Minutes of the 239th meeting of Expert Appraisal Committee held on 29-30 July, 2020 through Video Conferencing for Projects related to Infrastructure Development, Industrial Estate/Parks/Complexes/Areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways

Following members were present in the meeting:

(i) Dr. Deepak Arun Apte - Chairman
(ii) Shri S. Jeyakrishnan - Member
(iii) Shri Manmohan Singh Negi - Member
(iv) Shri Sham Wagh - Member
(v) Shri Prof. Mukesh Khare - Member
(vi) Shri Prof. Ashok Kumar Pachauri - Member
(vii) Dr. M. Hota - Member
(viii) Dr. V.K Jain - Member
(ix) Shri R Debroy - Member
(x) Shri Raghu Kumar Kodali - Member Secretary
(xi) Dr. Ashish Kumar - Joint Director, MoEF&CC

Dr. Anuradha Shukla and Dr. Ramana Murthy could not join due to NIC connectivity issue.

1. OPENING REMARKS OF THE CHAIRMAN

2. CONFIRMATION OF THE MINUTES OF THE LAST MEETING:

The Committee confirmed the Minutes of 237th EAC meeting with a suggestion that if any typographical error is noticed in due course of time, it will be corrected suitably.

3. Consideration of Proposals:

Sl. No.	Proposal
3.1	**Development of Visakhapatnam-Kakinada for Establishment of Petroleum, Chemicals and Petrochemicals Investment Region (VK-PCPIR) at Andhra Pradesh by M/s Visakhapatnam Kakinada Petroleum, Chemical & Petro-chemical Investment Region Special Development Authority – Terms of Reference** **[Proposal No.: IA/AP/NCP/137376/2020] [File No.: 21-44/2020-IA.III]**
3.1.1	The project proponent along with the EIA consultant M/s Environment Protection Training and Research Institute (EPTRI), Hyderabad, made a presentation through Video Conferencing and provided the following information: (i) **Brief description of the Proposal:** VK-PCPIR is new project that spreads over a long stretch of 140 km covering an area of 640 sq. km (64000 ha) and encompasses 97 revenue villages across 7 mandals of Visakhapatnam District and 3 mandals of East Godavari District. The VK-PCPIR is divided into three zones: (a) Visakhapatnam Zone (North Zone), (b) Nakkapalli Zone (Central Zone) and (c) Kakinada Zone (South Zone). (ii) The Ministry, vide letter no. 21-8/2011-IA.IIIdated 16th July, 2014, granted Terms of Reference (ToR) to a similar project for 'Development of

	Visakhapatnam-Kakinada Corridor for the Establishment of Petroleum, Chemicals and Petrochemicals Investment Region (VK-PCPIR), Andhra Pradesh by M/s VK-PCPIR Special Development Authority [Proposal No. IA/AP/NCP/708/2010 and File No. 21-8/2011] (iii) The proposed VKPCPIR is an interlinked project with Visakhapatnam Chennai Industrial Corridor (VCIC). VCIC is divided into four nodes. Out of the four nodes, Visakhapatnam node of VCIC is part of VK-PCPIR. (iv) **Address of project site (Plot No./ Village/ Tehsil/ District/State):** Plot/Survey/Khasra No. Villages: 97 revenue villages Mandals: 10 Mandals - 7 Mandals in Visakhapatnam and 3 mandals in East Godavari. Districts: Visakhapatnam and East Godavari State: Andhra Pradesh. (v) **Geo-coordinates of project site:** VK-PCPIR falls in the geographical area with following coordinates: • Northern side left corner at 83°15'56.198"E, 17°42'01.897"N, • Right corner 82°14'23.959"E, 17°41'30.536"N while • Southern side left corner at 82°15'38.213"E, 16°59'01.055"N and • Right corner at 83°13'52.973"E 16°58'30.991"N. (vi) **Site alternatives under consideration:** No. The strategic location of VK-PCPIR between Visakhapatnam and Kakinada on the eastern coast of India makes it a highly desirable place for petroleum, petro-chemical, metals, fertilizers, and other related downstream industries. Hence, No, Alternative site was identified for VK-PCPIR project. (vii) **Connectivity to the site:** The project area is well connected by road, rail, air and sea ports. **Roadway:** It is on the 'Golden Quadrilateral' with the NH-16 connecting it to Kolkata in the North and Chennai in the South. Many State Highways and port connector roads are connected to this National Highway. There are three National Highways in the vicinity of PCPIR. State Highways (SH) and Major District Roads (MDR) act as arterial roads to access the National Highways and the other transport nodes such as rail and ports. **Railway:** The Chennai - Howrah main line of Indian railways traverses close to the VK-PCPIR with rail sidings to Visakhapatnam Port, Gangavarm Port, Kakinada Port, NTPC and Visakhapatnam Steel Plant. VK-PCPIR at Kakinada is served by a broad-gauge loop line connecting Kakinada Port and the main rail line at Samalkota. **Air ports:** Air connectivity to the PCPIR is through airports at Visakhapatnam and Rajahmundry. The airport in Visakhapatnam is a naval base airport while the Rajahmundry airport is a civilian airport. The majority of the traffic from these airports is passenger traffic. The airport in Visakhapatnam is 7 km from city on NH-5. The airport in Rajahmundry is 18 km to north of Rajahmundry City on SH-16 leading to Gokavaram. **Seaports:** VK-PCPIR has the advantage of being served by three major ports of Visakhapatnam, Gangavaram, and Kakinada port. (viii) **Investment/Cost of the project:** Capital investment for VK-PCPIR up to 2031 is estimated as Rs 19,159.00 Crores. (ix) **Item of Schedule to the EIA Notification, 2006:** As per the EIA Notification, Petroleum, Chemical and Petrochemical Investment Region (PCPIR) project is an Industrial Estate (IE) mainly concentrating on petroleum-based industries and categorized as 7 (c) in the Schedule under 'Category A'.

(x) **Applicability of General/Specific Conditions as per EIA Notification, 2006:** General Condition: Yes. Critically polluted areas as notified by the Central Pollution Control Board (CPCB) from time to time.

(xi) **Whether project involves any violation under notification S.O 804(E) dated 14.03.2017:** Individual projects existing within the PCPIR area have obtained Environmental Clearance before commencing of the project. Hence the project does not involve any violation under notification S.O 804(E) dated 14.03.2017.

(xii) **Landuse/Landcover of project site in tabular form:**

S.No	Land Use	Existing Land Use	Percentage of Area %	Proposed Land Use	Percentage of Area %
1	Residential	3471.23	5.42	7794.37	12.18
2	Commercial	117.81	0.18	243.25	0.38
3	Industrial	24121.28	37.69	26211.93	40.96
4	Public and Semi public	213.09	0.33	568.28	0.89
5	Recreational	684.46	1.07	1079.97	1.69
6	Public Utilities & Facility	377.53	0.59	414.14	0.65
7	Mixed Land Use	11.09	0.02	1481.99	2.32
8	Agriculture	24765.16	38.70	13553.13	21.18
9	Transportation	1954.35	3.05	4867.4	7.61
10	Forest	1224.15	1.91	1224.15	1.91
11	Water Bodies	3790.25	5.92	3790.25	5.92
12	Wastelands	3269.61	5.11	2771.13	4.33
	Total	**64000**	**100**	**64000**	**100**

(xiii) **Landuse/Landcover around 10 km radius of project site:**

Land use Class	Area in Sq km	Area in %	Remark
Built Up land-Residential	25.63	4	LULC is based on the 2012 and 2013 Satellite imagery
Built Up land-Industrial	76.09	11.89	
Layouts	7.88	1.23	
Double Crop	90.51	14.14	
Single Crop	15.17	2.37	
Agriculture Plantation	280.43	43.82	
Pisciculture	9.15	1.43	
Fallow Land	16.69	2.61	
Dense/Closed Forest	6.13	0.96	
Open/Degraded Forest	8.11	1.27	
Scrub Forest	2.37	0.37	
Forest Plantation	4.12	0.64	
Gullied Land	2.58	0.4	
Scrub	20.92	3.26	
Land with or without Scrub	26.89	4.2	
Quarry/Quarry dump	0.08	0.01	
Salt affected Land	2.28	0.36	
Salt Pans	9.68	1.51	

Marshy/Swampy Area	9.78	1.53	
Mud Flats	0.07	0.01	
Lake/Reservoir/Tank	15.95	2.49	
River/Canal/Drain/Creek	7.14	1.12	
Sandy Area	2.36	0.37	
Total Area	**640.00**	**100**	

Latest LULC will be presented at the time of EIA report.

(xiv) **List to industries to be housed with the proposed project site, only for projects covered under 7(c) category of EIA Notification, 2006: Processing Area**: The Processing Area of 275.3 sq.km includes the following:

Manufacturing areas including Industrial estates/area, SEZs, FTZs, EPZs, Power Plants, Other large and mega industrial complexes and Industrial R&D Institutions; and

Logistics facilities including landward side of the major and minor ports, airports, container terminals, truck terminals, logistic hubs and warehousing areas, service corridors and utilities including Expressways, Railways and Utility Corridors.

Non-Processing Area: The balance Non-Processing Area of 364.70 sq.km includes the following:

Residential areas such as planned townships, village settlements and expansion areas

Institutional areas including knowledge hubs;

Public and semi-public facilities, tourism and recreational areas and other support social infrastructure;

Connectivity infrastructure and any other support requirements for the Processing Area and Non Processing Area; and Other areas including hills, forests, water bodies, marshy lands, agriculture, plantation, wastelands, saltpans, aquaculture areas, etc

(xv) **Terrain and topographical features:** Visakhapatnam and East Godavari districts exhibit the characteristics of tropical climate. It has primarily tropical rainy to sub-humid type of climate. Temperature is moderately less along the coast due to sea breeze than the inner plains. It gets drier and warmer towards the interiors and cools down in the hilly areas of the Eastern Ghats. Temperature ranges from a mean minimum of 17.5^0C in January in Visakhapatnam district and 20^0C in East Godavari District. The temperature rises steadily till May recording a mean maximum of 35^0C in Visakhapatnam District and 37.6^0C in East Godavari District. April to June is the hottest time of the year made unpleasant with extreme humidity. However, the hilly regions are spared the extreme temperatures with average of about 20^0C. During peak winters the temperature can go down to as low as 5^0C.

Hence, VK-PCPIR experiences an average temperature of 35^0C in the summers and around 20^0C in the winters. The upper reaches have 2 to 3 degrees less temperature than the plains. Summer months are coupled with high humidity levels averaging about 70% to 80% in the warmer and hotter months which rises up to 90% in the monsoons. Winters are comfortable due

		to less humidity and comparatively lower temperatures.
	(xvi)	**Details of water bodies, impact on drainage, if any:** The area under water bodies in proposed Master Plan is 3790.25 ha contributing 5.92% to the total VK-PCPIR region. 60.2% of water bodies are in Visakhapatnam zone followed by 24.1% in Nakkapalli and 15.6 % from Kakinada zone where most of the area comes under water bodies which forms part of the non-urban use. The natural drainage network arising from the topography of the region has been taken into account while designing these spaces to circumvent any alteration in the natural drainage.
	(xvii)	**Water requirements, sources (during construction and operation phases) and NOC:** The cumulative demand water for industrial, domestic purposes and fire demand including UFW is estimated to be 1814 MLD by 2031. Since water supply systems have to be designed for 30 years duration, the demand has also been worked out for the year 2041. As the industrial area delineated in PCPIR shall be fully grown by the plan horizon year 2031, there shall be no increase in industrial water demand. But domestic demand shall increase due to natural growth in population in the area. Accordingly, the total water demand for the year 2041 is worked out 1823.90 MLD. **Sources:** Yeleru Canal and other sources that supply to Visakhapatnam city, Trunk water supply system identifies treated water from GVMC and Polavaram canal for Visakhapatnam zone, Polavaram canal and Godavari for Nakkapalli zone, Godavari and Samalkota canal for Kakinada zone. Water supply network including treatment system provided for new industrial clusters viz. APSEZ expansion, Nakkapalli and Payakaropeta industrial clusters.
	(xviii)	**Groundwater extraction/usage and NOC/Clearance from CGWA/State Ground Water Department:** No groundwater extraction is envisaged for the project. However, some of the industries which require groundwater are obtaining NOC/ Clearance from CGWA/State Ground Water Department during Environmental Clearance. **Sources:** Yeleru Canal and other sources that supply to Visakhapatnam city, Trunk water supply system identifies treated water from GVMC and Polavaram canal for Visakhapatnam zone, Polavaram canal and Godavari for Nakkapalli zone, Godavari and Samalkota canal for Kakinada zone. Water supply network including treatment system provided for new industrial clusters viz. APSEZ expansion, Nakkapalli and Payakaropeta industrial clusters.
	(xix)	**Whether the project is in Critically Polluted area:** General Condition: Yes. Visakhapatnam area is in Critically polluted areas as notified by the Central Pollution Control Board (CPCB) from time to time.
	(xx)	**Tree cutting, types, numbers, girth size etc.:** Detailed study will be carried out during EIA study.
	(xxi)	**Whether the project involves diversion of forest land:** No. The VK-PCPIR, as a whole, has five Reserved Forests with a total area of 1218 hectares. They account for 2% of the total geographical area of VK-PCPIR. They are protected as per Forest (Conservation) Act, 1980. All are located within Vishakhapatnam PCPIR Zone. They include, Panchadarla RF,

Dopperla RF, Nadupuru RF, Rambilli RF and Pudimadaka RF. These areas are proposed as “protected zones/no intervention areas”.

(xxii) **Whether the project is located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc.:** Yes, Coringa Wildlife sanctuary is within 9.5 km from the project area and Kondakarla Bird Sanctuary within the project. The area occupied by water bodies is 3790.25 ha and wetlands is 887.51 ha. A width of 100 m on either side of water bodies and wet lands will be designated as “No intervention area” in VK-PCPIR.

(xxiii) **Whether the project is located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC:** No.

(xxiv) **CETP: Provide details type and quantity of effluent, effluent conveyance system from the member units to CETP with CETP’s Capacity.:** The total wastewater generated from the project area is about 230 MLD out of which about 168 MLD is generated from the industries and the balance flow of 62 MLD is generated from the residential area.

CETP For Existing and Proposed Industrial Areas

Common effluent treatment Plants	**MLD**
Pyakaraopeta industrial cluster	27
Nakkaplli industrial cluster	35
APSEZ and APSEZ Expansion	66
Pudi industrial cluster	10
Parawada industrial cluster	8
Duppituru industrial cluster	2
Krishnapalem industrial cluster	8
Thammavaram industrial cluster	3
Vakalpudi industrial cluster	11
Total	**170**

(xxv) **STP: Provide details of treatment and usage of treated sewage with STP’s capacity.:** The total water requirement for the project till 2031 is 1814 MLD. Out of this, Domestic water requirement till 2031 is 130.57 MLD. The forecast population for the year 2041 has been worked out as 11,92,000 persons. Accordingly, the total water demand for the year 2041 is worked out 1823.90 MLD. The wastewater generated is 62 MLD from the residential area.

STP For Existing and Proposed Industrial Areas

Sewerage network System	**MLD**
K Residential Township	6
Payakaraopeta Residential Township	5
Nakkapalli Residential Township	6
Atchutapuram Residential Township	32
Paravada Residential Township	13
Total	**62**

(xxvi) **R&R issues involved, if any:** Considering this, GoAP has given two GOs regarding land acquisitions which states that land losers are not entitled to ask the reference to Land Acquisition and R&R Authority, under section 64 of

	the A.P Right to Fair Compensation and Transparency in Land acquisition and R&R Act, 2013. The two Go's are: • G.O Ms.No.160 dated 13.11.2017 in which land acquisition for Pudi, Krishnapalem, Gorapudi, Lalamkoduru, Z.Chinthuvu & Pudimadaka villages of Rambilli & Atchutapuram Mandals in Visakhaptnam District was paid compensation of Rs.20.00 lakhs per acre for patta lands excluding the value of trees & structures (as per Sec 24 (a) New LARR Act 2013). • G.O Ms.No.160 dated 16.11.2016 in which Chandanada, Rajayyapeta, D.L.Puram and Vempadu villages in Nakkapalli Mandal of Visakhapatnam District, was paid compensation of Rs.18.00 lakhs per acre under the provision of Rule-28A of A.P Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Rules, 2014. **Existing rehabilitation Colonies:** Visakhapatnam steel plant rehabilitation colonies have been developed at Dibbapalem, Vadlapudi, Aganampudi, Duvvada, Pedagantyada, Gangavaram. The Pharma city rehabilitation colonies are in the areas of Parawada and Tadi. Rehabilitation colony of APSEZ has been developed in Atchutapuram mandal. Rehabilitation colony for the displaced persons of KSEZ has been developed in U.Kothapalli mandal. Many rehabilitation townships were developed for the displaced persons due to development of Steel Plant in Dibbapalem, Vadlapudi and Gajuwaka. (xxvii) **Employment potential, No. of people to be employed:** Total employment generated is 6.4 lakhs by 2031. Out of which 3 lakhs from Visakhapatnam Zone, 2.3 lakhs from Kakinada zone and 1.1 lakhs from Nakkapalli. (xxviii) **Benefits of the project:** The green spaces in the project site will serve as buffer to the industrial activities at VK-PCPIR and mitigation measures will be followed to protect the environment in and around the project site. The project shall bring in major investments to the region covering a wide range of sectors – connectivity, industry, social infrastructure. The project will bring in 2,58,481 and 3,11,533 of direct and indirect employment respectively and potential employment opportunity for the youth in VK-PCPIR. Additionally, the induced development due to PCPIR is definitely bound to bring in more benefits to the local population and to the overall region. The proposed project will therefore immensely add to the social-economic value of the region. (xxix) **Details of Court cases, if any:** No.
3.1.2	The EAC, after detailed deliberations during 239th EAC meeting held on 29th July, 2020, has observed that proposed project spreads over a long stretch of 140 km covering an area of 64,000 ha of 97 revenue villages in two districts of Andhra Pradesh. It encompasses five reserved forests (1218 ha), Coringa Wildlife Sanctuary, Kondakarla Bird Sanctuary, important wetlands (4678 ha), existing industrial infrastructure and huge non-processing area (36,470 ha). The proposed PCPIR is planned to be developed in three separate nodes that are distantly located at the distance of 25-100 km from each other. There is no clarity on the proposal, what type of industries to be proposed in PCPIR.

