the trees are proposed for retention will provide space for heronry and other birds species. The translocated trees will also provide sufficient space in due course of time. In the process, almost 45% of existing trees are proposed to be retained and balance are proposed for translocation and State forest department also allocated the place at Mudimyal reserve Forest. All such trees retained and to be translocated are geo-tagged.

3.4.17 The existing road is passing along the boundary of Murgavani National Park. However, there is no widening proposed along the Murgavani National Park. The project is passing through the ESZ area of Mrugavani National Park. Mrugavani National Park (MNP), notified protected area [Dt. July, 21 1998 under section 35(4) of Wildlife (P) Act, 1972] is located within 1 km radius of project site, where no widening is proposed. Only overlaying of the existing road is proposed in this section of the project. However, in coordination with Forest Department and CWLW, a green belt is proposed to be taken up along the boundary of Chilkur RF planting full. Zoological Survey of India (ZSI), Kolkata was requested to study of Impact on biodiversity with focus on fauna & flora within 10km distance of alignment. Mitigation measures proposed/suggested by ZSI, Kolkata shall be adhere and implemented during the contract period of the project.

3.4.18 Details of Rainwater Harvesting: The rainwater-harvesting chamber shall be placed at every 1000m interval c/c (500m interval in a staggered way) with dimensions of 2 x 2 x 0.75m³ all throughout the project corridor.

3.4.19 Land acquisition and R&R issues involved: About 257.41 ha land has already been acquired for this project. Compensation has been paid to the PAPs as per LARR Act, 2013. The loss of properties and land has already compensated during the land acquisition process.

3.4.20 Employment potential: It is estimated that ~150 direct employees will be required per day during construction of the highway. Further, due to ecosystem which will be created during construction and operations phase of the project, the highway will also create considerable indirect employment opportunities in form of transportation of construction materials, greenbelt development, ancillary facilities like canteens, dhabas, etc.

3.4.21 Benefits of the project: Community will accrue the benefit from proposed development project by way of improvement in the physical infrastructure; social infrastructure; development of economy; reduced pollution, vehicle maintenance, fuel saving, lesser carbon footprint, employment potential and other tangible benefits. The project is a widening and improvement of the existing 2 lane to 4 lane highway with realignment and bypasses of the major settlements. This will avoid traffic congestion and speed-up the freight movement. It is expected that overall, this project will reduce the travel time between these places by half. At present, the connectivity between Hyderabad and Manegudu is either through the existing 2 lane road with high traffic. This project is expected to reduce the travel time between Hyderabad to Manegudu by at least 1-hour w.r.t. existing road. Moreover, the new highway facility is access controlled and hence will provide good riding quality, better safety and a reliable infrastructure. All these elements will result in cost savings and efficiency improvement.

3.4.22 Details of Court cases: The matter was challenged before the Hon'ble National Green Tribunal in the matter of Balantrapu Vs. Union of India and NHAI 6th November, 2023 in Original Application No.242 of 2021(SZ) I.A. Nos.17 & 75 of 2023 (SZ), the Hon'ble Tribunal vide Judgment dated 6th November, 2023 disposed of with certain directions, accordingly the NHAI applied in the Ministry for undertaking the EIA study to minimize the loss to the trees before proceeding further.

4.1.3. Deliberations by the EAC in current meetings

3.4.1 The EAC based on the information submitted and clarifications provided by the project proponent and detailed discussions held on all the issues during this 368th meeting on 04th June, 2024 accepted the EIA Report submitted by the NHAI as per the direction of Hon'ble NGT and in compliance with TOR issued following recommendations.

- i. Representative of the District Collector not below the rank of ADM.
- ii. DFO/DCF Concern or his representative not below the rank of Sub Divisional Forest Officer/ACF.
- iii. Scientist/Officer from IRO, Hyderabad.
- iv. Representative of Telangana Pollution Control Board.
- v. Scientist from the Botanical Survey of India(BSI), Zoological Survey of India (ZSI), Deccan Regional Centre, Hyderabad.
- vi. Representative of M/s NHAI will coordinate the meetings of the committee.

4.1.4. Recommendation of EAC

Recommended

5. List of Attendees

Sr. No.	Name	Designation	Email ID	Remarks
1	Shri Manmohan Singh Negi	Chairman, EAC	neg*****@hotmail.com	
2	Dr V K Jain	Member (EAC)	drv*****@hotmail.com	
3	Dr M V Ramana Murthy	Member (EAC)	ram*****@gmail.com	
4	Shri S Jeyakrishnan	Member (EAC)	suk*****@gmail.com	
5	Dr Niraj Sharma	Member (EAC)	nee*****@nic.in	
6	Dr. Jaya Kumar Seelam	Member (EAC)	see*****@gmail.com	

7	Col. Prakash Tewari	Member (EAC)	pra*****@gmail.com	
8	Dr. B.Kishore	Member (EAC)	kis*****@gmail.com	
9	Shri Sharandeep Singh	Member (EAC)	sha*****@nic.in	Absent
10	Shri Ashok Kumar Patre	Member (EAC)	ash*****@gov.in	Absent
11	Ms. Bindu Manghat	Member (EAC)	bin*****@gov.in	Absent
12	Dr. P.K.Dinesh Kumar	Member (EAC)	pkd*****@gmail.com	
13	Shri Amardeep Raju	Member Secretary (EAC)	ad.****@nic.in	



Minutes of the 368th meeting of Expert Appraisal Committee (EAC) of Infra-I(IA-III) held at Satej Conference Hall hybrid(Physical-Video Conferencing) mode, Ministry of Environment Forest and Climate Change, New Delhi on 04th July, 2024 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, Harbors, Breakwaters, Dredging 7(e) and National Highways 7(f).

The 368th Meeting of Expert Appraisal Committee (EAC) of Infra-1(IA-III) Hybrid Mode held on 04th July, 2024 under the Chairmanship of Shri. Manmohan Singh Negi. The list of participants is annexed as **Annexure-A**.

1. OPENING REMARKS OF THE CHAIRMAN.

At the outset, Shri. Manmohan Singh Negi, 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 367th EAC meeting held on 26th June, 2024.

3. AGENDA WISE CONSIDERATION OF PROPOSALS.

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

Agenda Sr. No.3.1

The proposal is for development of Multipurpose Cargo Berth (Berth No.17) at Panambur village, Suratkal Taluk, Mangalore, Dakshina Kannada by Project Proponent M/s New Mangalore Port Authority–Environmental and CRZ Clearance reg.

Proposal No: IA/KA/INFRA1/472985/2024 File No: 10/55/2021-IA.III.

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.1.1 The aforementioned proposal was placed before the EAC during its 368th meeting of

the Expert Appraisal Committee held on 04th July, 2024. The project proponent along with the EIA consultant M/s Ultra Tech, Thane made a presentation in the Ministry and submitted the following information:

3.1.2 The proposal is for 'Development of Multipurpose Cargo Berth (Berth No.17) at Panambur village, Suratkal Taluk, Mangalore, Dakshina Kannada by Project Proponent M/s New Mangalore Port Authority'.

3.1.3 NMPT intends to develop the existing multipurpose deep draft Berth No 14 for handling container through mechanization. The Port will no longer have other deep draft berth general cargo to handle the large ships of 60,000 DWT and above. Therefore, port has proposed to develop an additional deep draft general cargo berth in between Berth no.8 and no.13, named as Berth No.17. Geo-coordinates of project site are Latitude 12°22'29.17"N, Longitude 74°49'1.69"E.

3.1.4 The berth is proposed to handle RO-RO/Cruise ships bunkering cargo ships iron ore fines/concentrate, fertilizers, river sand, bentonite, gypsum, machinery, steel coil etc. at the proposed new berth No. 17 for handling capacity of 9 MMTPA. The proposed berth will construct in an area of 2.5 acres (1 ha) of water area adjacent to existing berth No.8 and 30 acres (approximate) of Port land will be utilized for storage of cargo handled at proposed berth.

S.No	Facility	Size and Dimension
1	Length of the Berth	348m
2	Width of the Berth	26m
3	Approach trestles	10m with, 2nos
4	Deck Elevation	Berthing Jetty: Deck level-(+)4.66m Approach Jetty: Deck level -(+)4.66m Dredging level for Berthing structure -(-)15.10m CD

3.1.5 The proposed project falls under 7(e), Category-A, Ports, Harbors, breakwater, dredging as per EIA notification 2006. Total Project Cost is Rs.21,391 Lakhs.

3.1.6 Terms of References (TOR) Details: The ToR proposal was considered in the 283rd EAC meeting held on 15th December, 2021 the committee recommended for grant of ToR, Ministry granted the ToR vide letter No.10/55/2021-IA.III dated 6th January, 2022.

3.1.7 Public Hearing Details: Public hearing was conducted on 07th July 2023 at the Meeting Hall, Office of Deputy Commissioner, 2nd Floor, Mangaluru, Dakshina Kannada District, Karnataka presided by the Deputy Commissioner.

3.1.8 Landuse/Landcover of project site: The Port has a total land area of 1960 Acres and water spread area of about 330 Acre. Out of which 2.5 acres (1 ha) of water area will be used for construction of berth adjacent to existing berth No.8 and 12ha (30 acres) of Port land which will be utilized for storage of cargo handled at proposed berth. Proposed project is

located in New Mangalore Port Trust (NMPT) Port limit and Customs Notified Area.

3.1.9 Terrain and Topographical features: The area of the landward side shows an undulating topography. New Mangalore Port is an all-weather major port at Panambur, Mangalore in Karnataka state in India. Entire project is in waterfront area. There will be no change in the drainage pattern due to proposed project.

3.1.10 Water requirements: During construction water will be required 100 KLD and will be met from tankers from Mangalore City Corporation. During operation phase, 10 KLD water will be required and it will be arranged through Mangalore City Corporation.

3.1.11 Diversion of forestland: The project does not involve tree cutting and diversion of forestland. The project is not located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc. the project is not located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MOEF&CC.

3.1.12 NIO has been conducted the site specific biodiversity conservation study based on the study, site specific conservation and mitigation plan has been prepared for the Mangroves, Peacock, Indian Fox, Marine Sea turtles, Sharks, and Marine mammals with the capital budgetary provision of 60 lakhs and recurring cost of 40 lakhs for the implementation of biodiversity conservation and mitigation plan.

3.1.13 Waste Management: The municipal waste generated during the project construction phase shall be of the order of only 50 to 100 kg/day. Unsuitable material will be disposed at the designated location. Municipal solid waste generated will be disposed through the concerned Municipal Authorities. The solid waste generation during the construction phase will consist of biodegradable waste such as food waste and non- biodegradable waste such as packaging materials, plastic, metal item, etc. All recyclable items shall collect and sold to authorize recyclers. STP details: Approx. 8 KLD sewage generated from the Berth No. 17 will be treated in existing 1.2 MLD STP. Hence, no new STP is proposed. Further, Port operation activities solid waste shall be adequately collected and managed in accordance with the relevant Indian laws, IFC PSs and IFC EHS guidelines for Waste Management Facilities. Solid Waste Management: New Mangalore Port Authority installed Solid waste management system with shredder and vermicomposting units. This vermicomposting units produce the round 150-kg organic manure per day which will be used for horticulture and Port gardens at NMPA. Segregation of waste at the source is carried out. The organic waste is used for vermiculture and inorganic waste is disposed at designated location of MCC. To ensure better environment, the management has declared NMPA as “No Plastic Zone” in the year 2013 to till now. Port is under the process of implementation of self-management of waste whereas, organic waste will be used for the preparation of manure and inorganic waste will be disposed through authorized recyclers.

3.1.14 CRZ details: In order to comply with CRZ Notification, 2019 detailed HTL/LTL demarcation studies were conducted with respect to the project site by Institute of National Centre for Sustainable Coastal Management (NCSCM). The proposed Berth No.17 is falling

in CRZ IV B and 1.7 Ha back up area falls under CRZ II area out of 12 ha back up area behind the berth for the storage of cargo. Karnataka State Coastal Zone Management Authority vide letter no. FEE 313 CRZ 2023 dated 14.03.2024 recommended the proposal and forwarded to the Ministry.