<table>
<tr><td></td><td>In view of this, the EAC has advised project proponent to apply for separate environmental clearances of these three nodes after excluding the reserved forests, sanctuaries, wetlands and non-processing areas, which do not require environmental clearance.

In view of this, EAC returned the proposal in its present form.</td></tr>
<tr><td>3.2</td><td>Construction of 6-lane highways from Chittoor to Thatchur NH-716B (Km 0.000 to 126.550) from District Chittoor, Andhra Pradesh to Thatchur, District Tiruvallur, Tamil Nadu by M/s National Highways Authority of India - Environmental Clearance

[Proposal No.: IA/TN/NCP/163271/2018] [File No.: 10-49/2018-IA.III]</td></tr>
<tr><td>3.2.1</td><td>The project proponent along with the EIA consultant M/s Louis Berger Consulting Private Limited, made a presentation through Video Conferencing and provided the following information:

(i) Brief description of the Proposal: The Chittoor to Thatchur Section (Newly declared NH 716) is greenfield (new) alignment proposed 6-lane highway having a total length of 126.550 Km in the states Andhra Pradesh and Tamil Nadu. The Project start (Ch. 0+000) from junction of proposed Bangalore-Chennai expressway (Ch. 152+100) near Chittoor in Andhra Pradesh and ends at NH 5 near Thatchur (Ch.126+550) in Thiruvallur district in Tamil Nadu. The proposed alignment is newly declared National Highway-716B. It passes through 2 districts namely Chittoor district in Andhra Pradesh and Thiruvallur district in Tamil Nadu. The EIA/EMP study was carried out for the length of 126.550 km as per ToR and accordingly the EIA/EMP report are submitted with MoEF&CC (116.100 km is being implemented by NHAI and rest 10.45 km i.e. overlapping portion of the proposed Chennai Peripheral Road will be implemented by State Government).

Project components- Major project is a road section along with 2 RoBs, 8 Interchanges, 4 Major Bridges, 19 Minor Bridges, 30 elevated structures over ponds, 13 VUPs, 31 LVUP, 21 SVUPs, 186 Culverts are proposed along the project stretch for free passage to villagers & animals and to avoid any impact on local hydrology. Land use- Agricultural, Barren and forest.

(ii) Address of project site (Plot No./Village/ Tehsil/ District/State): States - Andhra Pradesh and Tamil Nadu Districts- Chittoor district (in Andhra Pradesh) and Thiruvallur District (in Tamil Nadu) Taluka- 10 & Villages 74.

(iii) Geo-coordinates of project site:

<table>
<tr><th>Description</th><th>Coordinates</th></tr>
<tr><td>Starting Point of proposed Road (Ch. 0+000)</td><td>Latitude: 13.143949 and Longitude: 79.075985</td></tr>
<tr><td>End Point of proposed Road (Ch. 126+550)</td><td>Latitude: 13.286095 and Longitude: 80.165531</td></tr>
</table>

(iv) Connectivity to the site: The proposed site will provide better connectivity</td></tr>
</table>

between Banglore, Chittoor, Thatchur and Chennai to facilitate goods vehicles to bypass congested Chennai city in the State of Tamil Nadu and further connectivity to Kamarajar (Ennore) and Kattupalli ports.

(v) **Investment/Cost of the project:** INR 3,840.00 (Approximately).

(vi) **Item of Schedule to the EIA Notification, 2006:** 7 (f).

(vii) **Why appraisal/ approval is required at the Central level:** The proposed project is a green field expressway. As per the EIA Notification, 2006 and its subsequent amendments, it is a category **"A"** project and Environmental Clearance is required from the EAC of MoEF&CC.

(viii) **Applicability of General/Specific Conditions as per EIA Notification, 2006:** General Conditions are applicable as the project is located in two states (Andhra Pradesh and Tamil Nadu).

(ix) **Whether project involves any violation under notification S.O 804(E) dated 14.03.2017:** Not Applicable.

(x) **Landuse/Landcover of project site in tabular form:**

Sr. No	Landuse/Landcover	Area (Ha)	% Coverage
1	Agriculture Land	478.279	56
2	Private Barren Land	112.982	13
3	Government Land	257.343	30
4	Forest	4.777	0.56
5	Built-up	1.288	0.44

Agricultural and allied uses occupied largest part amounting 56% of the total area, followed by Government Land 30 %, barren land 13%, and settlements and forestland is less than 1%.

(xi) **Landuse/Landcover around 10 km radius of project site:**

Sr. No	Landuse/Landcover	Area (Ha)	% Coverage
1	Agriculture and Plantation	19540.002	76%
2	Water	2136.371	8%
3	Forest	1454.571	7%
4	Barren land	1460.347	6%
5	Settlement	779.627	3%

(xii) **Right of Way (RoW):** Right of Way (ROW) requirement of 70 m.

(xiii) **Terrain and topographical features:** The Chittoor district forms a part of the Mysore plateau with many hill ranges and undulating plains. The western and southwestern parts of the district have an altitude between 600m to 900 m, Mean Sea Level (MSL). The altitude of the central region is between 300m to 600m MSL. While the eastern/southern parts of the district, have an altitude less than 300m MSL. This indicates that the elevation of the district is highly variable and having steep slopes. The land of Thiruvallur is mostly flat; however, some parts of the district are undulated and hilly.

(xiv) **Details of water bodies, impact on drainage, if any: Channels and Rivers are proposed bridges over them:**

S No.	Chainage (km)	Type of Bridge		Span Arrangement	Length of Bridge (m)
		Major	Minor		
1	2.859		Minor	1x17.5	17.5
2	4.470		Minor	2x20	40
3	7.044		Minor	1x30	30
4	10.135		Minor	2x20	40
5	14.650	Major		13x20	260
6	16.361		Minor	2x20	40
7	33.433		Minor	3x15	45
8	34.300		Minor	2x25	50
9	34.948		Minor	2x25	50
10	36.380		Minor	1x25	25
11	38.109		Minor	1x25	25
12	44.190		Minor	2x15	30
13	46.267		Minor	1x20	20
14	57.580		Minor	1x30	30
15	65.935	Major		4x25	100
16	77.490		Minor	2x17.5	35
17	82.340		Minor	2x15	30
18	85.770		Minor	1x30	30
19	87.743		Minor	1x20	20
20	90.323		Minor	1x25	25
21	100.340	Major		7x25	175
22	109.270	Major		8x25	200
23	115.683		Minor	1x30	30

(xv) **List of Ponds and proposed structures:**

S. No.	Design Chainage (Km.)		Length of Pond along alignment (m)	Length of Proposed structure over Pond (m)	Area of affected Pond due to construction of Piers (in sqm)	Total Area of Pond (in sqm)	Span Arrangement
	From	To					
1	At Interchange		20.2	30	-	149345.814	1X30
2	0.913	0.928	13.58	15	-	51685.691	1X15
3	5.68	5.74	33.45	60	26	109341.551	2X30
4	5.93	6.17	191.371	240	182		8X30
5	13.59	13.8	207.132	210	156	80476.25	7X30
6	18.24	18.45	183.28	210	156	237832.35	7X30
7	21.435	21.615	174.292	180	130	513754.29	6X30
8	27.815	27.995	162.967	180	130	47727.4547	6X30
9	29.995	30.265	251.578	270	208	41127.961	9X30
10	33.645	33.795	119.57	150	104	30098.5613	5X30

11	45.83	45.98	149.15	150	104	294605.782	5X30
12	55.71	55.85	139.39	140	78	179835.354	4X35
13	56.135	56.615	476.19	480	390	409122.391	16X30
14	69.905	70.025	71.61	120	78	366300.18	4X30
15	70.93	71.23	286.15	300	234	99761.541	10X30
16	71.65	71.79	115.38	140	78	247774.487	4X35
17	77.987	78.146	On Edge with minute overlap on PROW, no structure considered			183063.762	
18	81.54	81.72	156.72	180	130	17847.558	6X30
19	91.38	91.95	555.87	570	468	266491.247	19x30
20	93.7	94	288.5	300	234	159573.824	10X30
21	94.77	95.19	393.31	420	338	745611.426	14X30
22	97.46	97.88	407.018	420	338	309591.686	14X30
23	98.175	98.295	114	120	78	796856.733	4x30
24	101.21	101.31	40.64	100	78	9752.099	4X25
25	102.38	102.59	185.02	210	156	258126.636	7X30
26	103.99	104.35	355.894	360	286	183177.178	12X30
27	105.66	106.2	523.882	540	442	1264363.966	18X30
28	107.36	107.5	138.486	140	78		4X35
29	111.26	111.77	501.25	510	416	2439455.675	17x30
30	114.11	114.47	334.4	360	286	231299.762	12X30
Total Area					5,382 (0.5382 Ha.)	97,24,001	

The natural drainage of the project impacted area could be maintained by constructing of 186 nos. of culverts, 4 nos. of major bridges, 19 nos. minor of bridges and 30 numbers elevated structures over ponds. Total area of the pond affected due to construction of piers is 0.5382 ha. Which is only 0.055% of the total area of the pond 972.4 ha. The insignificant volume of ponds storage lost due to construction of piers in the pond area will mitigated by deepening of the pond to ensure the volume of the storage remains same or enhanced. These details will appropriately include in the bidding document. In order to save the ponds and to maintain the same / enhance volumetric capacity, 30 elevated structures costing INR 622 Cr. are provided. The proposed alignment does not pass through any flood prone area.

(xvi) **Water requirements, sources (during construction and operation phases) and NOC:** About 36.5 Lakh KL water to be required for construction. Construction Phase: The source of water will be through tanker supply. Operation Phase: During the operations phase, the water would be required primarily for domestic use at the toll plaza and landscaping.

(xvii) **Groundwater extraction/usage and NOC/Clearance from CGWA/State Ground Water Department:** NA.

(xviii) **Whether the project is in Critically Polluted area:** No.

(xix) **ToR details:** MOEF&CC considered the TOR in its 195th meeting held during 30-31st August 2018. The ToR issued on 9 October 2018.

(xx) **Public Hearings** were conducted on Shiva Parwati Marriage Hall, Thiruvallur on 5th July, 2019 and Nagaiah Kalakshetram, Chittor on 30th September, 2019. The issues raised during public hearing in Tiruvallur and Chittoor Districts are given in following Table.

Sr. No	Issues	Response / Comment form Project Proponent
1	Proper access shall be made for the movement of tractor/bullock carts	65 number of underpasses (13 number VUPs/31number LVUPs/21number SVUPs), 8 interchanges and 186 number box culverts are provided to facilitate cross movements of traffic/people/farmers/cattle etc in accordance with relevant MoRT&H and IRC guidelines/standards.
2	Compensation for land and properties.	LA and R&R Budget were prepared based on Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (RFCTLARR) and National Highways Act 1956.
3	Employment opportunities.	Employment opportunities will be generated for skilled/semi-skilled/unskilled labours located near the proposed project road during construction. Approximately 2000 persons will be employed during construction phase per day and 200 persons during operation phase.
4	Compensation for trees.	Any properties / structures will be compensated as per Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (RFCTLARR) and National Highways Act 1956.
5	Environmental safeguard during construction.	All construction machineries will be operated with control devise. Water sprinkling will be done during earth wok during loading unloading. The raw material and waste will be transported with covered tuple in lean traffic hours. Further contractor will take consent to operate under Air Act 1981 and Water act 1974 before commencement of the work. Further periodic monitoring of Air, Water and Noise will be done by them and submit the half yearly compliance report with appropriate authority.
6	Conservation of water bodies for irrigation	The proposed alignment passes through water bodies duly mitigated by providing major bridge, minor bridge and elevated structures to maintain their natural volumetric flow and capacity. In this regard the water afflux will also be maintain either by deepening/ grading/ enhancing the capacity of the pond.

(xxi) **Whether the project involves diversion of forest land:** The proposal for diversion of 4.772 ha Forestland (No: FP/AP/ROAD/41508/2019) have been already been submitted in PARIVESH Portal. The hard copies of the proposal also submitted with forest department. The forest department raised EDS on dated 13th March, 2020 regarding resubmission of DGPS report. The joint visit with the forest department pending due to Pandemic COVID 19.

(xxii) **Whether the project is located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc.:** No.

(xxiii) **Whether the project is located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC:** No.

	(xxiv)	**Waste Management: Provide details of waste water quantity, treatment capacity, recycling/reuse of treated water and disposal, Solid Waste Management, and Hazardous Waste Management.: Waste water quantity: Solid Waste Management**: **Hazardous Waste Management**: **Wastewater quantity, treatment capacity, details:** Sewage from labour camp will be routed to septic tanks / soak pits or bio-toilets. The wastewater other than sewage will be utilized for greenbelt development and dust suppression. **Recycling / reuse of treated water and disposal**: Wastewater from rinsing of Batching Plants will be utilized for dust suppression. Wastewater generated from workers will be treated in septic tanks and bio-toilets provided at site and will be utilized for greenbelt development. **Solid Waste Management:** About 500 Kg / day of Municipal Solid Waste will be generated by the workers. It will be collected and disposed of in environmentally acceptable ways. • Dark grey bin for non-recyclable waste • Green bin for food/ compostable garden waste • Blue bin for paper waste Recyclable waste would be re-used or disposed-off. Garden waste & compostable waste would be compost. Other non-recyclable waste would be disposed of through municipalities. **Hazardous Waste Management:** Spent oil as may generate by the DG sets will be carefully stored in HDPE drums in order to avoid spillage and will be sold to government-approved vendors.
	(xxv)	**Details of tree cutting and Green belt development.:**
	(xxvi)	**Energy conservation measures with estimated saving.:** Solar Street light system proposed to be provided at the interchange locations. It is proposed to provide solar lights with maintenance free battery or operation & maintenance of such lights may be given to the supplier.
	(xxvii)	**Parking requirement with provision made.:** Two main toll plazas are proposed along the proposed road. All facilities such as drinking water kiosk, toilet facilities, truck parking, bus parking, car parking, separate restaurants for truck driver, restaurants for other road users, children park, petrol station, garage, generator set/ solar system area, ATM's, Ambulance area, medical room etc. to be provided.
	(xxviii)	**Details of Rain Water Harvesting.:** Provision of rainwater recharge pits at every 500m interval (staggered), subject to the first aquifer is below 10m.
	(xxix)	**Brief description of Socio-economic condition of local people and R&R issues involved, if any:** • Social Impact Assessment (SIA) and Resettlement Action Plan (RAP) are prepared for the said project. • Total no of Project Affected HHs losing privately owned structures are 192. • Project Affected Persons (PAPs) are 768.

- There are 329 minor assets like hand pump, bore well, pump house etc.
- There are total 45 kiosks and local mobile vendors are likely to be affected temporarily.
- The total land needs to be acquired for the proposed project is 849.872 Ha.
- LA and R&R Budget has been prepared based on Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013 (RFCTLARR) and National Highways Act 1956.

(xxx) **Employment potential, No. of people to be employed:** About 2000 man-power during construction and about 200 nos. of man-power during operation phase (including Permanent and Temporary).

(xxxi) **Benefits of the project:** In general, Project will have following benefits at national and regional level:

- **High-speed connectivity and access:** The projected corridor is a proposed 6-lane, access-controlled highway. This will avoid traffic congestion and speed-up the freight movement. It is expected that overall, the proposed corridor will reduce the travel time.
- **Aiding economic growth:** The seamless connectivity will provide better access to vehicles as a link to the National Highways. The Project will reduce travel time and provide boost to trade and commerce linked to the regions connected through this highway.
- **Growth of backward areas:** The biggest strength of the alignment is that it plans to cover backward districts of Andhra Pradesh and Tamil Nadu. Because of connectivity and access to other parts of the State and country, these backward areas will be aid to integrate with other part of States and Country. Further, freight and passenger traffic on the highway will help promoting ancillary economy of these regions.
- **Decongestion of existing National and State Highways:** The proposed corridor will take away traffic pressures from existing SH and NH passing through various cities. In addition, 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.
- **Usage shift:** Long-distance traffic will shift from existing National Highways to the proposed highway, resulting in lesser congestion leading to higher fuel savings and reduced travel time on these highways
- **Improved safety:** Due to access control, the Roadway & Travel Safety of the traffic connecting the cities will be enhanced as there will be minimum distractions & conflict zones.
- **Support to industry:** Different types of industries like Manufacturing, Tourism, warehouse facilities, etc. along the proposed corridor will be facilitating in their business operation and

reachability.

(xxxii) **Details of Court cases, if any:** Not Applicable.

(xxxiii) Provided the clarifications for various issues raised in a complaint by G Lalitha Pattadai village, Pallipat Taluka, Thiruvallur district as under:

(a) **Animal husbandry and related livelihoods**: 384 livestock assets of various types such as Cows, Goats, Sheeps, Buffalos, Bulls (Mainly used for Agricultural purposes) are owned by the Households likely to be affected. None of the affected Households are entirely dependent on Livestock and there is no direct/adverse impact on Livelihood of these Households along the proposed project road.

(b) **Provision of Cattle Passes and Movement of Agri. Products**: Crossing facilities in the form of interchanges (8 nos), underpasses (65 nos) and box culverts (186 nos) are provided at regular intervals as per requirements along the entire project length for the crossing of traffic/farmers and cattle etc. Thus, from the above details, it can be observed that, apart from Box Culverts (186 Nos) approximately for every 1.9 km one underpass is provided for free movement of Vehicular traffic, transport of agricultural products and for free movement of Cattles.

(c) **Land Acquisition Procedure:** Land Acquisition for the proposed project road will be carried out as per the National Highways Act 1956 and Right to Fair Compensation, Transparency in Land Acquisition, Resettlement and Rehabilitation (RFCTLARR) Act 2013.

(d) Majority of the ponds are seasonal which are used by local communities for their irrigation purposes. The usage of the water bodies (perineal and seasonal rivers and ponds) by the local communities will not be impacted and altered their course by providing four major bridges, 19 minor bridges and 30 numbers of elevated structures on ponds. In this regard, detailed geohydrological study was carried out. Accordingly, 186 numbers of culverts including balancing culverts are provided. Further, deepening/grading of the existing ponds are proposed maintain the volumetric capacity and natural course of the water bodies. It is submitted that the project alignment design in such a manner so that there is no change in the hydrogeology and geomorphology features of the region due to the proposed alignment.

(e) The detailed hydrological study had carried out on all the rivers and Streams and accordingly suitable length of bridges and culverts are proposed considering the return period as per the relevant IRC standards.

(f) Alignment is not passing through any flood plains of the river/drainage system.

(g) Considering the geometry and design speed, the change of alignment at this location is not possible as the further shift of the alignment towards North side will get into the flood plains of Areni river. The river is meandering at this location; provision of the bridge/embankment is not technically feasible. Further shifting of the alignment towards South will further negotiate the cluster of existing ponds and the river is also

	meandering. Further shifting of alignment on North and South side would impact habitation. (h) The Option 1 alignment is passing in the through Meyyur Reserved Forest and there are several ponds and built-up areas. This option also involves large number of tree felling. (i) Rainwater Harvesting Pit will be provided on either side of road in 500m interval subject to the first aquifer is below 10m. The design of RWH pits are based on IRC: SP: 50-2013. Also, the oil interceptors will be considered in design to avoid water contamination.
3.2.2	The EAC, after detailed deliberation during the 239th EAC meeting held on 29th July, 2020, has observed that EIA/EMP has been prepared using very old secondary data on climate, land use and forest ecosystem, collected from documents/reports of various departments/agencies. EIA/EMP report lacks clarity and consistency in the facts, figures and analytical methods as mentioned below: (i) At pages no. 1-8 and 1-9, it is mentioned that Rajasthan Pollution Control Board is responsible for water, air and noise monitoring. However, this proposed alignment falls in the states of Andhra Pradesh and Tamil Nadu. Rajasthan Pollution Control Board has nothing to do with the proposed alignment. (ii) Land use data of Chittoor district has been taken from Central Ground Water Board (CGWB) for year 2011-12. It is required to prepare the land use land cover using latest data and based on field data collected during ground truthing. Land use data of Thiruvallur district is taken from District Statistical handbook, Census of India, 2011. Further, landuse data of study area (upto 10 km of proposed site) has been taken from old Survey of India Toposheet (period is not mentioned). (iii) EIA/EMP report does not provide adequate information about forest ecosystem as mentioned at page 3-57. Small scale maps forest density maps of Andhra Pradesh have been reproduced from the Status Report of Forest Survey of India, released in 2017. Scale of map and period of data collection are also not mentioned. (iv) During presentation before EAC, it is mentioned that **19,581** trees will be cut for implementing this project, however, as per inventory of trees (table 3.34 at pages 3-59 to 3-62 of the report), there are total **19,684** trees/poles, categorized into girth sizes of 0-30 cm, 30-60 cm and 60-90 cm. It is not clear how the trees and poles have been defined and differentiated? Further, this number of tree/poles mentioned in the report also does not match with the figures mentioned in EIA/EMP report. For example, at page 3-59 of report, it is mentioned that there are total **19,684 trees**/poles (3642 trees and 16042 poles) and 18849 (3426 trees and 15,423 poles) will be impacted within 70 m of RoW (page 3-62 and table 4.18 at page 4-101 of report). In the same table, it says that number of tees/poles within construction zone are 14,625 (2286 trees and 12342 poles) and outside construction zones are 3571 (490 trees and 3081 poles). Total number of trees/poles inside and outside the construction zones is 18,196 numbers. Overall, the report lacks clarity about number of trees to be cut for the proposed project. (v) Report also says that tree enumeration will be done in order to identify the

		affected type of species along the project corridor as per the tree details provided. It means that inventory is not yet done completely.
	(vi)	As per information given at page 3-18 of EIA/EMP report, the summer, rainy and winter seasons are March-July, July-December and November-February. Are these seasons as per classification Indian Metrological Department (IMD)?
	(vii)	The nearest IMD station is in Vellore (upwind or downwind), that is 26 km from starting point of the proposed alignment. Why was the site-specific metrological data not collected to prepare the EIA/EMP report?
	(viii)	Not provided the duration of average morning and average evening for data of Relative Humidity (%), as mentioned at page no. 3-23 of EIA/EMP report.
	(ix)	Unit for traffic growth rate and forecast is not mentioned in tables 2.10, 2.11 and 2.12 at pages 2-10 to 2-13 of EIA/EMP report. Also, there is no clarity that which model has been used for traffic forecast.
	(x)	At page 4-86 of EIA/EMP report, it is mentioned that, during operation stage, the negative impacts on air quality during operation stage shall not be significant. This can only be authenticated by using forecasting model using inputs: forecasted traffic, meteorology, emission load for different types of vehicles. Caline 4 or AERMOD to be used.
	(xi)	At page 4-87 of EIA/EMP report, it is not clear that how this section of road was selected for forecasting air quality using AERMOD?
	(xii)	It is required to further explain the resultant concentrations provided in the Tables 4.5, 4.6, 4.7 at page 4-88 EIA/EMP report. For CO, the incremental and resultant concentrations are exactly similar for all years? Is it maximum GLC, what is the time average for all pollutant? What is the distance from of max. GLC from road? In case of CO, CO level is less than < 0.1 mg/m^3 and incremental will be up to 1.5 mg/m^3. This means it will be increased by 150 times after project operation? What are the measures?
	(xiii)	Similarly, NOx will be increased by 4-5 times of existing.
	(xiv)	In PM_{10}, re-suspension of road from movement of vehicles not considered in modelling.
	(xv)	Pallipattu Road (SH-106) near Kumarajapet village is located in downwind side, why it is selected for modelling?
	(xvi)	It is must to identify and document the places where Noise barrier will be constructed as per the Nosie level prediction data during operation phase. Residential areas must be covered with forecast specially. Which model is used for the noise modelling, why not Traffic Noise Model (TNM) used by the Federal Highway Administration's (FHWA)?
	(xvii)	For Environmental Monitoring Plan as mentioned in the table 6.1 (page 6-3) of the EIA/EMP report, during operation phase, once in a season the monitoring of all the air pollutants should be carried out at 10 km on either side of the road at selected location where large village population exist along 126 km.
	xviii)	Not submitted the copies of certificates from the Chief Wildlife Wardens of the states of Andhra Pradesh and Tamil Nadu stating that no protected area/animal corridor are situated within the 10km range of the proposed alignment.

(xix) Not submitted the declaration from local wetland authority whether waterbodies are natural or manmade.

In view of above mentioned observations, the EAC suggested that there is need to revise the EIA/EMP report by providing accurate data and analyses especially in respect of trees to be felled and air quality parameters. Accordingly, the EAC deferred the proposal for want of additional information and revised EIA/EMP report along with revised Form-2 application.

3.3 **Development of Industrial Estate (Phase-II) at Barwala, District Panchakula, Haryana by M/s Haryana State Industrial & Infrastructure Development Corporation Ltd. (HSIIDC) - Environmental Clearance**

[Proposal No. IA/HR/NCP/26556/2015] [File No. 21-36/2015-IA.III]

3.3.1 The project proponent along with the EIA consultant M/s GRC India Training & Analytical Laboratory - A Unit of GRC India (P) Ltd. made a presentation through Video Conferencing and provided the following information:

(i) **Brief description of the Proposal:** This is a proposal for development of a new Industrial Estate (Phase-II) at Barwala, District Panchakula, Haryana by M/s Haryana State Industrial & Infrastructure Development Corporation Ltd. (HSIIDC) over an area of 557.75 acres. Project will comprise of the Commercial Area, Institutional Area, R&R, Electric Substation, Fire Station, ESI Dispensary, CETP, Solid Waste Disposal Site, Multilevel Parking, Area Under Road, Green Area and Open Area etc. Total Area=557.75 Acres

(ii) **Whether the proposal was considered in earlier meetings of EAC:** Project was considered in 223rd EAC (Infra-1) held on 23rd September, 2019 wherein it was deferred due to revision of EIA/EMP, submission of Form-2 in hard copy, detailed plan for achieving 100% ZLD, public hearing issues and CER.

(iii) **Address of project site (Plot No./Village/ Tehsil/ District/State):** Barwala, District Panchakula, Haryana. Provided detailed land documents including Khasara no. etc.

(iv) **Geo-coordinates of project site:**

Geo-graphical coordinates are 30°36'20.00"N & 76°57'22.57"E.

Latitude	Longitude
30°36'20.00"N	76°57'22.57"E.
30°36'26.84"N	76°57'21.71"E
30°36'18.14"N	76°57'36.78"E
30°36'8.74"N	76°57'22.95"E

(v) **Connectivity to the site:** The Industrial Estate will be located at Haryana-Punjab border, near an Air Force station. Geo-graphical coordinates are 30°36'20.00"N & 76°57'22.57"E. The nearest airport to the site is Chandigarh International Airport which is 16.45 km (NW) and the nearest railway station is Chandigarh Railway Station which is 16.45 km (NW). The Punjab State Boundary lies within 4.08(W).

(vi) **Investment/Cost of the project: Rs.** 531 Crore.

(vii) **Item of Schedule to the EIA Notification, 2006:** Schedule 7(c) of EIA notification -2006, Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes.

(viii) **Why appraisal/ approval is required at the Central level:** A - Category project Under Schedule 7(c) of EIA Notification 2006.

(ix) **Applicability of General/Specific Conditions as per EIA Notification, 2006:** General as well as specific conditions shall apply.

(x) **Whether project involves any violation under notification S.O 804(E) dated 14.03.2017:** No.

(xi) **Landuse/Landcover of project site in tabular form:**

S. No.	Description	Area in Sq.m.	Area in acres
1.	**Total Area**	**2257117**	**557.75**
2.	Area to be Planned Later	11250	2.78
3.	Net Planned Area	2245867	554.97
Land Use		**318.54**	
4.	Area Under Industrial Plots	982731	242.84
5.	Area Reserved for Institutional Purpose	96881	23.94
6.	Area Reserved for Commercial Purpose	23310	5.76
7.	Area Reserved for RR Policy	186154	46.00
Utilities		**236.43**	
8.	Area Under Electric Substation	12140	3.00
9.	Area Under OHSR	18494	4.57
10.	Area Under Fire Station	8053	1.99
11.	Area Under ESI Dispensary	5544	1.37
12.	Area Under CETP	6030	1.49
13.	Area Reserved for Multilevel Parking	14771	3.65
14.	Area Under Solid Waste Disposal Site	6273	1.55
15.	Area Under Roads & Open Spaces	455069	112.45
16.	Open Area	135090	33.38
17.	Green Area	27429	6.78
18.	Green Belt	25437	6.29
19.	Green Avenue	2,42,447	59.91

(xii) **Landuse/Landcover around 10 km radius of project site:**

LU Class	Area in Acres	Percentage (%)

Settlement	6729.56	6.88
Water bodies	118.11	0.12
Forest	9470.56	9.68
River	5754.98	5.88
Vegetation	1459.50	1.49
Open Land	2784.03	2.86
Open Scrub	13347.49	13.64
Agricultural Land	58160.13	59.45
Total	97824.64	100

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

- Manufacturing Industries
- Automobiles industries
- Mechanical Industries
- Rubber industry
- Readymade garments industry
- CETP (6.5 MLD) – Category B as per EIA Notification, 2006

(xiv) **Terrain and topographical features:** The topography represents a flat surface gently sloping from north-east to south-west. Soil composition is sandy-loam with pH value ranges from 7.0-8.5, which is suitable for agriculture purposes. The soil is good for building construction with bearing capacity of 13 metric tonnes per square meter at a depth of 2.5 meters. The ground configuration represents good surface gradient for efficient drainage system. The average annual rain fall is about 1,105 millimeter. However, the area is free from floods. The sufficient quantity of good quality potable ground water is available in the area.

(xv) **Details of water bodies, impact on drainage, if any:**

River Name	Direction	Distance (km)
Dudhgarh Ki Nadi	SE	0
Dangri Nadi	ESE	3.3
Baliali Nadi	SE	9.75
Mattanwali Nadi	NW	1.6
Mullawali Nadi	WNW	3.15
Mankan Nadi	W	5.28
Nadlan Nadi	NW	7.5
Thathar Ki Nadi	W	6.45
Ghagghar Nadi	W	9.8
Kadyani Ki Nadi	NE	3.2

(xvi) **Water requirements, sources and NOC:**

PHASE WISE DETAILS	FRESH WATER REQUIREMENT	WASTEWATER GENERATION	TOTAL RECYCLED WATER	WATER LOSSES DURING REIRCULATION

Barwala PHASE-II	4955 KLD	6100 KLD	4680 KLD	1420 KLD

(xvii) **Groundwater extraction/usage and NOC/Clearance from CGWA/State Ground Water Department:** Ground water NOC has been obtained vide No-CGWA/NOC/INF/ORIG/2019/ 4844 dated: - 12.03.2019.

(xviii) **Whether the project is in Critically Polluted area:** No.

(xix) **ToR details: Provide Date of ToR issued:** ToR Granted by MoEFCC vide File No-21-36/2015-IA.III dated:- 18.06.2015.

(xx) **Public Hearing** was conducted on 7th October, 2016 at village Alipur, Panchkula, Haryana. Issues related to land acquisition and maintenance of existing road were raised during the public hearing and the same was addressed by the project proponent. All land acquisition has been done as per the land acquisition act 1894 and PP has kept the provision of 34.80 Cr funds for the maintenance of the existing road.

(xxi) **Whether the project involves diversion of forest land:** 2.14 ha and 673 Trees will be affected. In principal approval has already been granted by MoEFCC, Northern Regional Office, Chandigarh to HSIIDC department for the diversion of 2.14 ha land vide File No – 9-HRB058/2016-CHA dated 06.09.2016 at HSIIDC, Industrial Estate Phase-II, Barwala, Distt.-Panchkula for widening of existing Alipur-Toka Road.

(xxii) **Whether the project is located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc.:** Khol Hi Raitan Wildlife Sanctuary = 5 KM towards North and NBWL is not applicable because its Eco-sensitive Zone varies from zero to 925 meters around the boundary of Khol Hi Raitan Wildlife Sanctuary.

(xxiii) **Whether the project is located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC:** Khol Hi Raitan Wildlife Sanctuary is 5 KM towards North and NBWL is not applicable because its Eco-sensitive Zone varies from zero to 925 meters around the boundary of Khol Hi Raitan Wildlife Sanctuary.

(xxiv) **Waste Management: Provide details of waste water quantity, treatment capacity, recycling/reuse of treated water and disposal, Solid Waste Management, and Hazardous Waste Management.:** The total solid waste generated from residential plots, industrial plots and other areas will be segregated and recyclable material will be sold to government approved vendors. The solid waste will be managed by Solid Waste (Management & Handling), Rules 2016; Hazardous Waste (Management & Handling) Rules 1989 and its amendments.