3.1.15 Details of shore line change: As per shoreline change Atlas of Karnataka, Map No. 48L13NW prepared by Space Application Centre, ISRO, Ahmedabad. The proposed project area is a stable coast. Capital Dredging: It is proposed to deepen the area in front of proposed Berth No.17. Dredging activity shall be carried in front of proposed Berth No. 17 and its approach up to (-) 15.10 m. The depth in front and approach of the proposed Berth No. 17 is considered as-15.10 m CD and the dredging quantity was calculated by using Hypack software. The dredging quantity is assessed as 146594 cubic meter, approx.1,50,000 cubic meter. Maintenance Dredging: Average cost of dredging for the previous 3 years is collected from the Port, which worked out to be Rs. 39.03 crores per annum. Average Maintenance dredging cost per meter length is applied to Berth No. 17. No Break water or Reclamation is required. Disposal Point: The dredged material will be disposed into the offshore existing dumping ground at 12°57 '34" N and 74°41'41"E.

3.1.16 Handling of cargo: During the initial stages of operation of Berth No.17, it will be handling only the displaced cargo from Berth No.14 after that berth's conversion into a container terminal, i.e primarily iron ore fines/ concentrates and other dry bulk like fertilisers, limestone, gypsum etc. The details of traffic projection of each cargo in tonnes.

Timeline	FY 30	FY 40
Details of Cargo proposed to be handle		
IOF/IOC	3.32	3.67
Fertilizer	0.47	0.52
Rock Phosphate	0.53	0.59
Gypsum	0.29	0.32
River sand	0.35	0.39
Raw sugar	0.25	0.28
Wheat	0.13	0.14
Edible oil	0.21	0.23
Total	5.55	6.14

3.1.17 Dust preventive measures: Fugitive dust may emit from material transport by truck. Construction material shall be transported through covered trucks. Dust will be suppressed by water sprinkling. Cargo will be transferred after covering the trucks, Tarpaulin will be used and overloading will be avoided.

3.1.18 Further, for smooth movement of the traffic near vicinity of the port NHAI under Bharatmala Scheme is developing 4 lane roads in NH75 connecting Bangalore via Hassan, Shirid Ghat, Bantwal cross road at NH 73 and connects NH-66 in Mangalore. The proposed project will facilitate the increase in traffic movement to the port and New Mangalore port is

well connected with NH-66, 75 and NH-169. These National Highways are sufficient to cater the traffic demand of Berth No.17. The NH 66(4 lane road) is passing through the port area around 3 KM.

3.1.19 IRO-Bangalore, MoEF&CC monitored the port on 13.03.2024 and issued the Certified EC and CRZ compliance report vide letter no. EP/12.1/578/KAR907 dated 08.04.2024.

3.1.20 Employment Potential: Construction Phase: The proposed project will give employment of about 100 to 150 persons. Although the workforce requirement will be temporary in nature, it will be met from the local population. Operational Phase: The operation phase of the proposed development will also provide opportunities for employment mostly in the skilled and semi-skilled categories directly and indirectly to the tune of 1000 Nos. This will enhance the income of the people associated with subcontracting business.

3.1.21 Land acquisition and R&R issues involved: The proposed project activities are planned within existing port area. No Rehabilitation and Resettlement is involved in the proposed project. Hence, hence no land acquisition is required.

3.1.22 Benefits of the project: There will be direct and indirect benefits to the country as well as the port. This will trigger development of major and minor industries, processing units, employment potential in the hinterland apart from sizeable income to the port exchequer and Government of India from the EXIM trade.

3.1.23 Details of Court cases: No Court Cases are pending against the proposed project.

3.1.24 During the EAC, the committee observed the following:

- i. PP mentioned that environment Clearance to the project of New Mangalore Port Trust(NMPT) for creation of additional facilities to cater to MRPL's refinery from 3 MTPA to 9 MTPA was obtained by the Ministry of Surface Transport vide letter no.PD/26017/11/98-PDZ(CRZ) dated 13thMay, 1999.
- ii. However, the Committee noted that Ministry issued a EIA notification in 1994 and if any activity covered under the said notification the EC shall obtained from MoEFCC Thus PP shall submitted details of activities in chronological order undertaken by the port including Environmental clearances obtained.
- iii. Details of the cargo handling capacity of existing port and proposed cargo handling at berth no 17 product wise details shall be submitted.
- iv. IRO-Bangalore, MoEF&CC monitored the port on 13.03.2024 and issued the Certified EC and CRZ compliance report vide letter no.EP/12.1/578/KAR 907 dated 08.04.2024 and noted some partial compliances and non-compliances. Action Taken Report (ATR) shall be submitted.

- v. Area proposed for back up storage for proposed berth no. 17 contains the vegetation including the Prosopis sp trees and at the same time some of the area containing no vegetation is left untouched. There is a need of reorienting the backup storage area so that damage to vegetation and cutting of trees can be avoided.

3.1.25 PP has submitted the above information to the Ministry including various environmental clearance obtained by them at various points of time for different activities within the port area which are as follows

3.1.26 Following EC and CRZ clearance were obtained by the NMPA in chronological order

- a. The New Mangalore Port Authority obtained the environmental clearance for development of port facilities or handling of crude and POL products at Mangalore Port from the Ministry of Environment & Forest vide its OM no.J-16011/2192-IA.III dated 29th October, 1993.
- b. Further environment Clearance to the project of New Mangalore Port Trust(NMPT) for creation of additional facilities to cater to MRPL's refinery from 3 MTPA to 9 MTPA was obtained from the Ministry of Surface Transport vide its letter no. PD/26017/11/98-PDZ(CRZ) dated 13th May, 1999 under intimation to the Ministry of Environment and Forests..
- c. Thereafter for construction of liquid cargo Jetty (Berth no.13) in the existing Oil Dock Arm of new Mangalore port Karnataka by M/s New Mangalore Port Trust was obtained from the Ministry of Environment Forest and Climate Change vide its letter no.10-54/2007-IA.III dated 29th July, 2008.
- d. Again, Environmental and CRZ clearance for the development of four berths in Western Dock Arm in Mangalore Port Trust, Mangalore by New Mangalore Port Trust was obtained from the Ministry of Environment & Forests vide letter no.11-2/2010-IA.III dated 19th September, 2011.
- e. Subsequently amendment in EC and CRZ clearance for development of four berths in Western Dock Arm in New Mangalore Port Trust by New Mangalore Port Trust was obtained from the MoEF & CC vide its letter no.11-2/2010-IA.III(Pt) dated 14th December, 2016.
- f. Further, extension of validity of EC and CRZ clearance up to 14.12.2013 for the development four berths in Western Dock Arm in New Mangalore Port Trust by New Mangalore Port Trust was obtained from the MoEF & CC vide its letter no.11-2/2010-IA.III dated 3rd August, 2017.

3.1.27 In response to query raised above in Para3.1.25 (iii) the PP has submitted details of berths along with cargo handling during 2023-24 and explained that though there is a spare capacity at NMPA in terms of cargo handling yet the port require deep draft berth of 14 meter for handling bigger draft vehicle as many of the existing berths are of lower draft .Only multipurpose deep draft berth no.14 with the port has been handed over to the PPP operators for handling containers to mechanisation Therefore, there is deep draft berth to handle the

large ships of 60000 DWT or more (Paramax i.e 14 mtr draft). Therefore this deep draft berth is proposed. The PP has also submitted the cargo profile for the proposed berth.

3.1.28 In response to EAC query in para 3.1.25(iv) PP informed that Action Taken Report on non-compliance of some of the sondition will be submitted to IRO of MoEFCC

3.1.29 The EAC based on the information submitted and clarifications provided by the project proponent **recommended** the project for grant of Environment and CRZ clearance with specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

- i. Back up storage area for proposed berth no. 17 shall be reoriented in order to ensure exclusion of vegetation tree growth area as far as possible. Accordingly revised backup area layout shall be submitted to the ministry with copy to the IRO for monitoring of the implementation. Balance area of the backup having Prosopis sp trees shall be afforested with suitable native species.
- ii. IRO-Bangalore, MoEF&CC monitored the port on 13.03.2024 and issued the Certified EC and CRZ compliance report vide letter no.EP/12.1/578/KAR 907 dated 08.04.2024 and noted some partial compliances and non-compliances. PP shall ensure that the conditions of the ECs which has not yet been complied with or partially complied shall be complied within next 6 months and compliance report shall be submitted along with 6 monthly monitoring report.
- iii. Construction activity shall be carried out strictly according to the provisions of the CRZ Notification, 2019. No construction works other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.
- iv. Storage of items shall be strictly in accordance with the provisions of CRZ notification. The items not permissible under CRZ notification shall not be stored in backup area falling in CRZ area.
- v. NIO has conducted the site-specific biodiversity conservation plan with the capital budgetary provision of 60 lakhs and recurring cost of 40 lakhs for the implementation of biodiversity conservation and mitigation plan. The conservation plan shall also include afforestation of unused backup area having prosopis sp growth and shall be implemented in consultation with the state forest department. In addition, during implementation period if any specific mitigation measures recommended by the Forest department the same shall be implemented and the status of the compliance shall be submitted to the Concern IRO, MoEFCC along with the EC compliance report.
- vi. For smooth movement of the traffic near vicinity of the port. Under Bharatmala Scheme NHAI is developing 4 lane roads in NH75 connecting Bangalore via Hassan, Shirid Ghat, Bantwal cross road at NH 73 and connects NH-66 in Mangalore. The proposed project will facilitate the increase in traffic movement to the port and New

Mangalore port is well connected with NH-66,75 and NH-169. These National Highways are sufficient to cater the traffic demand of Berth No.17. The NH 66(4 lane road) is passing through the port area around 3 KM.

- vii. Construction activity shall be carried out strictly according to the provisions of the CRZ Notification, 2019. No construction works other than those permitted in Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area.
- viii. All the recommendations and conditions specified by the Karnataka State Coastal Zone Management Authority (KCZMA) vide letter No FEE313 CRZ 2023 dated 14.03.2024.
- ix. The approach road shall be constructed strictly follow the Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area and road should be built on stilts.
- x. Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- xi. Necessary approvals be taken during implementation and commissioning from statutory bodies concerned.
- xii. No underwater blasting is permitted.
- xiii. 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.
- xiv. The total storage area is 12 ha out of which 1.7ha falls under the CRZ II area, No storage area shall be allowed in the CRZ area. The storage area shall be placed outside of the CRZ area, with the minimum distance of 200m.
- xv. PP shall ensure the loading and unloading process shall not cause any spillage in the water and storm water drains should be built to collect spillage , if any.
- xvi. Cargo., handling area shall be provided with the adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- xvii. Effective and efficient pollution control measures like covered conveyors/stacks (IOF/IOC, Gypsam and other bulk cargo) with fogging/back filters and water sprinkling commencing from ship unloading to stacking to evacuation shall be undertaken. Coal and iron ore stack yards shall be bounded by thick two tier green belt with proper drains and wind barriers wherever necessary.
- xviii. Garland drains and collection pits of adequate capacity shall be provided for each

stock pile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface run off and disposed only after treatment.

- xix. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high level of particulate matter such as around loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- xx. Risk assessment for spill scenarios and Disaster Management Plan as prepared shall be in place in the environment Management cell of the port authority with all SOP's for various scenarios.
- xxi. Spillage of fuel/engine oil and lubricants from the construction site are a source of organic pollution, which impacts marine life, particularly benthos. This shall be prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.
- xxii. The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the port area at least at four locations (one within and three outside the port area at an angle of 120°each), covering upwind and downwind directions.
- xxiii. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed fugitive emission standards.
- xxiv. The project proponent shall submit monthly summary report of continuous stack emission and air quality monitoring and results of manual stack monitoring and manual monitoring of air quality/fugitive emissions to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.
- xxv. Records of regular dredging shall be maintained with periodic survey data.
- xxvi. Sediment analysis of harbor at identified locations shall be analyzed and records for past and present period shall be maintained.
- xxvii. Sediment concentration should be monitored fortnightly at source and disposal location of dredging while dredging.
- xxviii. Periodical study on shoreline changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring

report.