(xxv) **CETP: Provide details including type and quantity of effluent, effluent conveyance system from the member units to CETP with CETP's Capacity.:**

- Proposed Capacity of CETP is 6.5 MLD.
- Total Effluent generated = Approx. 6.1 MLD

- Effluent conveyance system from the member units to CETP = Pipeline

(xxvi) **Details of tree cutting and Green belt development.:** 673 Trees and Landscape Area will be 72.98 Acres (Green Area, Green Belt and Green Avenue). Green belt development and tree plantation will be done with collaboration of forest department.

(xxvii) **Energy conservation measures with estimated saving.:** Use of solar photovoltaic systems for street lighting, Maximum use of sunlight, All lighting systems (interiors, external building features such as facades, illuminated roofs, architectural features, and building grounds) will be in conformance to the ECBC Code, To replace all the incandescent lamps and 40W tube lights with conventional choke with CFL & T5-28W tube lights respectively, To replace all the old tube light street light fixtures with energy efficient fixtures and the use of solar water heating systems will be mandatory.

(xxviii) **Parking requirement with provision made.:** Area Reserved for Multilevel Parking is 3.65 Acres and individual industry will be provided their own parking space as per applicable norms.

(xxix) **Details of Rain Water Harvesting.:** 85 No Recharge well will be constructed in Residential Area, 202 No. of Recharge wells proposed to collect storm water of Industrial plot area, in addition to above 15 no Recharge wells are proposed along 60m wide Main Roads, 15 No. of Recharge wells proposed to collect storm water of Green area & Service Roads, 12 No. of Recharge wells proposed to collect storm water of other area.

(xxx) **Brief description of Socio-economic condition of local people:** All the facility like school, Hospital, Banks, temple are available nearby the project site.

(xxxi) **Land acquisition and R&R issues involved:** No R&R involved and land acquisition has been completed.

(xxxii) **Employment potential, No. of people to be employed:** Project will create employment for local people so it will be beneficial for nearby settlement. During the construction phase, it is estimated that 582 persons comprising of 194 skilled workers and 338 unskilled workers would be required. Post construction, the employment generation potential is placed at 945 persons (420 skilled and 525 unskilled).

(xxxiii) **Benefits of the project:**

- Constructing Industrial Estates has lots of advantages, as it will be easy to handle all the issues of industries present at one location rather than disperse at different locations.
- Getting rid of health hazards and damages of buildings which may be caused by accidents occurring in factories and workshops.
- Reducing noise pollution caused by factories and workshops.
- Industrial Estates contribute to maintain cities clean. In the absence of well organized industrial areas lots of wadis (so called Saila), streets

	and footpaths suffer from pollution with oils, lubricants and industrial rubbish. Reducing noise and clean cities have positive effects on tourism. Collection, transport, and disposal of normal and hazardous waste in the Industrial Estate (solid waste management) take place according to laws issued by the government and under the supervision of the responsible authority. • The development of Industrial Estates aims also at limiting environmental pollution caused by factories, workshops especially the pollution of groundwater. (xxxiv) **Brief summary of specialised Studies carried out for the project as per the ToR:** Not Applicable. (xxxv) **Details of Court cases:** No court case pending. (xxxvi) Submitted the air quality monitoring data ($PM_{2.5}$ and PM_{10}) of other real time monitoring station of CPCB nearby the project site (Approx.12km), located in the upwind direction of proposed site.
3.3.2	The EAC, while deliberations during 169th meeting held on 6-7 April, 2017, noted the following: (i) The categorization of industries to be housed in the proposed industrial estate is yet to be firmed up. This would decide the jurisdiction for project appraisal whether would be at the State or Central level. (ii) To meet the water requirement of 6.14 MLD, Haryana Irrigation and Water Resources Department has expressed its inability due to no canal network/system. As such, there is no other option but to resort to the ground water availability which was not allowed while granting the ToR. (iii) The project site has been categorized into 'critical' category as per the latest ground water assessment done by the CGWB. For ground water withdrawal to meet the requirements for infrastructure projects, a formal request is yet to be made by the project proponent to the Ground Water Cell/Department in the State Government for recommending to the CGWA. The details contained in the EIA/EMP reports are deficient in respect of the ecological aspects. There is no distribution of *Ratufa indica* (Indian Giant Squirrel) in North India. Himalayan Black Bear is shown in the list of mammals in the project site, which is not found in this area. Similarly, three-striped Palm squirrel as mentioned in the mammals list actually occurs south of Narmada River whereas Five-striped Palm Squirrel are found in this area.
3.3.3	The EAC, after detailed deliberation during 169th meeting held on 6-7 April, 2017, deferred the proposal for want of inputs as stated in above para.
3.3.4	During detailed deliberations during 193rd meeting held on 26th July, 2018, the EAC observed that the project proponent has submitted the application to Central Ground Water Board for permission to withdraw ground water for the proposed project. Even though the EAC realised that ToR does not allow the abstraction of groundwater for this project, the committee re-considered the condition related to groundwater abstraction provided availability of groundwater is established.
3.3.5	Based on the detailed deliberation during 193rd meeting held on 26th July, 2018, the EAC deferred the decision and sought following information for further consideration

	of the proposal: (i) Copies of consents for Phase-1. (ii) Water balance for the proposed project. (iii) Green belt development plan. (iv) NOC from CGWA to be obtained. Impact assessment of ground water profile due to GW abstraction to be prepared and submitted to the EAC. Detailed presentation be made to the queries raised in earlier EAC meetings vis-à-vis groundwater clearance.
3.3.6	The proposal was considered in 223rd EAC meeting held on 23rd September, 2019 wherein it was observed that proponent has not submitted information about critical issues related to CER, ZLD and commitment of proponent on issues raised during Public Hearing etc. In view of this, EAC *deferred* the proposal for want of following information/documents: (i) Submit revised EIA/EMP report as per generic structure defined in the EIA Notification, 2006 as amended from time to time. (ii) Submission of Form-2 in hard copy. (iii) Details of commitments made by proponent during Public Hearing in tabular form. (iv) Detailed plan for achieving 100% ZLD for the proposed project. (v) Details of CER (on slab basis) as per provisions of Ministry's OM dated 1st May, 2018. (vi) Undertaking that no activity has been started for this project. (vii) Undertaking that proposed site in not situated in the critically polluted area as identified by CPCB. Proponent is required to make detailed presentation before EAC providing information about all queries raised by EAC during appraisal process of this project.
3.3.7	The EAC, while deliberations during 239th meeting held on 29th July, 2020, observed the following: (i) Submitted details of commitments made by proponent during Public Hearing in tabular form. (ii) Submitted detailed plan for achieving 100% ZLD for the proposed project. (iii) Submitted details about CER activities proposed (iv) Submitted Undertaking that no activity has been started for this project and proposed site in not situated in the critically polluted area as identified by CPCB. (v) In addition to above PP has submitted reasons for high values of air quality data and mitigation measures proposed, revised water balance statement, and stage1 Forest clearance for 2.14 ha involved in this project.
3.3.8	The EAC, after detailed deliberations during its 239th meeting on 29-30 July, 2020, **recommended** the proposal for grant of **Environmental Clearance**, with the specific conditions, as mentioned below in this para, in addition to all standard conditions applicable for such projects: (i) This Environmental clearance is subject to outcome of court cases pending

	against the project proponent at Hon'ble Supreme Court of India / High Court. (ii) All the mitigation measures to reduce pollution as mentioned in EIA/EMP report shall be implemented in toto. (iii) As committed by proponent, dense tree plantation of native species shall be developed in collaboration with the State Forest Department to control air pollution during operation phase of the project. Detailed plan in this regard shall be submitted to Ministry's regional office within 3 months of grant of environmental clearance to this project. (iv) No waste water shall be discharged to the rivers/streams or waterbodies. The proponent shall utilize the treated effluent and sewage for achieving zero discharge and scheme for the same shall be approved by CPCB and SPCB. (v) Permission from Irrigation Department for obtaining surface water to be obtained. Consent to Operate shall not be issued without obtaining permission competent authority for use of surface water. (vi) Provision shall be made to recharge the ground water and construct rainwater harvesting structures for augmentation of ground water levels. (vii) 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. (viii) As per the Ministry's Office Memorandum F. No. 22-65/2017-IA.III dated 1st May, 2018, and proposed by the project proponent, an amount of Rs. 8.31 crores on slab basis for project budget of Rs. 531 Crores) shall be earmarked under Corporate Environment Responsibility (CER) for the activities such as support to Panchayats/local government, schools w.r.t. sanitation, health and hygiene, construction of public toilets in the surrounding villages, medical camps, rainwater harvesting, Installation of street lights in nearby villages as per requirement, rejuvenation and creation of water ponds, augmentation of drinking water facilities and provision of solid waste facilities viz. vermicomposting and safe drainage of waste water in consultation with concerned Panchayats. The activities proposed under CER shall be restricted to the affected area around the project. The entire activities proposed under the CER shall be treated as a project and be monitored. The monitoring report shall be submitted to this Ministry's Regional Office concerned as a part of half yearly compliance report, and to the concerned authorities including District Collector. It should be posted on the website of the project proponent.
3.4	**Development of Manallur Industrial Park in Gummidipoondi Taluk of District Thiruvallur, Tamil Nadu by M/s State Industries Promotion Corporation of Tamil Nadu (SIPCOT) Limited – Environmental and CRZ Clearance** **[Proposal No. IA/TN/NCP/27117/2015] [File No. 21-59/2015-IA.III]**
3.4.1	The EAC, during during 239th meeting held on 29-30 July, 2020, observed that revalidated EIA/EMP report by present EIA Consultant, i.e., M/S Hubert Enviro Care Systems (P) Ltd., Chennai, has not been uploaded on PARIVESH. Further, the revalidated report, which had been circulated to members, was not submitted along with ADS reply to this Ministry. Accordingly, the EAC deferred the proposal for want of following information:

	(i) Submission of NOC from earlier consultant, i.e., M/s CEHS Annamalai University for utilizing their EIA/EMP report by M/s Hubert Enviro Care Systems (P) Ltd Chennai. (ii) Submission of NOC from earlier consultant, i.e., ITCOT Consultancy and Services Limited for utilizing the baseline data by M/s Huber Enviro Care Systems (P) Ltd Chennai. (iii) Submission of detail process of revalidation of baseline data and EIA/EMP report by M/s Huber Enviro Care Systems (P) Ltd Chennai. (iv) Submission of revised and validated EIA/EMP report on PARIVESH along with duly signed declaration of experts involved in this process, from M/s Huber Enviro Care Systems (P) Ltd Chennai, for this project. (v) Proponent is required to make detailed presentation before EAC covering all the above points and also earlier ADS raised for this proposal.
3.5	**Construction of Ahmedabad – Dholera Expressway (109.019 km) in the State of Gujrat under Bharatmala Scheme by M/s National Highways Authority of India – Environmental Clearance** **[Proposal No. IA/GJ/NCP/129696/2018] [File No. 10-9/2018-IA.III]**
3.5.1	The project proponent along with the EIA consultant M/s Enviro Infra Solutions Pvt. Ltd., made a presentation through Video Conferencing and provided the following information: (i) **Brief description of the Proposal:** The proposed expressway is mostly a green field project of 4 lane expressway from Ahmedabad to Dholera having a total length of 109.019 Kms. The proposed project expressway takes off from Sardar Patel Ring Road near Sarkhej between Santhal and Bakrol Junctions in southwest of Ahmedabad, 2 km east of National Highway NH-8A. The expressway runs southerly towards Dholera passing through NH-8 (in the west) and SH-4, SH-6, Sabarmati river course/Gulf of Khambat (on east side). The part of proposed Ahmedabad - Dholera expressway alignment crosses through Bhogwa and Golsar creek near Valinda, Anandpur, Pipli and Bholad villages of Ahmedabad District, (from Ch. 59+700 to Ch.61+200 and from Ch.68+800 to Ch.70+500) which is under CRZ regions i.e. CRZ IB, CRZ III and CRZ IV as per CRZ Map prepared by National Coastal State Zone Management, Chennai (Agency approved by MoEF&CC). Ecologically sensitive areas such as mangroves are not observed in the study area whereas; extensive intertidal zone and tidally influenced water bodies were observed along the river/creek at above referred two locations. The recommendation letter of CRZ clearance from Gujarat Coastal Zone Management Authority (GCZMA) has been obtained vide letter No. ENV-10-2018-188-E (T Cell) dated September 05 2019. (ii) **Address of project site (Plot No./Village/ Tehsil/ District/State):** The project expressway starts at design Ch. 0+000 (22^0 56’ 46” N 72^0 29’ 06” E") from Sardar Patel Ring Road near Sarkhej of Ahmedabad district and ends at design Ch. 110 (220 02’ 21”N 720 05’ 59” E) at Adhelai village of Bhavnagar district in the state of Gujarat. (iii) **Geo-coordinates of project site:**

- Start Location: 22^0 56' 46" N 72^0 29' 06" E.
- End Location: 22^0 02' 21" N 72^0 05' 59" E.

(iv) **Connectivity to the site:** The site is approachable by road from Sardar Patel Ring Road near Sarkhej between Santhal Junction and Bakrol Junction in southwest of Ahmedabad, 2 km east of National Highway NH-8A.

(v) **Investment/Cost of the project: Rs.** 3300.48 Crore.

(vi) **Item of Schedule to the EIA Notification, 2006:** 7(f).

(vii) **Why appraisal/ approval is required at the Central level:** As per EIA notification 2006, all new national expressways require Environmental Clearance at central level.

(viii) **Applicability of General/Specific Conditions as per EIA Notification, 2006:** Not Applicable.

(ix) **Landuse/Landcover of project site in tabular form:**

Sl. No.	Land use pattern	Area in (ha.)	Percentage (%)
1.	Agriculture-Crop Land	9187.25	83.97
2.	Scrub Land	1035.09	9.46
3.	Builtup-Urban	157.14	1.44
4.	Water Bodies	103.69	0.95
5..	Railway Line	12.82	0.12
6.	River	324.65	2.97
7.	Road	82.99	0.76
8.	Canal	37.54	0.34
TOTAL		**10941.17**	**100**

(x) **Landuse/Landcover around 10 km radius of project site:** The existing land use around the proposed expressway primarily comprises of agricultural land both under private and government ownership, land for cattle grazing, village settlements and village ponds and mangrove vegetation along Gulf of Khambhat. Land adjoining Gulf of Khambhat is regulated under CRZ. The alignment proposed passes mostly through uninhabited area avoiding village establishments. The agriculture practiced is mostly multicrop due to the network of canals and the main crops grown in the area are rice, jowar, bajra, wheat and maize. The habitation along the expressway corridor are Vishalpur, Tajpur, Bhat, Vasna Chacharavadi, Kavitha, Chaloda,Juval- Rupvati, Sindhraj, Lana, Jalalpur, Sarandi, Karyana, Rupgadh,Kesargadh, Vejalka, Saragwala, Bholad, Anandapur, Pipli, Valinda, Ambli, Kadipur, Dholera, Mundi, Sandhida, Panchi, Hebatpur, Bavliyari and Adhelai. The proposed expressway lies generally in plain terrain. However certain length of expressway lies in rolling terrain.

(xi) **Right of Way (RoW)**: 120 m.

(xii) **Terrain and topographical features:** Mostly Plain, predominately agriculture followed by fallow, wastelands, forest and few habitations and some areas in rolling.

(xiii) **Details of water bodies, impact on drainage, if any:**

Sl No	Chaiange (km)	Falling within proposed ROW	Area (Sqm)	Remarks

		LHS	Center	RHS		
1	2+223			Pond	16202.63	
2	6+407		Pond		9203.28	Elevated Structure has been proposed at this location
3	6+920		Pond		27128.71	Elevated Structure has been proposed at this location
4	13+760	Pond			7478.38	
5	16+416			Pond	14583.64	
6	22+583		Pond		13710.64	Near Sidhraj Village Elevated Structure has been proposed at this location
7	24+515	Pond			48908.83	
8	26+910	Pond			45297.21	Near Sherpara Village
9	31+700			Pond	4900.37	Near Railway Crossing
10	32+378	Pond			11122.86	
11	37+300	Pond			7873.90	
12	39+152			Pond	25057.24	Near Rupgadh Village (Dudhesar Talav)
13	41+544			Pond	4964.57	
14	46+905	Pond			3272.92	
15	48+250			Pond	13466.03	
16	50+000	Pond			2907.83	
17	50+215			Pond	2754.32	
18	50+345		Pond		5728.85	Elevated Structure has been proposed at this location
19	51+395	Pond			3114.46	
20	52+000		Pond		4363.77	Elevated Structure has been proposed at this location
21	54+196			Pond	4469.94	
22	58+050	Pond			4402.22	Near Bholad Village
23	65+680	Pond			5405.33	
24	66+660			Pond	870.99	
25	68+590	Pond			19973.06	
26	70+490		Pond		9062.93	Elevated Structure has been proposed at this location
27	84+388			Pond	27744.72	Near Dholera
28	95+628			Pond	2801.41	
29	96+074			Pond	3978.49	
30	105+020		Pond		12409.65	Elevated Structure has been proposed at this location
31	105+483		Pond		19899.20	Elevated Structure has been proposed at this location
Total Area					**383058.36**	

The natural drainage of the project impacted area shall be maintained through improvement of 216 nos. of culverts, 13 nos. of major bridges and 21 nos. minor of bridges. The proposed alignment does not pass through any flood prone area.

(xiv) **Water requirements, sources (during construction and operation phases) and NOC:** The peak water requirement is 450 KLD during construction stage and will be extracted from local surface water resources

after obtaining necessary permissions.

(xv) **Groundwater extraction/usage and NOC/Clearance from CGWA/State Ground Water Department:** Not Applicable.

(xvi) **Whether the project is in Critically Polluted area:** No.

(xvii) **ToR details:** TOR obtained vide File No.10-9/2018-IA.III dated 11th June, 2018.

(xviii) **Public Hearing:**

(xix) **Whether the project involves diversion of forest land:** The stage -1 clearance for 1.530 ha has been obtained vide letter No. 6-GJB033/2019-BHO/713 dated 26.09.2019.

Public Hearing Date	Location
13.11.2018	Mukhi Mango Farm, Off Dholka Chiyada Road, Village: Sindhrej, Tehsil Dholka , Village- Ravti, District- Ahmedabad, Gujarat
16.11.2018	Adhelai Primary School, Village-: Adhelai, Tehsil & District-Bhavnagar, Gujarat

(xx) **Whether the project is located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc.:** The proposed alignment does not pass through Wildlife Sanctuary/National Park and its eco sensitive zone. The nearest National Park/Wildlife Sanctuary is Velavadar National Park and the alignment is 1.025 km away from the eco sensitive zone of Velavadar National Park.

(xxi) **Whether the project is located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC:** The proposed alignment does not pass through any eco sensitive zone.

(xxii) **Waste Management: Provide details of waste water quantity, treatment capacity, recycling/reuse of treated water and disposal, Solid Waste Management, and Hazardous Waste Management.: Waste water quantity: Solid Waste Management**: **Hazardous Waste Management**: 500 kg/day (approx.) during construction phase and 50 kg/day (approx.) during operation phase at tolls and wayside amenities area within PROW may be generated. Bio degradable waste shall be disposed through bio composting and other waste through landfill site.

(xxiii) **Details of tree cutting and Green belt development.:** The alignment will involve cutting of around 4478 trees. The work of green belt development will be taken up by the project proponent with guidance from the Forest Department of the Government of Gujarat, GEER Foundation and Gujarat Ecology Commission. Minimum 3 nos. of row, (@10 m distance) of trees either side of the proposed highway will be planted and approx. 97,195 no of trees will be proposed.

(xxiv) **Energy conservation measures with estimated saving.:** Provision for solar power plant has been recommended in the nearby villages and its

budget have been incorporated in CER budget.

(xxv) **Parking requirement with provision made.:** As per the detailed field surveys and reconnaissance, truck lay byes and bus stop have been proposed. The rest area will provide common facilities like petrol pump, first aid medical facilities, police office, restaurant and vehicle parking etc. For petrol pump, the guidelines issued by OISD of Ministry of Petroleum shall be followed. The facilities shall be planned at approximately 50 km interval.

(xxvi) **Details of Rain Water Harvesting.:** This is a green field alignment project. The proposed project will increase of surface run-off due to more paved road surface. Rainwater harvesting structures shall be provided near the disposal point of the side drains as prescribed by CGWB guidelines. Budget proposed for rain water harvesting structures is approx. 1.26 cr.

(xxvii) **Whether the project is in CRZ area:** The recommendation letter of CRZ clearance from Gujarat Coastal Zone Management Authority (GCZMA) for the proposed expressway has been obtained vide letter No. ENV-10-2018-188-E (T Cell) on September 05 2019.

(xxviii) **Brief description of Socio-economic condition of local people and R&R issues involved, Land acquisition if any:** The project influence area (PIA) of expressway covers parts of two districts – Ahmedabad and Bhavnagar District wise list of project influenced habitations falling under Direct and indirect influence zone is presented below. The land being acquired for the subproject is of various types such as Private land (861.25 Ha.), Government land (56.66 ha) and Forest land (1.530 ha). Land Acquisition from Km 71.050 to Km 107.421 is not incorporated in the table which will be taken care by Dholera Special Investment Region (DSIR). The Area is presented in the **below table.** The proposed RoW is 120m in entire project stretch except Ch.71.060 to 107.300 where RoW is 90m.

State	District	Project Affected Villages under Impact Zone
Gujarat	Ahmedabad	Fatevadi, Badrabad, Sanathal, Visalpur, Tajpur, Bhat, Vasna chacharavadi, Kavitha, Chaloda, Juval-rupvati , Sindhraj, Lana, Jalalpur (godhneshwar), Sarandi, Kariyana, Rupgadh, Kesargadh, Vejalka, Saragwala, Bholad, Anandpur, Pipli, Ambli, Kadipur, Dholera, Mundi, Sandhida, Panchi, Hebatpur, Bavliyari
	Bhavnagar	Adhelai

Classification of Families of Project Affected Structures:

Sl. No	Type of Structure	Numbers	
		Number	Total
1.	Pucca	65	65
2.	Semi-Pucca	96	96
3.	Kutcha	19	19
	Total	**180**	**180**

Number of Project Affected Families:

PAFs/PAPs	Numbers
Number of PAFs	180
Number of PAPs	720

Type of the Land Being Acquired for the Subproject:

Sl.No	State	Type of Land	Area in ha	% Area
1	Gujarat	Private Land	886.26	92.40
2		Government land	72.88	7.44
3		Forest Diversion	1.530	0.16
	Total		959.14	**100**

Estimated cost for Rehabilitation & Resettlement including land acquisition has been worked out to Rs. **837.66 Crores.**

(xxix) **Employment potential, No. of people to be employed:** During the construction of the road project around 1000 persons would be employed temporarily for a period of 2 years. However due to construction of toll plaza approx. 50 persons will be employed on permanent basis.

(xxx) **Benefits of the project:**

- The proposed project would act as the prime artery for the economic flow to this region.
- Enhanced connectivity between rural & urban population which will benefit the all sections of the society like general population, small-medium-large scale industries, farmers, businessmen etc.
- Improved access to higher education facilities & modern health facilities.
- Strengthening of both rural & urban economies which in turn will improve economic scenario of the state and country.
- Faster transportation will strengthen tourist development in the area.
- Improved road connectivity helps in better implementation and management of government schemes.
- With improvement in economy, more generation of employment opportunities

(xxxi) **Brief summary of specialised Studies carried out for the project as per the ToR, if any:** Movement of wildlife and it's impact up to 10 km radius of the Velavadar Black Buck National Park and its eco sensitive zone has been taken into consideration in the baseline study.

(xxxii) **Details of Court cases, if any:** Not Applicable.

3.5.2

The Committee noted that the consultant did very poor quality studies on biodiversity and ecology and checklist of fauna and flora are peppered with errors. For e.g. *Lithobates catesbeianus* is listed in the EIA which in fact is an American Bull Frog that is found in North America and invasive in many countries but not found in India. Similarly, Western Rat Snake *Pantherophis obsoletus* is found exclusively in North America. *Podarcis muralis* (common wall lizard) is found in Europe and North America and not India. A scorpion species *Typhlochactas mitchelli* listed in EIA is endemic to Mexico. Such poor quality work not only reflects poorly on NABET Accreditation process but also on NHAI for appointing such poor quality consultants. It is one of the main reasons for delays in considering projects.

In view of above, EAC deferred the proposal for want of revised EIA/EMP report for portion related to biodiversity, ecology and checklist of fauna flora.

3.6

Upgradation of Barshi Solapur Akkalkot Dudhani Aland to State District Border SH 204, Km 0/000 to 136/200 Part – Barshi to Solapur Road (Section from km 1/400 to km 63/300) (Length 61.900 km) at Taluka Barshi District Solapur, Maharashtra by M/s Public Work Division No. 2 Solapur, Maharashtra – Environmental Clearance

[Proposal No. IA/MH/NCP/131165/2019] [File No. 10-1/2020-IA.III]

3.6.1

The project proponent along with the EIA consultant M/s MITCON Consultancy and Engineering Services Ltd., made a presentation through Video Conferencing and provided the following information:

(i) **Brief description of the Proposal:** Upgradation of Barshi-Solapur-Akkalkot–Dudhani-Aland to State District Border on SH 204, (Km 0/000 to 136/200 Part - Barshi to Solapur Road) Tahsil Barshi, district Solapur (Section from km 1/400 to km 63/300) Length - 61.900 km. **Total Length of the Project:** 61.90 km: From Barshi to Solapur (Chainage 1+400 to Chainage 63+300). **Total Area:** 123.8 Ha. (Non - Forest Area: 118.78 Ha; Forest Area: 5.02 Ha).

CD Structure	New	Reconstruction	Widening & Repair	Retain with minor Repair	Total
Pipe Culvert	01	40	0	14	**55**
Slab Drain	-	4	2	2	**08**
Box Culvert	-	05	01	03	**09**
Minor Bridge	01	05	02	03	**11**
Major Bridge	-	-	-	02	**02**
ROB	-	-	-	01	**01**
Total CD Structures					**86**

(ii) **Address of project site (Plot No./Village/ Tehsil/ District/State):** Barshi to Solapur road (SH-204) - Chainage 1+400 to Chainage 63+300 - Plot No.: NA, Villages: Barshi, Saundre, Pangaon, Vairag, Shelgaon, Darphal, Vadala, Nannaj, Karamba, Bale and Solapur Tehsils: Barshi & Solapur (North) District: Solapur State: Maharashtra.

(iii) **Geo-coordinates of project site:**

Barshi (Start of Project road at CH 1+400):

Latitude - 18° 13' 19.23"N

Longitude - 75° 42' 0.68"E

Bale, Solapur (End of Project road at CH 63+300):

Latitude - 17° 42' 31.35"N

Longitude - 75° 52' 43.79"

(iv) **Area (ha) of the proposed project:** Total Length of the Project:61.90 km: From Barshi to Solapur (Chainage 1+400 to Chainage 63+300), Total Area: 123.8 Ha.

(v) **Connectivity to the site:**

- The Project Road starts from Barshi at existing Chainage 1+400 and ends at existing Chainage 63+300, which is a part of the existing SH-204. The total length of the project road is 61.90 Km.
- The project road stretch traverses through two Talukas of Solapur district viz. Barshi & Solapur (North). The project road alignment start from Barshi city and passes through villages of Saundre, Pangaon, Vairag, Shelgaon, Darphal, Vadala, Nanjaj, Karamba, Bale and connects to Pune-Solapur National Highway (NH-65) at Bale.
- Major road links connected by SH-204 (Barshi Solapur road) are:
- Barshi Pandharpur road (SH-67),
- Madha – Vairag road (SH-150),
- Pune – Solapur – Hyderabad - Vijaywada (NH-65),
- Nagar Karmala Tembhurni highway (NH-516A).
- Nearest Railway Stations: Barshi, 2.6 km towards NE and Solapur junction, 3.8 km towards SE.
- Nearest Airport: Pune, 250 km towards West.
- Nearest Town / City / District Headquarters: Solapur, 5 km towards SE.

(vi) **Investment/Cost of the project:** Approximately Rs. 250.99 Crores.

(vii) **Item of Schedule to the EIA Notification, 2006:** 7(f) Highways.

(viii) **Why appraisal/ approval is required at the Central level:** 2.8 km of the alignment passes through the Great Indian Bustard Wildlife Sanctuary. Hence, as per the provisions of the EIA notification 2006 and amendments thereof, General Condition is applicable for the said project. Therefore, it is Category 'A' project and shall be appraised by EAC, MoEF&CC – New Delhi.

(ix) **Applicability of General/Specific Conditions as per EIA Notification, 2006:** Since the project is passing through Great Indian Bustard Sanctuary which is a protected area notified under the Wildlife (Protection) Act, 1972. Thus, General Condition applies according to EIA Notification 2006 and its amendment thereof.

(x) **Landuse/Landcover around 10 km radius of project site:** Land use

pattern along the project road and 10km radius around project site comprises of agricultural and settlement areas.

No.	Classification of Land in the Study Area	Area (ha)	Percentage (%)
1	Forest / Thick Vegetation	358.10	27.99
2	Plantations / Shrubs / Grasslands	94.98	7.39
3	Agricultural Land	201.25	15.68
4	Built-up area	12.30	0.96
5	Road Network	63.22	4.93
6	River / Water body	38.25	2.98
7	Wasteland / Sand / Fallow Land	514.20	40.06
Total Geographical Area (10 km radius)		**1282.30**	**100**

(xi) **Right of Way (RoW):** Existing ROW is 24-30 m. The proposed expansion will be confined to the existing ROW only.

(xii) **Terrain and topographical features:** The project road passes through plain / rolling / undulating terrain throughout its entire length, with maximum elevation being 535 m and minimum elevation being 450 m. The ground level at start of the alignment is 518 m above MSL. while at the end is 457 m.

(xiii) **Details of water bodies, impact on drainage, if any:** The major Rivers flowing in the Solapur district are the Bhima, Sina, Maan, and Bhogawati Rivers. The alignment does not cross any major river. Adequate CD structures (55 pipe culverts with min pipe diameter 1.2 m, 8 slab drains, 9 box culverts and 11 minor bridges) have been provided where the alignment crosses any water body.

(xiv) **Water requirements, sources (during construction and operation phases) and NOC:** Construction Phase Water requirement:

Sr. No.	Purpose	Quantity (KLD)
1	Dust Suppression at Work Zone	24
2	Domestic purpose	13.5
3	Earthwork & Embankments	246
4	Concrete Mixing	24
5	Curing	35
6	Subgrade Mixing (GSB & WMM Mixing)	35
Total Water Requirement		**377.5**

No Water requirement in Operation Phase.

Source –

- Water will be sourced from percolation tanks.
- No objection Certificate has been obtained from the Water Conservation Officer, ZP (MI) Division, Solapur, for water required during construction, from percolation tanks.

(xv) **Groundwater extraction/usage and NOC/Clearance from CGWA/State**

Ground Water Department: No Ground Water will be used during Construction and Operation Phase.

(xvi) **Whether the project is in Critically Polluted area:** No.

(xvii) **ToR details:** ToR has been issued by EAC (Infrastructure Development, Industrial Estate/Parks/Complexes/Areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways), MoEF&CC, New Delhi vide Letter No. F. No. 10-1/2020-IA.III dated 24th February, 2020. Public Hearing has been exempted for this project.

(xviii) **Whether the project involves diversion of forest land:** Yes. The project involves diversion of 5.02 ha of Forest Land. The details of Forest Clearance and Wildlife Clearance are as follows:

Forest Clearance Application Status – Proposal No.: FP/MH/ROAD/41850/2019**,** Status – Under Process at CCF, Pune.

Wild Life Clearance Application Status – Proposal No.: FP/MH/ROAD/41850/2019, Status – Under Process at APCCF, Borivali.

(xix) **Whether the project is located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc.:** Few portions of SH-204 near Akolekati (1.90 Km) & Karamba villages (0.9 Km), having total length of 2.8 km, are within boundaries of the Great Indian Bustard Wildlife Sanctuary which is an environmentally sensitive area.

Locations (Village Involved)	Forest Type and Area for Diversion	Status
Pangaon, Raleras, Akolekati, Karamba	2.8 km of the alignment passes through the Great Indian Bustard Sanctuary. Total Forest Land involved as per Govt. record (Reserve Forest) = 5.02 ha	Wildlife Clearance from NBWL is under process: **FP/MH/ROAD/41850/2019, Date – 15/09/2019**

(xx) **Whether the project is located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC:** Wildlife clearance is under process. **Wild Life Clearance Application Status –** Proposal No.: FP/MH/ROAD/41850/2019, Status – Under Process at APCCF, Borivali.

(xxi) **Waste Management: Provide details of waste water quantity, treatment capacity, recycling/reuse of treated water and disposal, Solid Waste Management, and Hazardous Waste Management.: Waste water quantity: Solid Waste Management**: **Hazardous Waste Management**: **Waste Water –** 10 KLD of Waste generated from labour camps will be treated in Portable STP. The treated water will be used for arboriculture and flushing purpose. **Solid Waste management –** During Construction Phase, 18 kg/day of dry waste and 27 kg/day of wet waste will be generated by 100 nos. of labour. Dry Waste will be sold to authorised recycler whereas Wet waste will be handed over to municipal council authorities. No solid waste generation during operation phase. No

Hazardous waste will be generated during construction and operation phase. Cutting quantity 647390 Cu.m, Filling Quantity 833967 Cu.m. Additional material of quantity 186577 Cu.m required for filling will be, borrowed from the approved quarries / borrow areas. Top fertile soil from excavated quantity will be used for plantation purpose along road-side.