- xxix. A site specific biodiversity conservation plan including mitigation measures prepared by NIO specifically for the Mangroves, Peacock, Marine Sea turtles, Sharks, and Marine mammals shall be implemented later in spirit in consultation with the state forest department. In addition, during implementation period if any specific mitigation measures recommended by the Forest department the same shall be implemented and the status of the compliance shall be submitted to the Concern IRO, MoEFCC along with the EC compliance report.
- xxx. All the recommendations mentioned in the Marine ecology report prepared by NIO, Goa shall be implemented and the compliance of the recommendations shall be submitted to the concern IRO, MOEF&CC along with the six monthly EC compliance report.
- xxxi. The project proponents would also inventories the floral composition of the biota of marine and intertidal biotopes and draw up a detailed marine bio diversity conservation management plan based on possible impacts. The management plan shall be submitted also to the State Biodiversity Board and implemented to their satisfaction during the project cycle.
- xxxii. Marine ecology shall be monitored regularly also in terms of sea weeds, sea grasses, mudflats, sand dunes, fisheries, echinoderms, shrimps, turtles, corals, coastal vegetation, mangroves and other marine biodiversity components as part of the management plan. Marine ecology shall be monitored regularly also in terms of all micro, macro and mega floral and faunal components of marine biodiversity.
- xxxiii. All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.
- xxxiv. A continuous monitoring programme covering all the seasons on various aspects of the coastal and marine environs need to be undertaken by a competent organization available in the State or by entrusting to the National Institutes/renowned Universities/accredited Consultant with rich experiences in marine science aspects. Monitoring should include sea weeds, sea grasses, mudflats, sand dunes, fisheries, mangroves and other marine biodiversity components as part of the management plan.
- xxxv. Necessary arrangements for the treatment of the effluents and solid wastes/ facilitation of reception facilities under MARPOL must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986. The provisions of Solid Waste Management Rules, 2016. E-Waste Management Rules, 2016, and Plastic Waste Management Rules, 2016 shall be complied with.

- xxxvi. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Aforestation etc, either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.

Agenda Sr. No.3.2

Proposal is for setting up of prestigious Prime Minister Mega Integrated Textile Region and Apparel (PM MITRA) Park scheme by Ministry of Textile Government of India over an area of 410.02 ha land located in Nandgaonpeth village of Amravati district of Maharashtra by M/s. MIDC Division Amravati-Environmental Clearance regarding.

Proposal No: IA/MH/INFRA1/475511/2024 File No: 10/69/2023-IA.III.

"The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent."

3.2.1 The aforementioned proposal was placed before the EAC during its 368th meeting of the Expert Appraisal Committee held on 04th July, 2024.

3.2.2 The project proponent did not attend the EAC meeting, the committee **deferred** the proposal and informed to the Ministry that the proposal may be considered only after receiving the request from the PP.

Agenda Sr. No.3.3

The proposed project is for development/Improvement of 6 Infrastructure Facilities at Chennai Port, Tamil Nadu by M/s Chennai Port Authority-Environmental and CRZ clearance reg.

Proposal No: IA/TN/INFRA1/478862/2024 File No: 10/55/2023-IA.III.

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.3.1 The aforementioned proposal was placed before the EAC during its 368th meeting of the Expert Appraisal Committee held on 04th July, 2024.

3.3.2 The project proponent along with the EIA consultant M/s SV Enviro Labs & Consultants, Visakhapatnam made a presentation in the Ministry and submitted the following information:

3.3.3 The proposal is for ‘Development/Improvement of 6 Infrastructure Facilities at Chennai Port, Tamil Nadu by M/s Chennai Port Trust’.

- i. Improvement to the existing Jawahar Dock (East) Berths for handling bulk cargoes – Modernization (No Capacity addition);
- ii. Improvement to the existing Bharthi Dock II Berth for handling bulk cargoes – Modernization (No Capacity addition);
- iii. Relocation of existing Sand Trap and Capital Dredging – Modernization (No Capacity addition);
- iv. Development of Multi level Car parking facility – New (No Capacity addition);
- v. Development of Coastal Terminal at northern sheltering arm at east of Bharathi Dock turning circle – New (1MTPA);
- vi. Development of Storage Sheds and Tank Forms as per the Land Use Plan of the Chennai Port – New (No Capacity addition);

3.3.4 The proposed project falls under 7(e), Category-A, Ports, Harbors, breakwater, dredging as per EIA notification 2006. Total Project Cost is Rs.590.59 Crores.

3.3.5 Port Infrastructure facilities were created prior to the EIA Notification of 1994. Details of ECs obtained by the PP in chronological order area as below

- a. Initially the Environmental Clearance vide letter J-16011/18/90-IA.III dated 14th December, 1995 was obtained from the Ministry of Environment and Forest for the Schemes (i) Further extension of Container Terminal (ii) Integrated Scheme of Extension of South Quay III and Modernization of East Quay (iii) Modernization of West Quay and North Quay Berth; and (iv) Construction of one number Multi-storied Transit Shed at West Quay, from Madras Port Trust, Madras.
- b. Further, Environmental Clearance vide letter no. J-16011/21/2001-IA-III dated 1st

August, 2001 was obtained from the Ministry of Environment and Forest for “Construction of New Hazardous Cargo Shed to replace the existing one at Chennai Port by M/s Chennai Port Trust.

- c. Thereafter CRZ clearance vide letter no.10-26/2005-IA-III dated 2nd February, 2006 was obtained from Ministry for ‘Construction of revetment for the control of erosion in the eastward of East Quay by M/s Chennai Port Trust, Chennai”
- d. CRZ clearance vide letter no.11-82/2005-IA.III dated 1st November, 2006 was obtained for “Development of second container terminal at the modernized East Quay and South quay III berth of Chennai Port” by M/s Chennai Port Trust.
- e. Further, Environmental Clearance vide letter no. F.No.10-83/2007-IA-III Dated 8th March, 2013 was obtained Extension of validity of the Environmental Clearance dated 16.01.2008 granted for Ro-Ro Berth at Southern side of Bharathi Dock at Chennai Port by M/s Chennai Port Trust.
- f. Further, CRZ clearance vide letter no.10-104/2007-IA.III dated 1stJanuary, 2014 was obtained for “Shore protection measures at Southern Foreshore of Chennai Port” by M/s Chennai Port Trust.
- g. There after EC and CRZ clearance vide letter no. F.No.11-45/2012-IA-III dated 27th August, 2014 was obtained for “Development of Barge handling facility which includes construction of berth in Chennai Port, Tamil Nadu” by M/s Chennai Port Trust and CRZ clearance vide letter no. 11-31/2014-IA-III dated 23rd September, 2014 was obtained for “Construction of a coastal road with necessary shore protection along the sea shore adjacent to leased plot of M/s Suraj Agro Industries to Old harbour entrance on eastern side in Chennai Port, Tamil Nadu” by M/s Chennai Port Trust.
- h. Thereafter EC and CRZ clearance vide letter no. 10-127/2007-IA.III dated 20th March, 2015 was obtained for “Development of Mega Container Terminal at Chennai Port, Tamil Nadu” by M/s Chennai Port Trust.
- i. Further, CRZ clearance vide letter no.11-23/2009-IA-III dated 25th February, 2011 was obtained for “Construction of Elevated Road from Chennai Port to Madhuravoyal, Tamil Nadu” by M/s Chennai Port Trust.
- j. Subsequently CRZ clearance vide letter no.11-33/2020-IA-III dated 23rd September, 2020 was obtained for “Construction of Elevated Road from Chennai Port to Maduravoyal (NH-4) in Tamil Nadu” by M/s Chennai Port Trust.
- k. Subsequently, CRZ clearance vide letter no. 11-6/2023-IA.III dated 17th April, 2023 for “Development of New Four Lane Elevated Road from Chennai Port to Maduravoyal (NH-4), Chennai and Tiruvallur Districts, Tamil Nadu” by M/s

Chennai Port Trust.

3.3.6 For the above said proposal ToR was obtained by the Ministry vide letter no.F.no.10-127/2007-IA.III dated 05.02.2016. Subsequently extension of ToR was obtained on 02.02.2019. Further public hearing was conducted on 24.04.2018 and DCZMA recommendations were obtained on 22.06.2020. Subsequently TNCZMA recommendations obtained on 25.07.2022. However, the ToR issued on 05.02.2016 has been expired and hence PP applied for obtaining the fresh ToR with a request to exempt the public hearing considering the above. The proposal was considered in the 338th meeting during 24th August, 2023 and recommended the proposal for grant of Terms of Reference (ToR). Ministry granted the ToR vide letter 10/55/2023-IA.III dated 29/12/2023 with exemption of public hearing, since public hearing was already conducted on 24.04.2018 and there is no change in the proposal.

3.3.7 The public hearing was conducted on 24.04.2018 at M/s Chennai Port Trust (Old Dock Labour Building Premises) Rajaji Salai, Chennai-1 presided by the district collector, Chennai.

3.3.8 Land use/ Land cover of project site.

S.No.	Land use/Land cover	Area (ha)	Percentage (%)
1	Agricultural land	76.80	6.47
2	Grazing Land	235.93	19.19
3	Barren Land	112.90	9.51
4	Waste Land	100.36	8.45
5	Surface water Bodies	79.3	6.68
6	Marshy Land	104.80	8.82
7	Settlement	1.21	0.1
8	Roads Other infrastructure	4.85	0.41
9	Scrub	471.45	39.7
Total		1187.75	100

3.3.9 Terrain and Topographical features: Chennai district forms part of coastal plains of Tamil Nadu. Major part of the district is having flat topography with very gentle slope towards east. The altitudes of land surface vary from 10m above MSL in the west to sea level in the east. Fluvial, marine and erosional landforms are noticed in the district. Marine transgression and regressions and neo-tectonic activity during the recent past have influenced the morphology and resulted in various present landforms. Meandering streams with small sand bars are present along the course of Adyar River. The pediment and buried pediment in Guindy area in and around the reserved forest, is the only area where the ecological system is less disturbed, while the other areas are completely disturbed by built up area with large-scale human interference and pollution.

3.3.10 Details of water bodies, impact on drainage: Adyar River originates at the confluence (Thiruneermalai) of two streams that drains the upstream area of Chembarambakkam tank. It

is a small river of 42 km length and a catchment of 800 Sq.km. the river carries flow all through 365 days of a year with an average discharge of 89.43MCM/Year at Kattipara Cause way. It drains the southern part of the district and remains flooded during monsoon. During the high tides, the backwaters from the Bay of Bengal enter inland up to 3-4Km. Cooum is the other main river flowing through the central part of the district and carries only drainage water, which is highly polluted. It originates from the surplus waters from the Cooum tank in Tiruvallore taluk and the tanks, which are in enroute, discharge their surplus water into the river during flood season. The flow of Cooum river at Korattur is 40.2MCM/year for an average duration of 31 days in a year. Otteri Nulla is another small stream flowing in the northern part of the city. Buckingham canal is the man made one for navigation purposes earlier, but now it act as sewerage carrier in the city.

3.3.11 Water requirements: Water Requirement during Construction Phase is 68.36KLD the details of water requirement are as following:

S.No	Description of Activity	Quantity (KLD)
1	Improvement to the existitng Jawahar Dock (East) Berths for handling bulk cargoes	30.0
2	Improvement to the existing Bharathi Dock II berth for handling bulk cargoes	24.0
3	Relocation of existing Sand trap and Capital Dredging	Nil
4	Development of Multi level car parking facility	1.865
5	Development of Coastal Terminal at northern sheltering arm at east of Bharathi Dock turning circle	12.5
Total		68.36

So average water consumption during construction phase is 15-35 KL. As the major portion of the projects are modernisation and during operation phase the incremental increase in overall will be 3 KL.

3.3.12 Water Requirement during Operation Phase: Water Requirement during Operational Phase is 3.00KLD. The details water requirement component wise is as following:

S.No.	Description of Activity	Project Type	Quantity(KLD)
1	Improvement to the existing Jawahar Dock (East) Berths for handling bulk cargoes	Modernization	--
2	Improvement to the existing Bharathi Dock II berth for handling bulk cargoes	Modernization	--
3	Relocation of existing Sand trap and Capital Dredging	Relocation of Sand Trap	--
4	Development of Multi level car parking facility	New	--
5	Development of Coastal Terminal at northern sheltering arm at east of Bharathi Dock turning circle	New	--

6	Construction of tank farm and storage sheds	New	3.00
Total			3.00

3.3.13 Basin dimensions of the dock is 655m x 152m. The total quay length is around 2 x 650m with 3 berths each on either side. The entrance width of the dock is narrow. Berth particulars of the dock have been presented below. Details of Cargo Handling at Jawahar Dock (East).

Berth Ref	Commodity	Length (m)	Draft (m)
JD I	Food grains/General Cargo	218	11.50
JD II	Coal/Other liquids	218	13.0
JD III	Food Grains/ General Cargo	218	12.0
JD IV	Coal/Other Liquids	218	11.0
JD V	Food grains/ General Cargo	218	12.0
JD VI	Coal/ General Cargo	218	11.0
Total		1308	70.5

3.3.14 Port is drawing water from CMWSSB for the operations of Port. The surplus water will be shared during construction phase by the Port, which can be met through existing sources.

3.3.15 Diversion of forestland: The project does not involves diversion of forestland. The project is not located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc. The project is also not located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC.

3.3.16 Waste Management: Construction Phase: During construction phase, about 50-75 nos of labour and technical staff is likely to congregate. No labour camp is envisaged and all the workers will come from nearby area of Chennai. Construction workers will use the existing canteen facility. Operation Phase: Solid wastes from office, operational area etc is being disposed through Chennai Corporation Municipal Authority to the dumping yard whereas, waste oil, lubricants, Used Batteries is being disposed through authorized recyclers. The same arrangement will be continued. During operation phase all projects except shore tank farms, will be under ChPA only. The solid waste generated in and around port area is segregated categorically as biodegradable, non-biodegradable and hazardous waste and collected in separate colour coded dustbins. The garbage thus collected is being disposed at dumping yard of Chennai Corporation. Solid waste like corroded steel plates, rubber pieces, discarded spares/equipments are being disposed on regular basis. STP details: STP of 40 KLD near officer quarters is under operation. The treated water is being used for non-potable purposes such as flushing, washing, greenbelt development/ plantation. And 90 KLD STP is under construction. No wastewater shall be discharged either into the ground or to any water bodies, thereby adopting Zero Liquid Discharge (ZLD).

3.3.17 Tree cutting and Green belt development: There is no tree cutting in the present proposal. Multi-layered plantation comprising of medium height trees (7 m to 10 m) and

shrubs (5 m height) are proposed for the green belt. Moreover, in future creepers will be planted along the boundary wall to enhance its insulation capacity.

3.3.18 Details of Rain Water Harvesting: Chennai Port Authority is having approximately 121 Rain Water Harvesting pits in its existing facility and will be maintained.

3.3.19 Details of CRZ area:

S.No.	Particular	Classification	Area in Sq.m
1.	Improvement works to existing Jawahar Dock (East) berths and stocking yard	CRZ-II	143515.98
2.	Improvement works to existing Bharathi Dock II Berth	Sea	11143.47
		CRZ-II	90319.82
		Jetty	8456.84
		Non-CRZ	18863.96
3.	Relocation of existing Sand Trap	Sea	125071.44
4.	Development of Multilevel Car Parking facility	Sea	2541.77
		CRZ-II	7306.85
5.	Development of Coastal Terminal	Jetty	4.24
		Sea	4864.02
		CRZ-II	96800.93
6.	Development of Tank Farms	CRZ-II	79903.49
7.	Proposed Disposal Location 1	Sea	250023.3
8.	Proposed Disposal Location 2	Sea	12312531.53

Tamilnadu State Coastal Zone Management Authority (TCZMA) vide letter no. 12455/EC-3/2022-1, dated 25.07.2022 recommended the proposal and forwarded to the Ministry.

3.3.20 Commodity wise traffic handled during the last five years (in tones).

Commodity	2018-19	2019-20	2020-21	2021-22	2022-23
Liquid Bulk					
Pol - Crude	10256	10281	8180	9192	11365
Product	3041	3139	2049	2658	2783
Edible Oil	1421	1212	874	960	1219
Chemicals	123	110	120	130	119
Other Liquid	87	74	45	65	76
<i>Total Liquid Bulk</i>	14928	14816	11268	13005	15562
Container					
Cctl	12649	9332	10404	14095	12730
Citpl	18589	17357	16361	16828	15641
Inner Harbour	25	21	3	2	6
<i>Total Container</i>	31263	26710	26768	30925	28377
Dry Bulk					

Pellets	0	0	33	0	113
Barytes	859	602	380	850	793
Fert. Finished	26	0	135	0	0
Fert. Raw	225	187	202	268	280
Yellow Peas	57	0	0	0	0
Maize	0	0	62	84	32
Dolomite	609	334	142	56	70
Industrial/Salt	44	33	53	45	122
Gypsum	421	235	145	188	347
Limestone	1864	346	1770	73	12
Cobble Stone	157	159	130	202	174
Cem. Clinkers	84	8	0	0	0
Silica Sand	124	111	86	87	152
Clay	6	0	0	0	0
Scrap	34	9	30	106	1088
Laterite	0	0	0	422	0
Other Dry Bulk Cargo	57	80	25	20	6
<i>Total Dry Bulk</i>	4567	2104	3193	2401	3189
Break Bulk					
Granite	290	250	33	78	61
Iron & Steel	1523	2411	1900	1400	984
Cement	0	3	5	15	1
Project Cargo	184	204	155	191	285
Timber And Logs	5	0	0	0	0
Ro-Ro	165	243	175	227	304
Other/Misc	87	18	56	322	186
<i>Total Break Bulk</i>	2254	3129	2324	2233	1821
<i>Grand Total</i>	53012	46759	43553	48564	48949

3.3.21 Proposed cargo handling details in addition to the existing capacities

Products handled	Bulk Cargo	Food grains	Total capacity
	Bunkering oil, Edible oil, Motor Spirit, & Naphtha	Maize, Wheat, & other Food grains	1 MMTPA

3.3.22 Marine disposal: No marine disposal is proposed. Zero Liquid Discharge will be followed. The treated water from STP will be used for non- potable purposes such as flushing washing, greenbelt development or plantation.

3.3.23 IRO, MoEF&CC, Chennai has visited the port and issued the EC and CRZ compliance report vide letter no EP/12.1/2016-17/19/TN/737 dated 21st May, 2014.

3.3.24 R&R issues involved: The proposed development is within the port limits and does

not involved R&R in the present project.

3.3.25 Employment potential: The project will employ on an average of 75-150 workers in different levels during the Construction phase. Benefits of the project: With improvement and development of Chennai port, more economic opportunities would be created for local community. Increase in business activity that consequently would bring better access to social and physical infrastructure. Multilevel Car park reducing out anchorage expenses for vessel operators.

3.3.26 Details of Court cases: No stay orders etc. are pending in any Court against the Proposed Project.

3.3.27 During the EAC, the committee observed the following:

- i. IRO, MoEF&CC, Chennai visited the port and issued the EC and CRZ compliance report vide letter no EP/12.1/2016-17/19/TN/737 dated 21st May, 2014 and noted some partial compliances and non-compliances which need to be complied with immediately

3.3.28 The EAC based on the information submitted and clarifications provided by the project proponent and detailed discussions held on all the issues during 368th meeting during 04th June, 2024, **recommended** the project for grant of environment and CRZ clearance with specific conditions, as mentioned below, in addition to all standard conditions applicable for such projects:

- i. 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.
- ii. All the recommendations and conditions specified by the Tamil Nadu State Coastal Zone Management Authority (TCZMA) vide letter No 12455/EC-3/2022-1, dated 25.07.2022.
- iii. IRO, MoEF&CC, Chennai visited the port and issued the EC and CRZ compliance report vide letter no EP/12.1/2016-17/19/TN/737 dated 21st May, 2014 and noted some partial compliances and non-compliances. All the conditions stipulated in ECs which remained not complied or partially complied shall be complied with within next 6 months and the compliance shall be submitted along with 6 monthly monitoring report.
- iv. The approach road shall be constructed strictly follow the Coastal Regulation Zone Notification shall be carried out in Coastal Regulation Zone area and road should be built on stilts.
- v. Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.

- vi. Necessary approvals be taken during implementation and commissioning from statutory bodies concerned.
- vii. No underwater blasting is permitted.
- viii. 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.
- ix. Cargo handling area shall be provided with the adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- x. Effective and efficient pollution control measures like covered conveyors/stacks (Cement, Limestone, Silica sand Iron/Steel, Laterite, Dolomite, Gypsum and other bulk cargo) with fogging/back filters and water sprinkling commencing from ship unloading to stacking to evacuation shall be undertaken. Coal and iron ore stack yards shall be bounded by thick two tier green belt with proper drains and wind barriers wherever necessary.
- xi. PP shall ensure the loading and unloading process shall not cause any spillage. The water and storm water drains should be built to collect spillage, if any.
- xii. Cargo handling area shall be provided with the adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.
- xiii. Garland drains and collection pits of adequate capacity shall be provided for each stock pile to arrest the runoff in the event of heavy rains and to check the water pollution due to surface run off and disposed only after treatment.
- xiv. Effective safeguard measures, such as regular water sprinkling shall be carried out in critical areas prone to air pollution and having high level of particulate matter such as around loading and unloading point and all transfer points. Extensive water sprinkling shall be carried out on haul roads. It should be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.
- xv. Risk assessment for spill scenarios and Disaster Management Plan as prepared shall be in place in the environment Management cell of the port authority with all SOP's for various scenarios.
- xvi. Spillage of fuel/engine oil and lubricants from the construction site are a source of organic pollution, which impacts marine life, particularly benthos. This shall be

prevented by suitable precautions and also by providing necessary mechanisms to trap the spillage.

- xvii. The project proponent shall install system carryout to Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g. PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the port area at least at four locations (one within and three outside the port area at an angle of 120°each), covering upwind and downwind directions.
- xviii. Appropriate Air Pollution Control (APC) system shall be provided for all the dust generating points including fugitive dust from all vulnerable sources, so as to comply prescribed fugitive emission standards.
- xix. Records of regular dredging shall be maintained with periodic survey data.
- xx. Sediment analysis of harbor at identified locations shall be analyzed and records for past and present period shall be maintained.
- xxi. Sediment concentration should be monitored fortnightly at source and disposal location of dredging while dredging.
- xxii. Periodical study on shoreline changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring report.
- xxiii. All the recommendations mentioned in the Marine ecology report prepared by NIO, Goa shall be implemented and the compliance of the recommendations shall be submitted to the concern IRO, MOEF&CC along with the six monthly EC compliance report.
- xxiv. All the recommendations mentioned in the rapid risk assessment report, disaster management plan and safety guidelines shall be implemented.
- xxv. A continuous monitoring programme covering all the seasons on various aspects of the coastal and marine environs need to be undertaken by a competent organization available in the State or by entrusting to the National Institutes/renowned Universities/accredited Consultant with rich experiences in marine science aspects. Monitoring should include sea weeds, sea grasses, mudflats, sand dunes, fisheries, mangroves and other marine biodiversity components as part of the management plan.
- xxvi. Necessary arrangements for the treatment of the effluents and solid wastes/facilitation of reception facilities under MARPOL must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment

(Protection) Act, 1986. The provisions of Solid Waste Management Rules, 2016. E-Waste Management Rules, 2016, and Plastic Waste Management Rules, 2016 shall be complied with.