(xxii) **STP: Provide details of treatment and usage of treated sewage with STP's capacity.:** 12 KLD Portable STP will be provided to treat 10 KLD of wastewater generated in labour camps during construction phase.

(xxiii) **Details of tree cutting and Green belt development.:** 79 Trees which fall within Right of Way (5m on each side of the Centre line) are summarised girth wise, as below –

Road	Girth Size of Affected Trees (in cm)						
	>30	30-60	60-90	90-120	120-180	>180	Total
Barshi – Solapur road (SH-204)	2	17	19	8	12	21	79

Of the 79 affected trees, Babul / Babhal (26), Chinch (14), Karanji (2), Neem (18), Sawar (3), Shavari (12), Shisham (1), Umbar (1), Vad (2) are the observed species. Majority of trees are of girth size are between 60 to 90 cm and >180 cm.

- 237 trees will be planted as a compensatory plantation.
- Additionally, as per IRC guidelines 5476 trees will be planted at every 50 m interval on either side of the project road in 3-tier plantation as per GR No. Magraro 2016/CR No.103/Magraro-1 dated 29th September, 2016 issued by Planning Department, Govt. Of Maharashtra and IRC SP: 21-2009.
- The plantation will be carried out along the entire project road, except stretches passing through the Great Indian Bustard Wildlife Sanctuary.

(xxiv) **Energy conservation measures with estimated saving.:** As it is an upgradation of existing road, solar street lighting will be implemented under CER program.

(xxv) **Parking requirement with provision made.:** Not Applicable.

(xxvi) **Details of Rain Water Harvesting.:**

- Total No. of 64 RWH recharge structures will be provided. RWH structures will be provided at the downstream of pipe and box culverts asper Manual on Artificial Recharge of Ground Water by CGWB.
- The dimensions of the recharge pit are of 1.5m to 3m wide and 2m to 3m deep. The excavated pit is lined with a brick/stone wall with openings (weep-holes) at regular intervals.
- A filter media unit is placed above the bore which will act as Oil Filter. The pit is filled with boulder (1m depth), Gravel (1m depth) and Coarse sand (1m depth) from bottom to top respectively.
- Perforated Slab is placed above sand layer on top of the recharge

pit/structure. It can help water to percolate in filter media and easy for maintenance.

- Sand is the top layer of filter media, this layer effectively eliminates the turbidity (suspended particles like silt and clay), colour & micro-organisms which will in turn act as de-silting chamber.

(xxvii) **Brief description of Socio-economic condition of local people and R&R issues involved, if any:**

- The project alignment passes through 8 villages in Barshi and Solapur (North) talukas of Solapur district.
- The villages that lie on the project alignment are primarily dependent on agriculture, for their source of livelihood.
- Soil, topography, climate and monsoon in these villages are favourable for agriculture.
- The main crops that grow in these villages are wheat, bajra and vegetables. Allied activities such as dairy, poultry, sheep & goat rearing is also a complementary occupation.

Land acquisition and R&R issues involved:

No R & R is involved in the project. Although 24 structures owned by 112 households are affected by the project, all the affected households are non-titleholders i.e. encroachers / squatters. However, a Resettlement Plan (RP) for this Project has been prepared in compliance with the applicable State Government, Government of India and ADB policy and legal framework.

(xxviii) **Employment potential, No. of people to be employed:** 100 nos. of workers will be employed during construction phase.

(xxix) **Benefits of the project:**

Benefits of the project –

- Reduced travel time
- Lesser fuel consumption
- Less no. of accidents
- Health benefits due improvement in air quality of the project area
- New ancillary businesses flourishing in the Project area.

(xxx) **Brief summary of specialised Studies carried out for the project as per the ToR, if any:**

Following Studies have been carried out as per the TOR –

- Acoustic and Light Proofing study considering the Wildlife Institute of India manual and other studies by the reputed institutes on the matter.
- Detailed conservation plan for Great Indian Bustard and other grassland obligatory species including grassland development in consultation with the Forest Department.

	• Road kill management plan. • Traffic Studies & Demand Forecast (SH-204) • Detailed 3 tier plantation plan. • Resettlement Plan. • Disaster Management Plan • Action Plan for CER activities (xxxi) **Details of Court cases, if any:** Not Applicable.
3.6.2	The EAC applauded the consultant for good EIA/EMP preparation. The EAC, after detailed deliberation during its 239th meeting on 29th July, 2020, **recommended** the project for grant of **Environmental Clearance**, with the following specific conditions in addition to all standard conditions applicable for such projects: (i) This Environmental Clearance is subject to outcome of court cases pending against the project proponent at Hon'ble Supreme Court of India / High Court / other Courts or tribunals, if any. (ii) The proponent shall obtain wildlife Clearance as per Wildlife (Protection) Act, 1972. (iii) No Ground water shall be extracted and used during construction and/or operation phases of the project. Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources. State Pollution Control Board (SPCB) concerned shall not issue Consent to operate (CTO) till the project proponent obtains such permission(s). (iv) All the RWH structures should be provided with oil separator so as to prevent ground water being contaminated. (v) Proponent shall ensure that select trees at following chainages are saved by slight alignment of road: • 19980 (Tree with 420cm girth) • 3180 (Tree with 405cm girth) • 7620 (Tree with 355cm girth) • 8640 (Tree with 320cm girth) • 13140 (Tree with 380cm girth) • 23490 (Tree with 443cm girth) • 27990 (Tree with 425cm girth) • 33510 (Tree with 380cm girth) • 35160 (Tree with 685cm girth) (vi) The proponent shall obtain permission from the competent authorities for tree felling (other than mentioned in preceding point) along the proposed alignment. (vii) As committed, 237 trees shall be planted as a compensatory plantation and additional 5476 trees shall be planted at 50 m on either side of the project road in 3 tier plantations as per GR No. Magraro2016/CR.No.103/Magraro-1 dated

	29th September, 2016 issued by the Planning Department, Govt. Of Maharashtra and any other prevailing guidelines issued by Govt. of Maharashtra & IRC SP: 21-2009. (viii) No tree plantation shall be carried out within Great Indian Bustard Sanctuary. Only grassland development should be done in these areas. (ix) Quarry areas shall be developed as water reservoirs with proper fencing around quarry area. Rain water harvesting pit shall be at least 3 - 5 m above the highest ground water table. Provisions shall be made for oil and grease removal from surface runoff. Rainwater harvesting structures shall be provided near the disposal point of the side drains as prescribed by CGWB guidelines. (x) As per the Ministry's Office Memorandum F.No. 22-65/2017-IA.III dated 1st May, 2018, and proposed by the project proponent, an amount of Rs. 4.265 crores (computed on slab basis for total budget of Rs. 250.99 crores) shall be earmarked under Corporate Environment Responsibility (CER) with special focus on providing healthcare facilities to the government hospitals in light of COVID 19 pandemic. A small portion of the fund can be used for the activities such as support to Panchayats/local government, schools w.r.t. sanitation, health and hygiene, construction of public toilets in the surrounding villages, medical camps, rainwater harvesting, Installation of street lights in nearby villages as per requirement, rejuvenation and creation of water ponds, augmentation of drinking water facilities and provision of solid waste facilities viz. vermicompost and safe drainage of waste water in consultation with concerned Panchayats. The activities proposed under CER shall be restricted to the affected area around the project. The entire activities proposed under the CER shall be treated as a project and be monitored. The monitoring report shall be submitted to this Ministry's Regional Office concerned as a part of half yearly compliance report, and to the concerned authorities including District Collector. It should be posted on the website of the project proponent. (xi) Accordingly, the proponent shall obtain Forest Clearance for diversion of forest land as per Forest (Conservation) Act, 1980. Proponent shall submit an undertaking that work on non-forestry land may only be executed upto such point (to be selected by the user agency) on either side of forest land if it is explicitly certified by the user agency that in case approval under the Forest (Conservation) Act, 1980, for diversion of forest land is declined, it is technically feasible to execute the project along an alternate alignment without involving diversion of forest land. Details of all such stretches along with alternate alignment identified to bypass the forest land should be explicitly provided in the proposal seeking approval under the Forest (Conservation) Act, 1980 and the EIA Notification, 2006. (xii) Commencement of work in non-forest land will not confer any right to NHAI for granting approval under the Forest (Conservation) Act, 1980. (xiii) In and around sanctuary where wildlife movement is frequent, proponent shall install the properly designed Noise Barriers. The proponent must provide the details of design of the barrier with percentage reduction in noise to concerned regional office. (xiv) Monitoring of important air quality parameters like PM_{10}, $PM_{2.5}$, SOx and NOx is to be done at one location towards downwind direction.

3.7 **Improvement of Daund-Karmala-Paranda-Barshi to Osmanabad Road, SH 68, Km 137/260 to Km 189/120, Taluka Karmala, District Solapur, Maharashtra (Length – 50.54 km) by M/s Public Work Division, Akluj Maharashtra – Environmental Clearance**

[Proposal No. IA/MH/NCP/130984/2019] [File No. 10-2/2020-IA.III]

3.7.1 The project proponent along with the EIA consultant M/s MITCON Consultancy and Engineering Services Ltd., made a presentation through Video Conferencing and provided the following information:

(i) **Brief description of the Proposal:** Improvement of Daund Karmala Paranda Barshi to Osmanabad Road, SH 68, Km 137/260 to Km 189/120, Length - 50.54 Km, District Solapur, Maharashtra. **Total Length of the Project –**50.54 km: From village Korti to village Awati, Chainage 137/260 to Chainage 189/120. **Total Area:** 101.08 Ha. (Non-Forest Area: 99.18 Ha; Forest Area: 1.90 Ha).

CD Structure	New	Reconstruction	Widening & Repair	Retain with minor Repair	Total
Pipe Culvert	-	35	-	12	47
Box Culvert	-	-	-	-	-
Slab drain	-	-	-	5	5
Minor Bridge	-	9	-	2	11
Major Bridge	-	-	-	2	2
Total CD Structures					**65**

(ii) **Address of project site (Plot No./Village/ Tehsil/ District/State):** From village Korti to village Awati (Chainage 137/260 to Chainage 189/120) Plot No.: NA Villages: Korti, Vihal, Veet, Pande, Salse and Awati Tahsil: Karmala, District: Solapur State: Maharashtra.

(iii) **Geo-coordinates of project site:**

Village Korti (Start point at CH 137+260):

Latitude - 18°24'38.08"N

Longitude - 75° 0'22.66"E

Village Awati (End point at CH 189+120):

Latitude - 18°18'8.43"N

Longitude - 75°24'24.87"E

(iv) **Area (ha) of the proposed project: Total Length of the Project –**50.54 km: From village Korti to village Awati, Chainage 137/260 to Chainage 189/120. **Total Area:** 101.08 Ha.

(v) **Connectivity to the site: Site Connectivity:** Project is an expansion (widening) of existing Maharashtra State Highway no. 68 which connects Daund to Osmanabad. Major Road Links connected by SH-68 Barshi Solapur road (SH-204) Pune – Solapur – Hyderabad - Vijaywada (National Highway – 65) Nagar Karmala Tembhurni (NH-516A). Nearest Railway Station connecting to project road are – Jeur Railway Station (14 km SW) Nearest Airport: Pune, 134 km Nearest Town/City/District Headquarters: Karmala.

(vi) **Investment/Cost of the project:** Rs. 250.61 Crores.

(vii) **Item of Schedule to the EIA Notification, 2006:** 7(f) Highways.

(viii) **Why appraisal/ approval is required at the Central level:** Since the project is passing through Great Indian Bustard Sanctuary which is a protected area notified under the Wildlife (Protection) Act, 1972. Thus, General Condition applies according to EIA Notification 2006 and its amendment thereof. Hence the approval at the Central level.

(ix) **Applicability of General/Specific Conditions as per EIA Notification, 2006:** Since the project is passing through Great Indian Bustard Sanctuary which is a protected area notified under the Wildlife (Protection) Act, 1972. Thus, General Condition applies according to EIA Notification 2006 and its amendment thereof.

(x) **Landuse/Landcover around 10 km radius of project site:** Land use pattern along the project road and 10km radius around project site comprises of agricultural and settlement areas.

No.	Classification of Land in the Study Area	Area (ha)	Percentage (%)
1	Forest / Thick Vegetation	332.32	29.76
2	Plantations / Shrubs / Grasslands	57.84	5.18
3	Agricultural Land	153.99	13.79
4	Built-up area	13.73	1.23
5	Road Network	32.83	2.94
6	River / Water body	32.16	2.88
7	Wasteland / Sand / Fallow Land	493.79	44.22
Total Geographical Area (10 km radius)		**1116.66**	**100**

(xi) **Right of Way (RoW), only for projects covered under 7(f) category of EIA Notification, 2006:** Existing ROW is 24-30 m. The proposed expansion will be done in the existing ROW only.

(xii) **Terrain and topographical features:** The ground level at the start of the project is 588 m above msl whereas at the end of project it is 518 m above msl. Overall, it is observed that the contour is gradually sloping towards East i.e. Awati (End of the Project). Thus, it can be concluded that the topography is slightly undulating.

(xiii) **Details of water bodies, impact on drainage, if any:** The major Rivers flowing in the project area are the Bhima and Sina. The alignment does not cross any major river. Although, adequate CD structures (Pipe Culverts – 47, Slab Drain – 5, Minor Bridge – 11, Major Bridge – 2) have been provided where the alignment crosses any water body.

(xiv) **Water requirements, sources (during construction and operation phases) and NOC:** Construction Phase Water requirement **–**

Sr. No.	Purpose	Quantity (KLD)
1	Dust Suppression at Work Zone	24
2	Domestic purpose	13.5
3	Earthwork & Embankments	246
4	Concrete Mixing	24
5	Curing	35

No	6	Subgrade Mixing (GSB & WMM Mixing)	35
		Total Water Requirement	**377.5**

Water requirement in Operation Phase.

Source –

- Water will be procured from percolation tanks.
- No Objection Certificate (NOC) for withdrawal of water from percolation tank for construction of Korti – Awati Road from Minor Irrigation Division (Z.P.) Solapur has been obtained.

(xv) **Groundwater extraction/usage and NOC/Clearance from CGWA/State Ground Water Department:** No Ground Water will be used during construction and Operation Phase.

(xvi) **Whether the project is in Critically Polluted area:** No.

(xvii) ToR details: TOR has been issued by EAC (Infrastructure Development, Industrial Estate/Parks/Complexes/Areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways), MoEFCC, New Delhi vide Letter No. F. No. 10-2/2020-IA.III dated 24th February, 2020. Public Hearing has been exempted for this project.

(xviii) **Whether the project involves diversion of forest land:** Yes. The project involves diversion of 1.90 ha of Forest Land. The details of Forest Clearance and Wildlife Clearance are as follows –

Forest Clearance Application Status – Proposal No. – FP/MH/ROAD/43301/2019**,** Status – Under Process at CCF, Pune.

Wild Life Clearance Application Status – Proposal No. – FP/MH/ROAD/43301/2019**,** Status – Under Process at APCCF, Borivali.

(xix) **Whether the project is located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc.:** Few portions of SH-68 (3 patches; 2.889 km) are within boundaries of Great Indian Bustard Sanctuary which is an environmentally sensitive area.

Locations (Village Involved)	**Forest Type and Area for Diversion**	**Status**
Korti, Roshewadi, Karmala	2.889 km of project alignment passes through Forest Land as per Govt. record. Total forest land =1.9 ha	Wildlife Clearance from NBWL under process **FP/MH/ROAD/43301/2019 Dated 10.12.2019**

(xx) **Whether the project is located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC:** Few portions of SH-68 (3 patches; 2.889 km) are within boundaries of Great Indian Bustard Sanctuary which is an Eco-Sensitive zone. Wild life clearance is under process.

Wild Life Clearance Application Status – Proposal No. – FP/MH/ROAD/43301/2019**,** Status – Under Process at APCCF, Borivali.

(xxi) **Waste Management: Provide details of waste water quantity, treatment capacity, recycling/reuse of treated water and disposal, Solid Waste Management, and Hazardous Waste Management.: Waste water quantity: Solid Waste Management**: **Hazardous Waste Management**: **Waste Water -** 10 KLD of Waste generated from labour camps will be treated in Portable STP. The treated water will be used for arboriculture and flushing purpose.

Solid Waste management – During Construction Phase, 18 kg/day of dry waste and 27 kg/day of wet waste will be generated by 100 nos. of labour. Dry Waste will be sold to authorised recycler whereas Wet waste will be handed over to municipal council authorities. No solid waste generation during operation phase. Cutting quantity 700355 m^3, Filling Quantity 816567 m^3. Additional material required for filling will be 116212 m^3, borrowed from the approved quarries / borrow areas. 2665.5 m^3 of top fertile soil from excavated earthworks will be used for plantation purpose along road-side. No Hazardous waste will be generated during construction and operation phase.

(xxii) **STP: Provide details of treatment and usage of treated sewage with STP's capacity.:** 12 KLD Portable STP will be provided to treat 10 KLD of wastewater generated in labour camps during construction phase.