- xxvii. As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 30th September, 2020, the project proponent shall abide by all the commitments made by them to address the concerns raised during the public consultation. The project proponent shall initiate the activities proposed by them, based on the commitment made in the public hearing, and incorporate in the Environmental Management Plan and submit to the Ministry. All other activities including pollution control, environmental protection and conservation, R&R, wildlife and forest conservation/protection measures including the NPV, Compensatory Aforestation etc, either proposed by the project proponent based on the social impact assessment and R&R action plan carried out during the preparation of EIA report or prescribed by EAC, shall also be implemented and become part of EMP.

Any Other Item(s) with the permission of the chair. Agenda No. 4

Widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Telangana State. The total Length is 45.5 km in the State of Telangana under NH (O) on Hybrid Annuity Mode by M/s National Highway Authority of India.

Proposal No: IA/TG/INFRA1/457022/2024; File No: 10/78/2023-IA.III.

“The EAC noted that the Project Proponent and the consultant have given undertaking that the data and information given in the application and enclosures are true to the best of their knowledge and belief and no information has been suppressed in EIA/EMP report. If any part of data/information submitted is found to be false/misleading at any stage, the project will be rejected and Environmental Clearance given, if any, will be revoked at the risk and cost of the project proponent.”

3.4.1 M/s NHA vide letter dated 22.06.2024 submitted the EIA report to the Ministry in compliance of the Terms of References and also in compliance with the recommendations of the Sub-Committee site visit report.

3.4.2 The aforementioned proposal was placed before the EAC during its 368th meeting of the Expert Appraisal Committee held on 04th July, 2024. The M/s NHA also submitted the following:

3.4.3 The project proponent along with the EIA consultant M/s Ampl Environ Pvt. Ltd, made a presentation in the Ministry and provided the following information:-

3.4.4 The proposal is for ‘Widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Telangana State. The total Length is 45.5 km in the State of

Telangana under NH (O) on Hybrid Annuity Mode by M/s National Highway Authority of India'. The alignment starts at 17°20'56.61"N 78°21'29.30"E and ends at longitudes of 17°17'53.21"N 77°59'30.74"E.

3.4.5 The Hon'ble National Green Tribunal vide Judgment dated 6th November, 2023 in the matter of Balantrapu Vs. Union of India and NHAI 6th November, 2023 in Original Application No.242 of 2021(SZ) I.A. Nos.17 & 75 of 2023 (SZ) directed as following:

*"62. In the light of the above, we hold that the courts being not experts an Environmental Impact Study in this regard if conducted would have given a better appreciation of the project. While we appreciate the project which is of public interest and the same could not be stopped or put to stand still, considering the rare phenomena of existence of more than 800 numbers of Banyan Trees besides several thousands of other trees, **an Environmental Impact Assessment is suggested and the expansion project of the road may be taken up after the EIA study is conducted.***

63. Accordingly,

- i. *The NHAI (Respondent No.2) is directed to undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.*
- ii. *The MoEF&CC (Respondent No.1) is directed to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months time".*

3.4.6 Accordingly, M/s NHAI on 02/01/2024 submitted the online application on PARIVESH Portal, the proposed project was considered under Schedule 7(f), Highways, Category "A" of EIA Notification 2006. Total estimated civil cost of the project is about Rs. 928.41 Cr.

3.4.7 In compliance of the order of the Hon'ble NGT the proposal was placed in the 353rd EAC meeting held on 10th&12th January, 2024 and recommended for TOR inter alia with the condition that a site visit will also conducted by the EAC-Subcommittee for on-the-spot assessment of the trees being effected by the project and to suggest the means for saving these trees. Subsequently on 28th-30th January, 2024 the subcommittee of the EAC visited the project site and made some recommendations for change in alignment and design of road to save more trees, especially the heritage banyan trees. The Ministry granted the ToR on 17/02/2024 along with the Public Consultation. However, a representation dated 22.04.2024 was received from the NHAI mentioning that the Hon'ble National Green Tribunal vide its Judgment dated 6th November, 2023 directed the NHAI to undertake only Environmental Impact Assessment (EIA) Study specific to minimize the loss to the trees before proceeding further. NGT further directed MoEF&CC to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months time. It has been mentioned by the NHAI that the present proposal, as such, does not falls under the ambit of EIA Notification,

2006, however, it is because of the directions of NGT, an application has been made requesting the Ministry to grant ToR specific to the undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.

3.4.8 In view of the above judgment, NHAI requested the Ministry to exempt the conduct of Public Hearing, since the project does not falls under the ambit of EIA Notification, 2006 and also there is no additional acquisition of land envisaged for the project and the project shall be completed within the same ROW.

3.4.9 The above request was placed in the 363rd EAC meeting held on 25th-26th April, 2024. The EAC, taking into account the submission made by the project proponent after detailed deliberation in its 363rd meeting on 25th-26th April, 2024 accepted the request made by NHAI and exempted the conduct of Public Hearing for the project with an advice to include the recommendations of the subcommittee submitted in its site visit report as additional terms of reference (Report Annexed) for conducting EIA.

3.4.10 Land Use Land Cover of the 500 m Buffer of Proposed Alignment.

S.No.	Classes	Area(Ha)	Percentage (%)
1	Agricultural Land	2978.9	64.0
2	Forest	681.85	14.64
3	Built Up Land	782.66	16.82
4	Water Body	0.13	0.01
5	Road	211.01	4.53
Total		4654.55	100.00

3.4.11 Right of Way (RoW): The Proposed ROW for Forest Area is 30m and in Rural /Urban areas is 45m and in Bypass is 60m.

3.4.12 Terrain and topographical features: The terrain on the project stretch is predominantly plain and rolling. The elevation varies from~585m to~691m above MSL at different locations. Average elevation of the project stretch is ~625 m above MSL.

3.4.13 Details of water bodies, impact on drainage: This project is crossing 2 nallas. Elevated structures are proposed along the water bodies being crossed. Silt fencing is proposed near major canals and pond. 2 minor bridges and 117culverts are proposed to avoid any impact on local hydrology. Cross drainage structures are designed to avoid any compromise on the flow part.

3.4.14 Water requirements: The total demand of water for construction phase shall be about 2000 KLD. The demand of water shall be met through surface sources after obtaining necessary permission.

3.4.15 Diversion of Forestland: Total 42.74 Ha of forestland is required for the project. Stage-II approval has been obtained from the IRO, MoEF&CC vide letter no.4-TSB132/2018-CHN/93 dated 20th October, 2021.

3.4.16 Total 915 Banyan trees are falling within the ROW. NHAI submitted EIA/EMP report to MOEF&CC on 22.06.2024 with modified design of replacing underpass @ Km 26+300 with at-grade junction resulting into savings of 50 nos. of additional Banyan trees. Thus, total 393 nos of Banyan trees retained and 522 nos. proposed to be translocation. Almost 1/4 of the trees are proposed for retention will provide space for heronry and other birds species. The translocated trees will also provide sufficient space in due course of time. In the process, almost 45% of existing trees are proposed to be retained and balance are proposed for translocation and State forest department also allocated the place at Mudimyal reserve Forest. All such trees retained and to be translocated are geo-tagged.

3.4.17 The existing road is passing along the boundary of Murgavani National Park. However, there is no widening proposed along the Murgavani National Park. The project is passing through the ESZ area of Mrugavani National Park. Mrugavani National Park (MNP), notified protected area [Dt. July, 21 1998 under section 35(4) of Wildlife (P) Act, 1972] is located within 1 km radius of project site, where no widening is proposed. Only overlaying of the existing road is proposed in this section of the project. However, in coordination with Forest Department and CWLW, a green belt is proposed to be taken up along the boundary of Chilkur RF planting full. Zoological Survey of India (ZSI), Kolkata was requested to study of Impact on biodiversity with focus on fauna & flora within 10km distance of alignment. Mitigation measures proposed/suggested by ZSI, Kolkata shall be adhere and implemented during the contract period of the project.

3.4.18 Details of Rainwater Harvesting: The rainwater-harvesting chamber shall be placed at every 1000m interval c/c (500m interval in a staggered way) with dimensions of 2 x 2 x 0.75m3 all throughout the project corridor.

3.4.19 Land acquisition and R&R issues involved: About 257.41 ha land has already been acquired for this project. Compensation has been paid to the PAPs as per LARR Act, 2013. The loss of properties and land has already compensated during the land acquisition process.

3.4.20 Employment potential: It is estimated that ~150 direct employees will be required per day during construction of the highway. Further, due to ecosystem which will be created during construction and operations phase of the project, the highway will also create considerable indirect employment opportunities in form of transportation of construction materials, greenbelt development, ancillary facilities like canteens, dhabas, etc.

3.4.21 Benefits of the project: Community will accrue the benefit from proposed development project by way of improvement in the physical infrastructure; social infrastructure; development of economy; reduced pollution, vehicle maintenance, fuel saving, lesser carbon footprint, employment potential and other tangible benefits. The project is a widening and improvement of the existing 2 lane to 4 lane highway with realignment and bypasses of the major settlements. This will avoid traffic congestion and speed-up the freight movement. It is expected that overall, this project will reduce the travel time between these places by half. At present, the connectivity between Hyderabad and Manegudu is either through the existing 2 lane road with hight traffic. This project is expected to reduce the

travel time between Hyderabad to Manegudu by at least 1-hour w.r.t. existing road. Moreover, the new highway facility is access controlled and hence will provide good riding quality, better safety and a reliable infrastructure. All these elements will result in cost savings and efficiency improvement.

3.4.22 Details of Court cases: The matter was challenged before the Hon'ble National Green Tribunal in the matter of Balantrapu Vs. Union of India and NHAI 6th November, 2023 in Original Application No.242 of 2021(SZ) I.A. Nos.17 & 75 of 2023 (SZ), the Hon'ble Tribunal vide Judgment dated 6th November, 2023 disposed of with certain directions, accordingly the NHAI applied in the Ministry for undertaking the EIA study to minimize the loss to the trees before proceeding further.

3.4.23 During the EAC meeting the Committee took note of action taken by the NHAI on the Order of Hon'ble NGT and suggestion made by the EAC and its Sub committee through TOR and laid emphasis on following observations.:

- i. Initially the total 915 old Banyan trees are falling within the ROW out of which 683 were supposed to be effected and 232 trees are proposed to be saved. Thereafter, MoEF&CC has issued the Term of Reference (ToR) letter vide letter dated 17.02.2024, Subsequently EAC Sub committee visited the site during 28th-30th January, 2024 and suggested certain mitigation measures to save the banyan trees.
- ii. As suggested by the EAC, NHAI has explored the options to save additional Banyan trees by increasing and decreasing the median width and submitted EIA/EMP report to MOEF&CC on 22.06.2024 with modified design of replacing underpass @ Km 26+300 with at-grade junction resulting into savings of 50 nos. of additional Banyan trees. Thus, total 393 nos of Banyan trees are retained and 522 nos. of trees are proposed to be translocation.
- iii. The NHAI proposes that translocation will be carried out in consultation with experts and Forest Dept. About 200 trees in the Forest reach shall be translocated in Mudimyal reserve Forest. Almost 1/4 of the trees are proposed for retention will provide space for heronry and other birds species. The translocated trees will also provide sufficient space in due course of time. Most of the trees shall be translocated along the road as sufficient width is available. In the process almost 45% of existing trees are proposed for retained and balance are proposed for translocation. All such trees retained and to be translocated are geo-tagged.
- iv. NHAI has requested Zoological Survey of India (ZSI), Kolkata to conduct a study for assessing the Impact of project on biodiversity with focus on fauna & flora within 10km distance of alignment. And has committed that mitigation measures proposed/suggested by ZSI, Kolkata shall be adhered to and implemented during the contract period of the project.
- v. Wildlife movement during the construction will be monitored by ZSI/forest department and if found necessary additional over/underpasses be developed.

3.4.24 The EAC based on the information submitted and clarifications provided by the project proponent and detailed discussions held on all the issues during this 368th meeting on 04th June, 2024 accepted the EIA Report submitted by the NHAI as per the direction of Hon'ble NGT and in compliance with TOR issued following recommendations.