(xxiii) **Details of tree cutting and Green belt development.:** 103 Trees which fall within Right of Way (5m on each side of the Centre line) are summarised girth wise, as below –

Road	Girth Size of Affected Trees (in cm)					
	30-60	60-90	90-120	120-180	180	Total
Korti – Karmala – Awati Road (SH 68)	32	35	23	9	4	103

Of 103 affected trees, Babul (50), Neem (25), Shiras (12), Pimpal (1), English Chinch (1), Shivery (6), Bel (1), Vad (1), Sitafal (1), Hiver (1), Chinch (2), Badam (1), Umbar (1) are the observed species. Majority of trees are of girth size are between 60-90 cm.

Out of 103 affected trees, except Babul, all trees will be transplanted.

- 309 trees will be planted as a compensatory plantation.
- Additionally, 5022 trees will be planted at 50 m on either side of the project road in 3 tier plantation as per GR No. Magraro2016/CR.No.103/Magraro-1 dated 29th September, 2016 issued by the Planning Department, Govt. Of Maharashtra and any other prevailing guidelines issued by Govt. of Maharashtra & IRC SP: 21-2009.
- The plantation will be carried out along the entire project road except stretches passing through Great Indian Bustard sanctuary.

(xxiv) **Energy conservation measures with estimated saving.:** As it is an

upgradation of existing road, solar street lighting will be implemented under CER program.

(xxv) **Parking requirement with provision made.:** Not Parking.

(xxvi) **Details of Rain Water Harvesting.:**

- Total No. of 47 RWH recharge structures will be provided. RWH structures will be provided at the downstream of pipe culverts asper Manual on Artificial Recharge of Ground Water by CGWB.
- The dimensions of the recharge pit are of 1.5m to 3m wide and 2m to 3m deep. The excavated pit is lined with a brick/stone wall with openings (weep-holes) at regular intervals.
- A filter media unit is placed above the bore which will act as Oil Filter. The pit is filled with boulder (1m depth), Gravel (1m depth) and Course sand (1m depth) from bottom to top respectively.
- Perforated Slab is placed above sand layer on top of the recharge pit/structure. It can help water to percolate in filter media and easy for maintenance.

(xxvii) **Brief description of Socio-economic condition of local people and R&R issues involved, if any:**

- The project alignment passes through 8 villages in Karmala taluka of Solapur district.
- The villages that lie on the project alignment are primarily dependent on agriculture, for their source of livelihood.
- Soil, topography, climate and monsoon in these villages are favourable for agriculture.
- The main crops that grow in these villages are wheat, bajra and vegetables. Allied activities such as dairy, poultry, sheep & goat rearing is also a complementary occupation.

Land acquisition and R&R issues involved

No R & R is involved in the project. Although 19 structures owned by 76 households are affected by the project, all the affected households are non-titleholders i.e. encroachers / squatters. However, a Resettlement Plan (RP) for this Project has been prepared in compliance with the applicable State Government, Government of India and ADB policy and legal framework.

(xxviii) **Employment potential, No. of people to be employed:** 100 nos. of workers will be employed during construction phase.

(xxix) **Benefits of the project:**

- Reduced travel time
- Lesser fuel consumption
- Less no. of accidents
- Health benefits due improvement in air quality of the project area
- New ancillary businesses flourishing in the Project area.

	(xxx) **Brief summary of specialised Studies carried out for the project as per the ToR, if any:** Following Studies have been carried out as per the TOR – • Acoustic and Light Proofing study considering the Wildlife Institute of India manual and other studies by the reputed institutes on the matter. • Detailed conservation plan for Great Indian Bustard and other grassland obligatory species including grassland development in consultation with the Chief Wildlife Warden. • Wetland Conservation Plan with special consideration of Ujani dam in consultation with the State Forest Department. • Road kill management plan. • Traffic Studies & Demand Forecast (SH-68) • Detailed 3 tier plantation plan. • Resettlement Plan • Disaster Management Plan • Action Plan for CER activities (xxxi) **Details of Court cases, if any:** Not Applicable.
3.7.2	The EAC applauded the consultant for good EIA/EMP preparation. The EAC, after detailed deliberation during its 239th meeting on 29th July, 2020, **recommended** the project for grant of **Environmental Clearance**, with the following specific conditions in addition to all standard conditions applicable for such projects: (i) This Environmental Clearance is subject to outcome of court cases pending against the project proponent at Hon'ble Supreme Court of India / High Court / other Courts or tribunals, if any. (ii) The proponent shall obtain wildlife Clearance as per Wildlife (Protection) Act, 1972. (iii) No Ground water shall be extracted and used during construction and/or operation phases of the project. Approval/permission of concerned authority shall be obtained before drawing surface water from canal or any other sources. State Pollution Control Board (SPCB) concerned shall not issue Consent to operate (CTO) till the project proponent obtains such permission(s). (iv) All the RWH structures should be provided with oil separator so as to prevent ground water being contaminated. (v) The proponent shall obtain permission from the competent authorities for tree felling along the proposed alignment. (vi) As committed, 309 trees shall be planted as a compensatory plantation and additional 5022 trees shall be planted at 50 m on either side of the project road in 3 tier plantations as per GR No. Magraro2016/CR.No.103/Magraro-1 dated 29th September, 2016 issued by the Planning Department, Govt. Of Maharashtra and any other prevailing guidelines issued by Govt. of

		Maharashtra & IRC SP: 21-2009. Any tree above 500 cm girth will not be cut and efforts to be made for a minor alignment to the road to save such old and large trees.
	(vii)	No tree plantation shall be carried out within Great Indian Bustard Sanctuary. Only grassland development should be done in these areas.
	(viii)	Quarry areas shall be developed as water reservoirs with proper fencing around quarry area. Rain water harvesting pit shall be at least 3 - 5 m above the highest ground water table. Provisions shall be made for oil and grease removal from surface runoff. Rainwater harvesting structures shall be provided near the disposal point of the side drains as prescribed by CGWB guidelines.
	(ix)	As per the Ministry's Office Memorandum F.No. 22-65/2017-IA.III dated 1st May, 2018, and proposed by the project proponent, an amount of Rs. 4.259 crores (computed on slab basis for total budget of Rs. 250.61 crores) shall be earmarked under Corporate Environment Responsibility (CER) with special focus on providing healthcare facilities to the government hospitals in light of COVID 19 pandemic. A small portion of the fund can be used for the activities such as support to Panchayats/local government, schools w.r.t. sanitation, health and hygiene, construction of public toilets in the surrounding villages, medical camps, rainwater harvesting, Installation of street lights in nearby villages as per requirement, rejuvenation and creation of water ponds, augmentation of drinking water facilities and provision of solid waste facilities viz. vermicompost and safe drainage of waste water in consultation with concerned Panchayats. The activities proposed under CER shall be restricted to the affected area around the project. The entire activities proposed under the CER shall be treated as a project and be monitored. The monitoring report shall be submitted to this Ministry's Regional Office concerned as a part of half yearly compliance report, and to the concerned authorities including District Collector. It should be posted on the website of the project proponent.
	(x)	Accordingly, the proponent shall obtain Forest Clearance for diversion of forest land as per Forest (Conservation) Act, 1980. Proponent shall submit an undertaking that work on non-forestry land may only be executed upto such point (to be selected by the user agency) on either side of forest land if it is explicitly certified by the user agency that in case approval under the Forest (Conservation) Act, 1980, for diversion of forest land is declined, it is technically feasible to execute the project along an alternate alignment without involving diversion of forest land. Details of all such stretches along with alternate alignment identified to bypass the forest land should be explicitly provided in the proposal seeking approval under the Forest (Conservation) Act, 1980 and the EIA Notification, 2006.
	(xi)	Commencement of work in non-forest land will not confer any right to NHAI for granting approval under the Forest (Conservation) Act, 1980.
	(xii)	In and around sanctuary where wildlife movement is frequent, proponent shall install the properly designed Noise Barriers. The proponent must provide the details of design of the barrier with percentage reduction in noise to concerned regional office.
	(xiii)	Monitoring of important air quality parameters like PM_{10},$PM_{2.5}$,SO x and NOx is to be done at one location towards downwind direction.

3.8	**Development of Vadodara Mumbai Expressway (Phase-II) from km 26.320 to km 104.700 (km 390.864 of NH-8) of main Expressway in the State of Maharashtra by M/s National Highways Authority of India – Environmental and CRZ Clearance** **[Proposal No. IA/MH/MIS/156726/2020] [File No. 10-80/2016-IA.III]**
3.8.1	The project proponent along with the EIA consultant M/s Intercontinental Consultants and Technocrats Pvt. Ltd, made a presentation through Video Conferencing and provided the following information: (i) **Brief description of the Proposal:** NH-48 (old NH-8) is the only National Highway which connects Delhi to Mumbai. Present traffic on NH-48 exceeds the capacity of 6 lane highway and leads to huge congestion; increase in pollution, vehicle operating cost & travel time. Further widening of NH-48 is not viable. To cater the present & predicted traffic and rapid economic development taking place in the States of Gujarat and Maharashtra, construction of Vadodara Mumbai Expressway (VME) along with SPUR is envisaged. The proposed VME has been divided into three phases for implementation. The proposed project is the development of 8 lane access-controlled green-field Vadodara Mumbai Expressway (Phase-II) starts at proposed chainage 26+320 (revised to 26+582) and ends at proposed chainage 104+700 [km 390+864 of new NH-48 (old NH-8)] in the state of Maharashtra. Total length of VME (Phase-II) is 78.118 km and right of way is 100 m in general. At interchanges, highway amenities, truck parking additional land shall be required as per actual design. 8 major bridges, 29 minor bridges, 133 culverts, 2 interchanges, 4 fly-overs, 8 vehicular underpasses, 3 vehicular overpasses, 22 light vehicular underpasses, 50 cattle underpasses, toll plaza at 2 locations, truck parking and way side amenities are also proposed along the expressway. (ii) **Address of project site (Plot No./Village/ Tehsil/ District/State):** The expressway starts at proposed chainage 26+582 (at Koshimb village of Vasai Taluka) and ends at proposed chainage 104+700 [km 390+864 of new NH-48 (old NH-8)] at Ibhadpada village of Talasari Taluka in the state of Maharashtra. Total length of expressway (Phase-II) is **78.118 km**. The proposed alignment is passing through 51 villages in 4 talukas (Vasai, Palghar, Dahanu and Talasari) of Palghar district in the state of Maharashtra. (iii) **Geo-coordinates of project site:**

Description	**Coordinates**
Starting Point of proposed expressway (Ch. 26+582)	19°29'19.5"N, 72°52'58.8"E
End Point of proposed expressway (Ch. 104+700)	20° 9'2.4"N, 72°54'55.7"E

(iv) **Connectivity to the site:** It's a linear project and the proposed alignment is passing through 51 villages in 4 talukas (Vasai, Palghar, Dahanu and Talasari) of Palghar district in the state of Maharashtra. The start point of the expressway is about 1.8 km away from NH-48 (old NH-8). Mira Bhayandar is the major nearest railway station and distance is 22 km. However, many small railway stations fall in the area along project corridor.

Chhatrapati Shivaji Airport, Mumbai is the nearest airport and distance is 67 km.

(v) **Investment/Cost of the project:** Total Project Cost is Rs, 7,101 Cr.

(vi) **Item of Schedule to the EIA Notification, 2006:** 7 (f) Highways.

(vii) **Why appraisal/ approval is required at the Central level:** The proposed project is a green field expressway. As per the EIA Notification, 2006 and its subsequent amendments, it is a category **"A"** project and Environmental Clearance is required from the EAC of MoEF&CC. The proposed expressway crosses Vaitarna River with CRZ categories CRZ I, II, III and IV. Hence, CRZ Clearance is required from Maharashtra Coastal Zone Management Authority (MCZMA) and MoEF&CC.

(viii) **Landuse/Landcover of project site in tabular form:**

S. No.	Land-use / Land-cover	Area (ha)	%	Remarks
1	Agriculture Land	678.87	73.13	-
2	Open Scrub	124.49	13.41	-
3	Barren Land	60.17	6.48	-
4	Reserved Forest	25.16	2.71	-
5	Surface Water Bodies	19.63	2.12	-
6	Settlement	12.67	1.37	-
7	Mangrove Forest	3.31	0.36	-
8	Open Mixed Forest	2.22	0.24	-
9	Mudflats	1.4	0.15	-
10	Marshy Land	0.36	0.04	-

(ix) **Landuse/Landcover around 10 km radius of project site:**

S. No.	Land-use / Land-cover	Area (ha)	%	Remarks
1	Agriculture Land	1461.1861	48.27	-
2	Reserved Forest	950.1328	31.39	-
3	Settlement (Urban and Rural)	176.5207	5.83	-
4	Surface Water Bodies	110.7939	3.66	-
5	Marshy Land	85.2852	2.82	-
6	Open Scrub	77.8445	2.57	-
7	Open Mixed Jungle	55.2606	1.83	-
8	Industrial Area	33.4404	1.1	-
9	Mangrove Forest	25.835	0.85	-
10	Salt Pan	21.5732	0.71	-
11	Barren Land	19.2519	0.64	-
12	Mudflats	10.2007	0.34	-
	Total	**3027.325**	**100**	

(x) **Right of Way (RoW) in case of Highway projects only:** The proposed right of way is 100 m / 120 m in general. At interchanges, highway amenities, truck parking additional land shall be required as per actual design Terrain and topographical features.

(xi) **Terrain and topographical features:** The proposed alignment is located in the coastal plain of the Palghar district and passes through mainly plain terrain except for a few stretches where it passes through rolling terrain with elevation varies from about 3 m to 113 m above MSL (river bed elevation -15m).

(xii) **Details of water bodies, impact on drainage, if any:** ***Details of water bodies:*** The alignment of the proposed greenfield expressway crosses many river, canal and nala en-route, which have been presented in Table-1.

List of River, Canal and Nala Crossings en-route

Sl. No.	Proposed Chainage	Name of River/ Canal	Village
1	31+300	Vaitarna Crossing-1	Wadhiv Saravali
2	35+725	Vaitarna Crossing-2	Sonave
3	42+858	Canal	Navje
4	43+725	Canal	Sakhare
5	45+040	Vaitarna Crossing-3	Khamloli
6	60+712	Canal	Lalonde
7	62+421	Canal	Kirat
8	65+134	Canal	Ravte
9	68+420	Surya River	Dhabon
10	72+190	Suseri Nalla	Dhabon
11	76+037	Canal	Chandwad
12	89+604	Jogani River	Chinchale
13	93+650	Canal	Vankas
14	94+491	Canal	Vankas
15	96+208	Vadvali / Tumb River	Vankas

Drainage & Hydrological Flow:

- To minimize the impact drainage & hydrological flow, 8 major bridges, 29 minor bridges, 133 culverts are proposed to be constructed along the expressway. It has been ensured that free flow of water is maintained wherever the expressway alignment crosses river / local streams / nallah etc.
- It has been ensured that all the 1st and 2nd order streams crossing the proposed expressway alignment provided with necessary culverts, mirror bridges and major bridges **with capacity of 20% excess discharge**.

- 4 ponds are coming within proposed RoW at Chainage 27+750, 32+200, 32+400 and 41+200. Pond at chainage 27+750 has been saved by providing major bridge. Ponds at chainage 32+200 and 41+200 have been saved by providing minor bridges. Further, pond at chainage 32+400 is located within the proposed RoW but outside the work zone. Toe wall has been proposed at the location to save the pond. Hence, there will be no impact on ponds.
- Shoulder and toe drains shall be provided along the expressway to facilitate its better maintenance and increase in the life of the carriageway. This will also help in avoiding soil erosion and land degradation due to water stagnation on the either side of the expressway.
- All bridges have been designed for a return period of 100 years and culverts have been designed for a return period of 50 years.
- Construction works of culverts and bridge (cross drainage structures) are taken up during the lean flow periods in summer to minimize the impacts on drainage.
- Suitable drainage at construction camp will be provided to eliminate the chances of formation of stagnant water pools that leads to soil erosion & breeding of mosquitoes.

(xiii) **Water requirements, sources (during construction and operation phases) and NOC:**

Breakup of Fresh Water Requirement during Construction

S. N	Purpose	Unit	Quantity
1	For road construction:		
	a) Construction related to earthwork	KL	45,00,000.00
	b) Construction related to Fly Ash		
	c) Construction of GSB		
	d) Construction of WMM		
	e) Bridges, culverts, retaining walls & other structures		
2	Dust suppression	KL	5,00,000.00
3	For drinking & other domestic purpose	KL	10,00,000.00
	Total		**60,00,000.00**

Operation Phase: During the operations phase the water would be required primarily for domestic use at the toll plaza and landscaping.

(xiv) **Whether the project is in Critically Polluted area:** No.

(xv) ToR details:

- Form-1 was uploaded through online portal of MoEFCC on 26th October 2016 (Proposal No. IA/MH/MIS/59976/2016).
- Terms of Reference (ToR) was issued vide MoEFCC letter no. dated 9th December 2016 (File No.10-80/2016-IA-III).
- MoEFCC, vide letter dated 1st January 2020, extends the validity of the ToR upto 8th December 2020.