- i. Translocation of Tree:
 - a) As proposed by the NHAI 522 number of Banyan trees shall be translocated with the reputed tree translocation expert agency in consultation and supervision of the State Forest Department(SFD)/Concerned DFO. Based on detailed Tree translocation Plan prescribed in EIA report shall also include the trees of species other than Banyan trees subject to their suitability for translocation to be decide by the expert agency in consultation with SFD.
 - b) Considering the availability of banyan trees of higher girth classes efforts shall be made to translocate the trees of girth classes higher than 90 CM prescribed in the translocation plan but by way of taking additional precautions like use of higher girth root ball, removal of prop roots and pruning of crown (for maintaining the crown symmetry)
 - c) Based on the Tree Translocation Plan a detailed inventory of individual trees, banyan tree or any other species proposed for translocation shall be prepared. Geotagging for the existing location of the tree and the proposed location shall be done. Photograph and videography for each tree shall be taken and documented and submitted with the 6 monthly compliance report.
 - d) Provisions for maintenance of translocated trees for atleast 7 years shall be made in budget of the translocation plan.
- ii. As proposed by the NHAI all the retained and translocated trees shall be geo tagged including additional 50 Banyan trees proposed to be saved at chainage 26+300 due to replacement of elevated corridor by at grade road . And their survival and growth shall be closely monitored.
- iii. Four nos of elevated road corridors/animal underpasses proposed for possible crossing of wildlife in road stretches passing through Reserve forest area shall be designed as per the specifications/openness Index given WII guidelines for mitigating the impact of linear infrastructures on wildlife and same shall be done in consultation of ZSI who is conducting the impact assessment study.
- iv. ZSI report on assessment of impact of the project on flora and fauna shall be

submitted to the IRO of MoEF&CC and the status of implementation of Biodiversity /Wildlife Management & Conservation Plan shall be submitted to the Regional Office of the Ministry along with 6 monthly compliance report. Conservation and management activities recommended by the Zoological Survey of India (ZSI) for the schedule-I species, if any, and other wild life species shall be implemented at project cost in consultation with the concern state forest department. All the mitigation measures recommended by ZSI and commitments made in the biodiversity Management & Conservation Plan shall be implemented in letter and spirit at the project cost.

- v. Wildlife movement during the construction be monitored by ZSI/forest department and if found necessary additional over/underpasses be developed. Provision for the same shall be made in the project budget and provided to state forest department upon request. Specific budget be provided to ZSI towards the monitoring of animal movement during the construction phase and provide recommendation for additional over/underpasses if necessary.
- vi. Revised road alignment and design shall also be made available to the IRO, MoEFCC for effective monitoring by the IRO
- vii. Tree felling shall be done with prior permission from the concerned Authority.
- viii. In non-forest area where the trees need to be cut/transplanted with prior permission from the concerned local Authority. Plantations to be ensured species (cut) to species (planted). All the plantation will be done by state forest department as deposit work. Trees with heronry (breeding ground for herons, egrets, etc), pelicanary or community nesting of birds like Painted Storks, Ibis, Egrets, Pelican, etc will not be allowed to fell. In case of presence of such, alignment will be required to be changed to save such trees.
- ix. Green belt development (tree plantation) in lieu of the trees being felled in non-forest land should be carried out by the State forest department as deposit work Green belt must be developed using exclusively native species including significant number of ficus trees. No exotic species to be used for the same. A comprehensive plan for plantation shall be prepared in consultation with state forest department (executing agency) including the costs involved. Such compensatory plantation will be over and above the compensatory afforestation to be carried in lieu of the diversion of forest land, if any.
- x. No Ground water shall be extracted and used. Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources.

- xi. Rain water harvesting pit shall be at least 3 - 5 m above the highest ground water table.
- xii. In borrow pits, the depth of the pit shall be regulated such that the sides of the excavation will have a slope not steeper than 1:2, from the edge of the final section of bank. Soil erosion checking measures shall be carried out. Details for borrow area operation and rehabilitation given in EIA report shall be followed.
- xiii. Quarry areas shall be barricaded during mining operations. The abandoned quarry shall be developed as water reservoirs with proper fencing around quarry area.
- xiv. In all the construction sites within 150 m of the nearest habitation, noisy construction work such as crushing, concrete mixing will be stopped during the night time between 10.00 pm to 6.00 am. No noisy construction activities will be permitted around educational institutions/health centers (silence zones) up to a distance of 100 m from the sensitive receptors. All plants and equipment used in construction shall strictly conform to the CPCB/SPCB noise standards.
- xv. Traffic Control Devices/Road Safety Devices/ Roadside Furniture including various types of cautionary, informatory, regulatory as mandatory signboards, road markers, studs, night track cameras etc. shall be provided at appropriate locations all along the project stretch in accordance with the specifications laid down in Manual of Specifications and Standards for Expressways (IRC: SP:99-2013) and IRC:8, IRC:25, IRC:26, IRC:35, IRC:67, IRC:79, IRC:103 and Section 800 of MORTH Specifications.
- xvi. All the major, minor bridges and culverts should not affect the drainage systems. Flood plains of the rivers/ drainage systems are not to be disturbed.
- xvii. Afforestation using compensatory plantation in the ratio of 1:10 shall be carried out by state forest department as deposit work and not by private contractors. Native tree species shall be provided as per the IRC Guidelines on Landscaping and Tree Plantation (IRC: SP:21-2009). Effort should be made to plant native trees and Ficus species on both sides of the alignment. Special attention shall be given for protecting giant trees, and locally important trees (having cultural importance) and should be identified chain-age wise.
- xviii. Project alignment should be managed in such a way to save the Heritage/old trees supposed to be affected by the proposed alignment.

- xix. Proponent shall keep the finish road level sufficiently elevated from ground level with provision of railing on both sides to restrict animal crossing in order to avoid the possibility of wildlife injury/death. Animal underpasses, watch tower, water holes and other mitigation measures proposed shall be constructed in supervision of forest department.
- xx. The NHAI will establish an independent Monitoring Committee comprising of representatives of Forest Department, General District administration to oversee the implementation of the proposed alignment and also translocation of proposed 522 nos of tree and their survivals. The committee must supervise during the translocation of the Banyan trees. Proper documentation including geotagging of the tree shall be maintained and submitted with the 6 monthly compliance report. The committees will review the progress of above work for the above components and advise further on its implementation any other issues deemed necessary by the Committee including grievance redressal of local community. The Committee can co-opt members as and when required for technical support.

The committee shall have the following members:

- i. Representative of the District Collector not below the rank of ADM.
- ii. DFO/DCF Concern or his representative not below the rank of Sub Divisional Forest Officer/ACF.
- iii. Scientist/Officer from IRO, Hyderabad.
- iv. Representative of Telangana Pollution Control Board.
- v. Scientist from the Botanical Survey of India(BSI), Zoological Survey of India (ZSI), Deccan Regional Centre, Hyderabad.
- vi. Representative of M/s NHAI will coordinate the meetings of the committee.

Any Other Item(s) with the permission of the chair. Agenda No.5

Site Visit Report of Sub-Committee, constituted vide MoEF&CC IA III Division's order dated 31/6/2024 For Nagpur-Gondia (Package-I) and Bhandara-Gadchiroli (Package-II) access controlled super communication expressway by M/s MSRDC Proposal No: IA/MH/INFRA1/452396/2023; FileNo:10/72/2023-IA.III.was placed before the Committee.

The EAC has approved the report.

Annexure-A List of the Expert Appraisal Committee (Infra-I) Members participated during 356th Meeting held on 04th July, 2024.

S.no	Name	Designation	4 th July, 2024
1	Shri.Manmohan Singh Negi	Chairman	Present
2	Shri.S.Jeyakrishnan	Member	Present
3	Prof.V.K Jain	Member	Present
4	Dr. Jaya Kumar Seelam	Member	Present
5	Dr.P.K.Dinesh Kumar	Member	Present
6	Shri. PrakashTewari	Member	Present
7	Dr. M.V. Ramana Murthy	Member	Present
8	Dr. B. Kishor	Member	Present
9	Shri. Sharan Deep Singh	Member	Absent
10	Shri Ashok Kumar Patre	Member	Absent
11	Ms.BinduManghat	Member	Absent
12	Dr. Niraj Sharma	Member	Present
13	Shri AmardeepRaju	Member Secretary	Present



Site Visit Report of Sub-Committee, constituted vide MoEF&CC IA III Division's order dated 31/6/2024 For Nagpur-Gondia (Package-I) and Bhandara-Gadchiroli (Package-II) accesscontrolled super communication expressway by M/s MSRDC

List of personnel present during site visit:

EAC Committee Members	1	Shri, Manmohan Singh Negi, Chairman (EAC)
	2	Dr. Niraj Sharma, Member (EAC)
	3	Shri. Prakash Tiwari, Member (EAC)
	4	Dr. Ramesh Anguluri, Representative of MoEF&CC
Project (MSRDC) Proponent	1	Smt. N.S. Ansari, CE
	2	Smt. A. A. Ghuge, SE
	3	Shri. Gajanan Yenkar, EE
	4	Shri. Parag Tarodkar, EE
Department of Forest, Govt. of Maharashtra.	1	Shri.Rahul Gawai, DCF
Wild Life Institute of India	1	Dr. Shaheer Khan
DPR Consultant	1	Shri. Sushil Gaidhane, PM (Monarch Surveyors and Engineers limited)
Environmental Consultant	1	Shri. Pritesh Ghadigaonkar (Enviro Resources)

Site Visit Schedule: 8th to 10th June, 2024

Project Proposals under consideration of the Sub-committee.

1. Proposal for construction of Nagpur-Gondia access controlled super communication expressway package-I including the feeder routes of Gondia and Tiroda, with total length of the proposed expressway of 162.196 km (including the feeder routes Segment-2 and 3) by M/s Maharashtra State Road Development Corporation Limited (MSRDC).
2. Proposal for construction of access controlled super communication expressway Package II from Bhandara to Gadchiroli. (Consisting of Segment 1, 2, 3 & 4 having the length of 24.705 km, 69+500 km, 46.67 km and 1.331 km respectively with total length of 142.312 km by M/s Maharashtra State Road Development Corporation Limited (MSRDC)'

Background

Both the above proposals were considered by the EAC in its 347th meeting independently, wherein after deliberation the committee observed that:

- i. In **both the packages**, the proposed alignments, though not falling in any PA yet they are lying in a landscape-involving network of Protected Areas like Nawegaon-Nagzira TR, Umrer Karhandawala Wild Life Sanctuary (WLS), Bore WLS, Tadoba Andheri Tiger Reserve (TR). And therefore, possible movement of the wildlife between these PAs is more likely.
- ii. **In package I**, Though the proposed alignment in Segment I is passing mostly through non forest areas, except few stretches of forests, yet it is running very close to the Eco Sensitive Zone (ESZ) of Nawegaon- Nagzira Tiger Reserve, especially between the Chainage 82+00 to 100+00 and is likely to disrupt the movement of wild animals. Therefore, realignment and change in design of roads (viz elevated roads/animal underpasses) are required so as to make it eco-friendly.
- iii. **In Package II**, The proposed alignment between Sawarkheda interchange to Gadegaon (Chainage 00+000 to 24+000) is passing through some forest areas and bisecting these forest stretches, which are link between Umrer - Karhandala WLS and Nawegaon - Nagzira TR for a possible animal movement. One existing State Highway no.247 is already passing between these forest stretches. Therefore, creating an additional alignment parallel to this existing road is likely to create more disruption in animal movement. Therefore, realignment by way of using existing highway and change in design of roads viz elevated roads/animal underpasses will be required.
- iv. In the segment 3 of the proposed super communication expressway between Kinhi (Chainage 69+500) to Madya Tukum (Chainage (116+000)), where existing SH 353D is proposed for widening, sufficient provision for elevated corridor/animal underpasses shall be made for facilitating the possible animal/wildlife movement .

Accordingly, the committee had recommended amendment in road alignments, as per details specified in the minutes of the respective proposals and also recommended for visit of the sub-committee once the amendment in the alignment and road designs are made by the PP.

Inspection and Observations of the Subcommittee:

On receipt of the request of the PP, the site visit was made by the Sub-committee from 8th to 10th June, 2024

Package I:

Site visit started at Gavasi interchange at Ch. 0+00 on 8th June, 2024 and also visited following,

1. *Near Chainage 31+700 near Kuhi Village*
2. *Near Chainage 80+800 near Betala village*

3. Near Chainage 86+000 near Mundhri Bk. village

The Sub-committee observed that PP has proposed an alignment away from the ESZ of the Nawegaon-Nagzira Tiger Reserve (NNTR) as was suggested by the EAC. However, PP suggested the sub-committee to visit the DPR alignment originally proposed by them. The subcommittee visited the original DPR alignment to check its suitability and noticed the presence of a small township near the ESZ of NNTR. The proposed alignment is passing between this township and ESZ of the NNTR. It was also observed that a bridge is being proposed over Wainganga River from Ch. 84+700 to Ch. 85+250. The Concerned DCF Sri Rahul Gawai intimated the Sub-committee regarding the movement of wild animals including tigers between Pench TR and NNTR through the forest and non-forest areas of his division, close to the proposed alignment. Therefore, due provisions are to be made for safe animal/wildlife crossings and for avoiding possible human-wildlife conflicts.

The Sub-committee was of the opinion that the presence of high embankment access-controlled road between habitation and ESZ of NNTR may help in reduction in human-wildlife conflict, as well as possibility of expansion of habitation towards NNTR.

Therefore, it is recommended that after the bridge ending at Chainage of 85+250, the alignment shall go on high embankment till Ch. 85+900 with due provisions for animal/wildlife crossing barriers and beyond the chainage 85+900, elevated corridor/s for with appropriate length may be planned in consultation with the WII and concerned DCF (Wildlife). M/s MSRDC categorically agreed with the proposal/suggestion and assured that the same will be followed scrupulously and will be implemented by them in toto.

Recommendations PP may submit the amendments as suggested in observations above.

Package II:

Site visit started at Ch. 5+700 near village Borgaon of Sawarkheda- Gadegaon Connector of Package-II on NH 247 on 9th June, 2024.

The alignment of 24.7 km from Sawarkheda interchange to Dighori Junction is proposed as connectivity to existing NH-53, which is termed as Section 1 of Package II. The existing NH 53 is further connected to Raipur, Chhattisgarh.

Instead of starting Section 2 of Package II from Chainage 16+600, the sub-committee opined that it should be started from Chainage 20+200 which is the connecting point of NH 247 with proposed Package II alignment. The Sub-committee further suggested PP to follow existing NH-247 upto Ch. 5+700. However, M/s MSRDC and DPR Consultant brought to the notice of the Sub-committee that this is an existing NH, which is not in MSRDC ownership. Secondly, the proposed alignment is access-controlled, whereas the NH is not access

controlled and there is variation in design speeds of both the roads/alignments. There are habitations on both the sides of NH. It is also informed that considering the geometry of existing NH, the widening of NH-247 to expressway standards is presently not possible. After inspection and in view of explanation given by PP as above, the Sub-committee agreed with original DPR alignment, subject to the condition that the alignment in entire forest area up to chainage 4+200 shall be designed as elevated road. Road design along with other mitigation measures shall be planned in consultation with the WII and concerned DCF. M/s MSRDC assured that the same will be followed scrupulously and will be implemented in toto by them.

Site visit was also carried out for original DPR alignment and the alignment modified as per suggestions of EAC in 347th meeting. The PP informed that the alignment modified as per EAC minutes as well as other roads in the vicinity comes under submergence area of Gosekhurd reservoir. Gosekhurd reservoir is a major dam of Vidarbha region and is having large catchment area. The submergence area of this reservoir is very large and it encompasses specifically Nerla and Adyal villages (as per the list of submerged villages provided by the DPR consultant) coming on new suggested alignment as per the EAC minutes. Hence, the DPR alignment was also visited by the Sub-committee. The Sub-committee noticed that vegetation of the area through which this new alignment is proposed as per EAC suggestions does not hint at any possible submergence. More over, as per the information furnished by the participating officers, the existing road has never been under submergence till date. On inspection of DPR alignment, it was noticed that alignment is passing through a pristine forest catchment, segregating the catchment from the large water body at the base of it. The water body was seen being used by the animals, mostly cattle and therefore could certainly be a source of water for wild animals as well. Therefore, DPR alignment will be more damaging to the water catchment area.

Therefore, the Sub-committee was of the opinion that PP shall stick to the alignment proposed as per suggestions of the EAC. In case the PP does not agree with opinion of the subcommittee they may come up with convincing documentary evidences in support of their contention that alignment proposed as per suggestions of the EAC will be submerged.

M/s MSR.DC officials informed the sub-committee during the site visit that the section beyond Ch. 69+400 (i.e. between Ch. 69+400 to the end of alignment, having Ch. 116+171 - admeasuring 46.771 km) is following existing NH 353C. However, it is confirmed that the NH (PWD) has taken up the work of upgradation from Armori to Gadchiroli. Hence, this length is deleted from DPR Package-II by M/s MSRDC - The PP was requested to submit the document from PWD (NH) division in support of their intention to exclude the stretch of the project beyond 69+400 from the project. The PP has submitted the letter of PWD (NH) Division of Maharashtra Government, vide their letter dated 28/6/2024.

Recommendations for Package II:

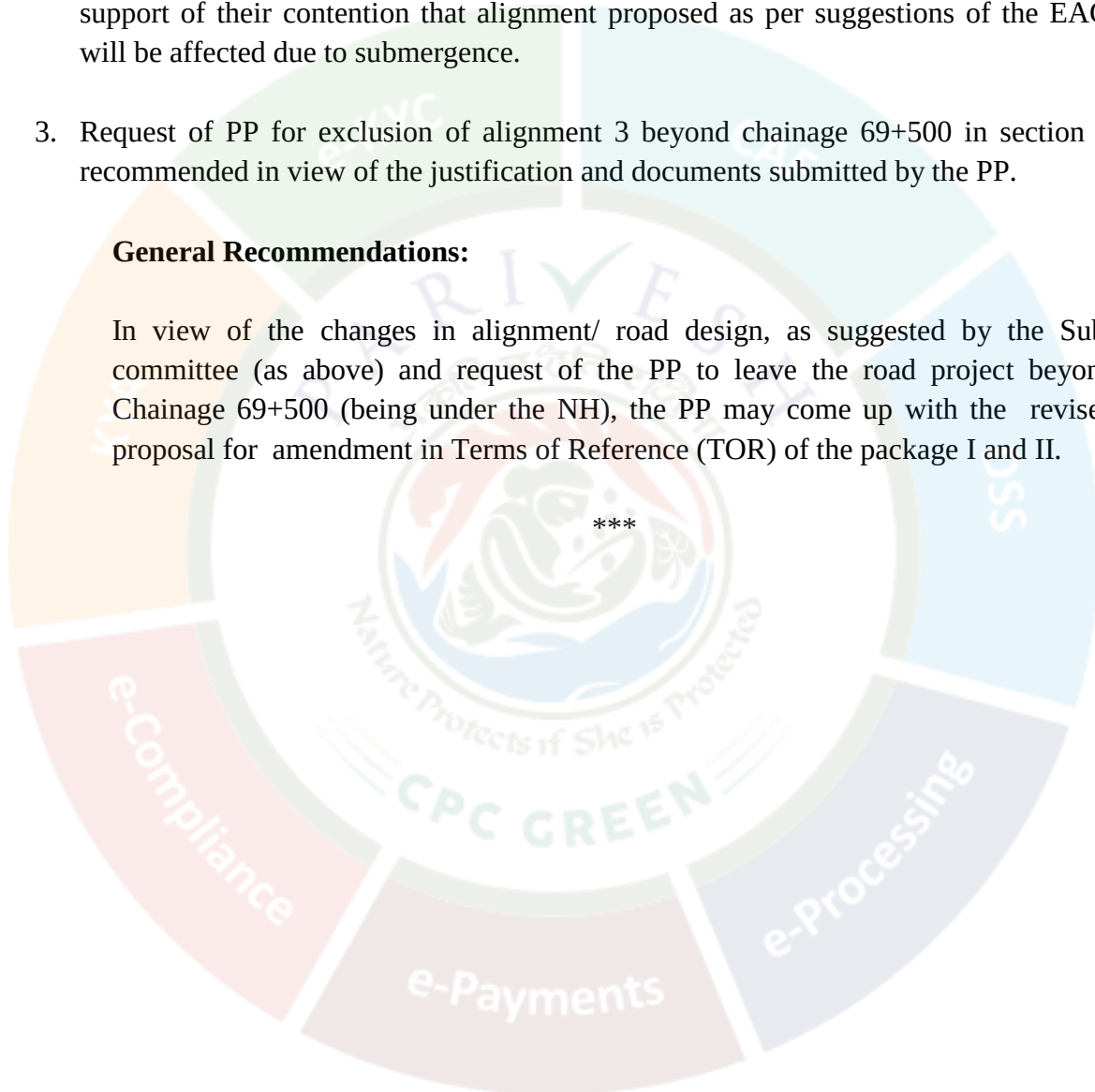
1. Sub-committee agrees with the original DPR alignment up to Chainage 5+700 in

section 2, provided PP submits the justification along with the documentary evidence(s) that it is not possible to use the existing NH 247 and alignment will be elevated corridor over entire forest area.

2. The alignment between chainage 5+700 to 24+000 in Segment 2 proposed by the PP on the suggestion of the EAC and presented before the sub-committee during site visit should be adhered to. In case the PP does not agree with recommendation of the subcommittee, they may come up with convincing documentary evidence(s) in support of their contention that alignment proposed as per suggestions of the EAC, will be affected due to submergence.
3. Request of PP for exclusion of alignment 3 beyond chainage 69+500 in section is recommended in view of the justification and documents submitted by the PP.

General Recommendations:

In view of the changes in alignment/ road design, as suggested by the Subcommittee (as above) and request of the PP to leave the road project beyond Chainage 69+500 (being under the NH), the PP may come up with the revised proposal for amendment in Terms of Reference (TOR) of the package I and II.



Report of the Sub-Committee for the project of “Widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Telangana State. The total Length is 45.5 km in the State of Telangana under NH(O) on Hybrid Annuity Mode by M/s National Highway Authority of India”. Proposal No: IA/TG/INFRA1/457022/2024

Background

The project is for widening and improvement of the NH-163 starts from Hyderabad [ORR near Appa Junction at design km.14+000 and end at near Mannegudda (design km.60+405) in Telangana State. The total Length is 45.5 km in the State of Telangana under NH(O) on Hybrid Annuity Mode by M/s National Highway Authority of India.

The Hon'ble National Green Tribunal Judgment dated 6th November, 2023 in the matter of Tejah Balantrapu_Vs. Union of India and NHA1 6th November, 2023 in Original Application No.242 of 2021(SZ) I.A. Nos.17 & 75 of 2023 (SZ) directed as following:

- (i) *The NHA1 (Respondent No.2) is directed to undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further.*
- (ii) *The MoEF&CC (Respondent No.1) is directed to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months time.*

Accordingly, the M/s NHA1 on 02/01/2024 submitted the online application on PARIVESH Portal. The proposal was considered in the 353rd EAC meeting held on 10th & 12th January, 2024.

As directed by the Hon'ble NGT, the proposed project considered under Schedule 7(f), Highways, Category “A” of EIA Notification 2006.

Total 42.74 Ha of forest land is required for the project. Stage-II approval has been obtained from the Sub-Office, Hyderabad, MoEF&CC vide letter no.4-TSB132/2018-CHN/93 dated 20th October, 2021.

The existing road is passing through along the boundary of Murgavani National Park. However, there is no widening proposed along the Murgavani National Park. The project is passing through the ESZ area of Mrugavani National Park. However, there is no widening proposed along the boundary of Murgavani National Park.

During the EAC, the Committee observed the following:

- (i) *During the meeting PP mentioned that about 759 Banyan trees existing on either side of the road and as far as the alignment and realignment is concerned, it was decided to lay the road in such a manner on account of the eccentric laying where ever possible to save the trees and this has now resulted in saving 209 number of trees.*
- (ii) *The Committee also observed that the alignment seems to be passing through ESZ of Mrugavani National Park and forest area.*

- (iii) *Alignment in forest area has already been examined by the competent authority in state forest department and MoEF&CC in the process of granting Forest Clearance*
- (iv) *Committee also desired to know the complete alignment and understand the issue comprehensively since expansion of existing road(s) in will be influencing cutting of large no of trees as well as passing through forest area.*
- (v) *The EAC was of the opinion that after seeing the presentation prima facie there is some more scope for saving the trees, especially banyan trees*
- (vi) *The Committee opined that Banyan tree can be translocate and having the very good survival rate.*
- (vii) *Considering the sensitive nature of the alignment a sub-committee will make a site visit before finalisation of the EIA/EMP report. The alignment shall be finalized once the site visit report is submitted.*

Site Visit and Brief of Project.

Accordingly, a site visit by the Sub-committee was conducted on 28th -30th January, 2024 for the proposed project. Project Director, NHAI inter-alia presented a brief on the project to the sub-Committee as following.

- i. The project does not fall under the category of (i) New National Highways; and (ii) Expansion of National Highways greater than 100 km involving additional right of way or land acquisition greater than 40m on existing alignment and 60 m on re-alignment or by-passes, therefore the project does not fall under the ambit of EIA Notification, 2006 as amended, however, as per the directions of Hon'ble NGT in the Original Application No.242 of 2021(SZ) I.A. Nos.17 & 75 of 2023 (SZ) directed the NHAI to undertake an Environmental Impact Assessment (EIA) Study to minimize the loss to the trees before proceeding further. NGT further directed the MoEF&CC to issue the Terms of Reference (ToR) at the earliest and complete the process in 4 (Four) months time.
- ii. NHAI has awarded the project and issued LOA to Concessionaire on 17.03.2022; Accordingly, Concessionaire has also mobilised on site.
- iii. 42.74 ha Forest land is required for the proposed project. Forest Clearance (Stage-II) has been obtained from Sub-Office, Hyderabad, MoEF&CC.
- iv. Out of total 915 Banyan trees, 683 are effecting due to this project. NHAI has saved 232 trees with modification within the existing alignment.
- v. Approx. 257.41 ha. land was acquired for the proposed project.
- vi. The project will result in a shorter distance to travel between Hyderabad to Mannegudda.
- vii. The project will reduce the accidents, traffic congestion on existing road and also reduce the overall greenhouse gas emissions.
- viii. The proposed project will reduce travel time about 2 hrs b/w Hyderabad to Mannegudda.
- ix. During the site visit, PP made a presentation before the sub-committee and presented the existing alignment, proposed alignment and the number of trees they could able to save

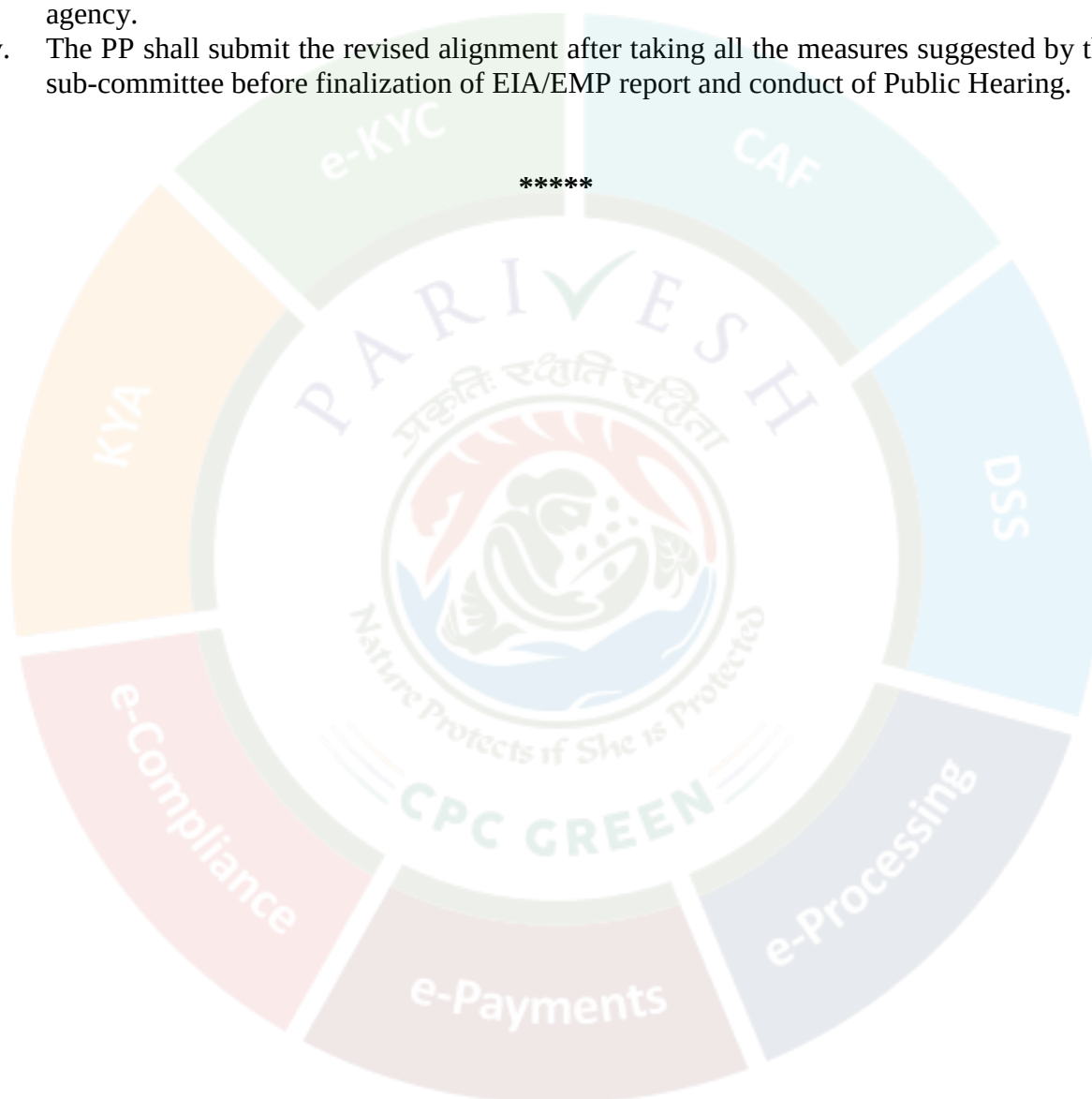
due to change in alignment, bypass and other methods.

- x. The entire stretch of the road was travelled by the sub-committee to see the existing alignment of the road vis-à-vis the alignment proposed by the PP which was presented by the PP during EAC meeting seeking grant of ToR.

Observations and recommendations of the Sub committee

- i. It was observed that total 42.74 ha Forest land is required for the proposed project. Forest Clearance (Stage-II) has been obtained from Sub-Office, Hyderabad MoEF&CC.
- ii. There are tree avenues of many species but mainly of banyan trees, which appears to be planted in distant past.
- iii. Out of total 915 Banyan trees, 683 are effecting due to this project. NHAI has shown that they can able to save 232 trees out of 915 Banyan trees with modification within the existing alignment. The Sub-Committee has also discussed the report submitted by the Committee constituted as per the Directions of NGT (SZ) Chennai dated May 24, 2023 in the Original Application No. 242 of 2021 titled Tejah Balantrapu_Vs. Union of India.
- iv. It has been observed that the median width has been kept as 5 meters throughout. It was observed by the sub-committee that there is no requirement of keeping median as 5 meters throughout. The median with can be kept as low as 1 meters as per the requirement to save more trees. For this IRC guidelines may be referred.
- v. The sub-committee expressed that the NHAI need to explore the possibility to keep banyan trees in the centre by increasing / decreasing the median width as per the IRC standards.
- vi. The sub-committee observed that the 18 no. of VUPs/LVUPs are provided for the safety of the road users as these locations are the identified Blackspots/Accident spots.
- vii. Road safety audit by any competent organization at all stages to ensure that the project road has been constructed considering all the elements of road safety.
- viii. The Sub-Committee opined that the Banyan trees which could not be saved at all even after increasing / decreasing the median width can be translocated to the nearest place so that survival percentage will be more.
- ix. At most of the places there are sporadic trees of banyan. But at many places including Chainage from 25+051 to 30+ 850 have thick and continuous very old banyan tree avenues which no doubt has heritage value. Attempt shall be made to save these trees.
- x. Attempt should be made for extending the by-pass road proposed at chainage 25+051 to 30+830 or changing the road design by way of increasing length and height of overpass proposed at intersection of existing alignment and bypass so that thick and continuous avenue of banyan trees falling in that patch can be fully saved. Similar attempt shall be made in other stretches of road wherever thick and continuous Banyan trees avenues are there.
- xi. In non-forest area road carriageway alignment shall be modified in such a way that thick and continuous banyan tree avenues either fall on either of the side or in median and wherever required, the PP shall explore the possibility of acquiring additional land on either of the side of the proposed alignment so that possibility to keep banyan trees in the centre increases and less no of trees need to be translocated.
- xii. It was observed by the sub-committee that service roads have been provided on either side of the highway. However, it was observed that there are certain patches where service roads are not at all required as those patches have least population or settlements. Due to reducing the requirement of service road, many banyan trees can be saved from cutting. Therefore, as far as possible, the requirement of service roads need to be re-ascertained and only service road for the required length shall be provided.

- xiii. Attempt shall be made that median proposed for the patch of the alignment of the road passing through the forest area is kept at the minimum so that the ROW in the forest area can be kept minimum or wild animal underpasses/elevated roads are proposed in forest area as per provisions of the WII guidelines in consultation with concerned DFO or circle head with due provisions for guiding rails/ fencing on both side of road for facilitating the possible movement of wild animals in forest area and avoiding the road kill.
- xiv. District Forest Officer of the State Forest Department and Botanical Survey of India, Deccan Office, Hyderabad to identify and assess the health condition of banyan trees and supervise the translocation of the banyan trees to suitable site through tree translocation agency.
- xv. The PP shall submit the revised alignment after taking all the measures suggested by the sub-committee before finalization of EIA/EMP report and conduct of Public Hearing.



Annexure -A:

An EAC sub-committee of MoEF&CC, New Delhi members participated in the site visit of Hyderabad to Mannegudda Section of NH-163, Telangana.

S. No.	Name	Designation
1.	Shri. Manmohan Singh Negi	Chairman, EAC
2.	Shri. Neeraj Sharma	Member, EAC
3.	Shri. Amardeep Raju	Member Secretary EAC
4.	Shri. Tarun Kadukuntla	Sub-Office, Hyderabad, MoEFCC

The following are the members from NHAI-PIU, Hyderabad, Telangana and Env. Consultants side were present:

S. No.	Name	Designation
1.	Shri. P. Nageswara Rao	Project Director, PIU-Hyderabad
2.	Shr. Alok Kumar	GM (Environment), NHAI HQ, New Delhi
3.	Shri. Radhe Shyam Saini	Manager (T) NHAI PIU-Hyderabad
4.	Shri. Navneet Kumar	Environment Consultant
5.	Shri. Subramanyam Adapa	Environment Consultant

The following External Professionals representing NHAI were also present and undertook the site visit:

S. No.	Name	Designation
1.	Dr. Nagin Nanda	Advisor (Environment), NHAI-HQ, New Delhi
2.	Shri. K. S Reddy	Jt. Advisor (Env. & Plantation), NHAI, RO-Hyderabad

Annexure B: Project Map & Site Photographs