- No information was sought by the EAC at the time of issue of ToR.

(xvi) **Public Hearing:**

Date & Time of Public Hearing	11th February, 2020 at 12.30 hrs
Venue of Public Hearing	Gram Panchayat Office, Dahisar Turfe Manor village, Taluka and District Palghar
Panel Members for conducting public hearing	
1. Shri Dilip Gutte, Addl. District Magistrate, Palghar - Chairman, 2. Shri D. B. Patil, Regional Officer, MPCB, Thane - - Member 3. Shri Amar Durgule, Sub Regional Officer, Tarapur-II - Convener	

Summary of issues raised and response / commitments by Proponent

S. N.	Category of issues raised by Public	Response / commitments by Proponent
1.	Need of the project	NH-48 (old NH-8) is the only National Highway which connects Delhi to Mumbai. Present traffic on NH-48 exceeds the capacity of 6 lane highway and leads to huge congestion; increase in pollution, VOC & travel time. Further widening of NH-48 is not viable. To cater the traffic and economic development taking place in the States of Gujarat and Maharashtra, construction of Vadodara Mumbai Expressway (VME) is envisaged.
2.	Increase in noise pollution	Noise modeling at sensitive receptors shows that the noise level is within standard in most of the locations. Noise barrier has been proposed wherein the noise level is above the standard
3.	Water availability	As per CGWA classification, all the Talukas of the proposed expressway fall under safe category.
4.	Climate change	Maharashtra State Adaptation Action Plan on Climate Change projected to increase in temperature and rainfall all over the state in future with regional variations. Marginal increase in temperature along the project corridor, if any, shall be mitigated by the either side vegetative barrier during operation phase
5.	Air quality	Air quality is monitored during the summer season, values are within the NAAQS. Precautionary measures have been suggested to minimise the impact on air quality.
6.	Obstruction of rain water and impact on agriculture	NHAI design adequate number of cross drainage structure for free flow of water courses after detailed Geo-hydrological study.
7.	Land Acquisition	The Land Acquisition for VME (Phase-II) project is being done with the help of State Government 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. The compensation will be paid to legitimate land losers /

		affected people.
8.	Waste disposal in way side amenity	Proper arrangements for recycling /reuse of plastic waste, arrangements for disposal of food waste and sewage treatment plan shall be provided as per prevalent rules and regulations.
9.	Cutting of trees	Adequate mitigation measures like greenbelt development, compensatory afforestation, sapling distribution etc. has been suggested

(xvii) **Whether the project involves diversion of forest land:** The proposed project involves diversion of **193.1777 ha** forest land (Reserved Forest - 25.1597ha, Mangrove Forest – 3.9500 ha, Protected Forest – 136.5576 ha and Private Forest 27.5104 ha). Proposal for diversion of forest land has been uploaded on October 15, 2018 (FC Proposal No. FP/MH/ROAD/36560/2018). DCF, Dahanu Forest Division forwarded the proposal to CCF, Thane vide letter dated July 02, 2020 and it is under examination with the State Government.

(xviii) **Whether the project is located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc.:**

- The proposed expressway does not pass through any Wildlife Sanctuary, National Park etc.
- **Tungareshwar Wildlife Sanctuary:** It is located at a distance of ≅ 1.28 km from the boundary of the Sanctuary and at a distance of ≅ 0.456 km from the notified Eco-Sensitive Zone boundary [Gazettee Notification S.O. 3250(E) dated 11th September 2019] of Tungareshwar Wildlife Sanctuary i.e. outside the Eco-Sensitive Zone.
- **Dadra and Nagar Haveli (DNH) Wildlife Sanctuary:** The Wildlife Sanctuary is located on North – East side of end chainage of proposed expressway at a distance of **4.57 km**. The extent of Eco-Sensitive Zone of the sanctuary is 100m on all side. The alignment of proposed expressway does not pass through the DNH Wildlife sanctuary and it's ESZ.

(xix) **Whether the project is located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC:**

- The proposed expressway does not pass through ESZ.
- **Dahanu Taluka Ecologically Sensitive Area:** Approx. 27.745 km stretch of the proposed expressway is traversing through Dahanu Taluka Ecologically Sensitive Area (proposed km 68+455 to Km 96+200). Application has been submitted to the Dahanu Taluka Environment Protection Authority (DTEPA) vide letter dated 28.05.2020.
- DTEPA vide letter dated 20.07.2020 informed that the Authority is not in a position to grant any NOC/ Clearance / Approval to the proposal at this stage.

(xx) **Waste Management: Provide details of waste water quantity,**

		treatment capacity, recycling/reuse of treated water and disposal, Solid Waste Management, and Hazardous Waste Management.: Waste water quantity: Solid Waste Management: **Hazardous Waste Management**: **Wastewater Treatment in Construction Camp:** Daily water requirement for drinking & domestic purposes in the 3 construction camps are 46,296 liters (15,432 liters in each construction camp) and generation of wastewater is 37,037 liters (12,346 liters in each construction camp). Packaged Wastewater Treatment Plant has been recommended for the construction camp. **Solid Waste Management:** Refuse Containers will be provided at site for the management of domestic waste generated by the construction laborers and these containers shall be emptied at least once daily and will be disposed of as per SWM Rules, 2016 in consultation with the local authority. **Construction waste:** The part of the cut material shall be used in fill and further possibility of using the cut material in other road works shall be examined based on its suitability during the construction phase. The balance cut material, if any, shall be disposed off according to the Construction and Demolition Waste Management Rules, 2016. **Hazardous Waste Management:** The hazardous waste generated during construction period will be disposed off as per applicable rule. (xxi) **Details of tree cutting and Green belt development.: Trees in forest land:** Out of 51 affected villages; there is forest in 30 villages. Joint tree enumeration with the Forest Department has been completed in all villages. There are **27,269 trees** within the proposed RoW in the forest land. It may be noted that, all trees within the proposed RoW may not be impacted. Average width of work zone varies between 70 to 75 m. Therefore; trees beyond the work zone may be saved. **Trees in non-forest land:** As per field study and joint measurement survey of 49 villages, out of 51 affected villages, approximately **61,080 trees** are falling within the proposed ROW. **Total Trees within proposed RoW:** 88,349. Permission will be taken from the Forest Department for felling trees within proposed ROW. It may be noted that during construction of the expressway, few trees shall be saved which are located beyond the toe line / utility corridor. **Green Belt Development**: Avenue plantation shall be carried out as per IRC SP 21:2009. Based on the space available for avenue plantation, following plantation arrangement has been proposed: • Three rows plantation on both side has been proposed in **68.5 km** stretch (1250 trees/km) • Three rows plantation on one side has been proposed in **5.095 km** stretch (625 trees/km) • One / two rows plantation on both sides has been proposed in remaining stretch • Two rows of hedge / small ornamental trees with plant to plant spacing of 3.0 m have been proposed to be planted in the median. **90,899 no. of trees and 49,408 no. of hedges** proposed to be planted under greenbelt development plan and a capital cost provision of about **Rs. 23.12 Crore** has been kept for greenbelt development.

(xxii) **Energy conservation measures with estimated saving.:** Not Applicable.

(xxiii) **Parking requirement with provision made.:** Not Applicable.

(xxiv) **Details of Rain Water Harvesting.:** As per the CGWA classification, all the Talukas, through which the proposed expressway is passing, fall under safe category. Mean water level is in the range of 2 to 5 mbgl in the Palghar, Dahanu and Talasari area. Therefore, rainwater harvesting structure has not been proposed along the expressway. However, as per MoRTH requirement rainwater harvesting structure has been proposed at toll plaza and wayside amenities.

(xxv) **Whether the project is in CRZ area:** The proposed expressway crosses Vaitarna River with CRZ categories CRZ I, II, III and IV. CRZ map of 1:4000 scale and report has been prepared by the National Centre for Earth Science Studies (**NCESS**), Thiruvananthapuram based on CRZ Notification 2011 and Coastal Zone Management Plan (CZMP) of Thane and Palghar district (approved by MoEFCC on 28.02.2019).

Village wise Length of VME (Phase-II) alignment in CRZ Crossing areas

Proposed Ch. Km		Length (Km)	Village	River
From	To			
28+277	28+519	0.242	Doliv	Vaitarna River
29+991	30+374	0.383		
30+540	30+852	0.312		
30+852	32+056	1.204	Wadhiv & Navghar	
35+207	36+597	1.390	Penand & Sonave	
44+828	45+264	0.436	Sakhare, Khamloli & Dahisar	
Total		**3.967**		

Source: CRZ Map & Report prepared by NCESS, February 2020.

Village wise Break-up CRZ Categories in VME Phase-II Crossing Points (in Sq. m.)

Location	CRZ IA		CRZ IB	CRZ II	CRZ III	CRZ IVA	CRZ IVB
	Mangrove	Mangrove Buffer					
Doliv Village	1,551.90	-	16,126.50	11,661.90	-	-	15,469.00
Wadhiv / Vaithi Village	10,322.60	9,635.60	5,743.90	-	806.80	-	21,735.40
Navghar Village	14,014.80	6,297.30	8,710.40	-	6,548.60	-	7,547.10
Penand Village	1,589.50	5,410.90	7,237.04	-	40,029.20	-	8,505.20
Sonave Village	4,455.90	5,407.20	13,247.40	-	58,492.40	-	8,085.60
Sakhare Village	-	-	1,195.10	-	6,764.30	-	1,469.10
Khamboli Village	-	-	3,372.50	-	12,213.94	-	10,397.60
Dahisar Village	32.10	-	7,947.80	-	3,491.80	-	6,292.90

Total (in Sq. m.)	**31,966.80**	**26751.00**	**63,580.64**	**11,661.90**	**128,347.04**	**-**	**79,501.9**
Total (in ha)	**3.20**	**2.68**	**6.36**	**1.17**	**12.83**	**0.00**	**7.95**
Grand Total = 341809.3 Sq. m / 34.2 Ha							

Source: CRZ Map & Report prepared by NCESS, February 2020.

Recommendation of MCZMA:

- PP should ensure that proposed activities in CRZ areas are as per provisions of CRA Notification, 2011 (amended time to time).
- PP to ensure compensatory mangrove afforestation shall be undertaken by the PP through Mangrove Cell, Mumbai.
- Prior permission from hon. High Court Bombay should be obtained as the project involves cutting of mangroves.
- PP to obtain Forest Clearance under Forest (Conservation) Act, 1980.
- PP to ensure the tidal flow of coastal water body should not be affected due to proposed activities.
- PP to ensure that minimum mangrove vegetation is affected due to proposed activities.
- PP to ensure the debris (C&D Waste) should not be disposed in CRZ area and should follow C&D Waste Rules, 2016.
- PP to ensure that no ground water shall be tapped to meet with water requirement during construction & / or operation phase from CRZ area.
- PP to ensure there shall no discharge of any untreated sewage / untreated effluent in CRZ area.
- Best engineering practices & construction should be followed for fire safety measures and for conservation of coastal environment.
- PP to ensure that the muck disposal should not be in CRZ area and should be as per standard guidelines & procedures.
- PP to implement the Environment Management Plan effectively during the implementation and operation phase of the project and PP to ensure that Separate budget shall be allotted for the same
- PP to ensure that the Noise level during Construction & operation phase should not exceed the permissible limit.
- PP to ensure that livelihood activities of the fishermen communities should not be hampered due to project activities.
- All other required permissions should be obtained before the commencement of the project.

(xxvi) **Brief description of Socio-economic condition of local people and R&R issues involved, if any:** The tentative area of private / government land to be acquired is around 705.9257 ha and total number of affected households is 3,110 in terms of land acquisition & structures. Total number of structures to be affected is 895. 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. (xxvii) **Employment potential, No. of people to be employed:** Approx. 650 workers both skilled and unskilled during construction phase of 2 years and approx. 150 during operation phase. (xxviii) **Benefits of the project:** The expressway will link Ahmedabad Vadodara Expressway to Mumbai Pune Expressway thus providing Expressway Connectivity from Ahmedabad to Pune for a length of about 650 km. The Expressway will reduce travel time from Vadodara to Mumbai to under 4 hours from the present 6 to 7 hours on NH-8 and will reduce vehicle operation cost. The expressway will support the local businesses and economy along the project corridor. It will also facilitate small-scale industries by streamlining transport of raw and finished material. (xxix) **Brief summary of specialised Studies carried out for the project as per the ToR, if any:** Not Applicable. (xxx) **Details of Court cases, if any:** Following petitions are under hearing on Hon'ble High Court Bombay, which are filed by the project affected persons regarding land acquisition activities: • WP 13561/ 2018 • WP 13544/ 2018
3.8.2	It was committed by the project proponent that letter of recommendations by the Maharashtra Coastal Zone Management Authority for this project will be submitted before finalisation of the Minutes. However, proponent could not submit the recommendation letter. In view of this, The EAC, after detailed deliberation during 239th meeting on 29th July, 2020, deferred the proposal for want of recommendation letter by Maharashtra Coastal Zone Management in respect of this project.
3.9	**Development of 6 lane National Highway from the junction of Eastern Peripheral Expressway at Khekra to Saharanpur Bypass at Latifpur village from km 0.000 to km 118.533 of Delhi to Dehradun Economic Corridor under Bharatmala Pariyojana by M/s National Highways Authority of India – Terms of Reference** **[Proposal No. IA/UP/NCP/162955/2020] [File No. 10-44/2020-IA.III]**
3.9.1	The project proponent along with the DPR Consultant M/s PDCOR Limited, Jaipur, made a presentation through Video Conferencing and provided the following information: (i) **Brief description of the Proposal:** The Ministry of Road Transport and Highways, Govt. of India has launched Bharatmala Pariyojana in Year 2015 to improve the efficiency of freight in India. The proposed Delhi- Saharanpur corridor (Green field) is proposed to be developed in phase manner under Bharat Mala Pariyojana (Phase-II) which has been identified under Bharatmala circular RW/NH-37011/37/2018-PPP (part). The project alignment (Greenfield)

starts from Junction of Eastern Peripheral Expressway (EPE Khekra) and terminates at Saharanpur Bypass. The total length of this stretch is 118.533 km. The Right of Way (ROW) proposed is 70 m with 6 lane (3+3) carriageway. The proposed project gives connectivity between NH-709B and NH-58 from EPE Delhi to Saharanpur bypass and also to Dehradun. It provides connectivity to important districts of Uttar Pradesh such as Baghpat, Shamli, and Saharanpur further given connectivity to Meerut and Muzaffarnagar and at the end point of Saharanpur bypass it provides spur connectivity to Dehradun. It also gives connectivity to important tourist place/ places like Roorkee, Haridwar, Dehradun and Rishikesh. Project alignment is a shorter route for economic corridor from Delhi to Saharanpur bypass and also to Dehradun. This road alignment route is also of strategic importance (considering the past experience of disturbances in Delhi, Saharanpur and Dehradun), as it along with other connecting "in Principle NHs"/NHs will provide better connectivity for Delhi to Saharanpur, Bilaspur and Dehradun &rest of the country via Uttarakhand/Haryana.

(ii) **Address of project site (Plot No./ Village/ Tehsil/ District/State):** Linear project (New Highway), traverse in 4 districts i.e Baghpat, Shamli, Muzaffarnagar and Saharanpur of state Uttar Pradesh state.

(iii) **Geo-coordinates of project site:**

Start point of project road:

28°53'4.09"N 77°14'45.19"E

28°52'45.74"N 77°14'53.06"E

28°53'1.11"N 77°14'51.83"E

28°53'0.01"N 77°14'54.20"E.

End Point of Project road:

29°53'19.03"N 77°35'6.34"E

29°53'29.90"N 77°35'24.45"E

29°53'15.08"N 77°35'13.05"E

29°53'13.67"N 77°35'15.08"E.

(iv) **Site alternatives under consideration:** Four alternative routes have been considered:

I. **Widening of Existing Road** to 6 lane. Proposed Length is 124km.

II. **Widening of Existing Road** with combined bypasses of Baghpat and Baraut, Kishapur Baral, Ailum, Shamli, combined bypass of Thanabhawan and Jalalabad, Rampur Maniharan entailing about 70% bypass length out of 140km.

III. **Proposed Greenfield alignment** at RHS of NH-709B towards Dehradun. Proposed Length is 118.533km.

IV. **Proposed Greenfield Alignment** at LHS of NH-709B towards Yamuna Nagar. Proposed Length is 124km.

After comparative study it is concluded that **option-III** have shortest route between Delhi & Dehradun with length 118.533 km and cost 5345.00 crores.

Further, keeping in view of Environmental loss, minimum tree cutting, minimum forest land diversion, least R&R activity/structure loss, option-3 is recommended despite having low cost.

(v) **Area (ha)/Length (km) of the proposed project:** 118.533 km.

(vi) **Connectivity to the site:** The Project is Greenfield alignment. The start point of the project road is connected with Junction of Eastern Peripheral Expressway (EPE Khekra). Baghpat town is the nearest town and Baghpat Road Railway Station (BPM) is the nearest railway station (Aerial Distance 1.3 km.) to the project site.

(vii) **Investment/Cost of the project:** 5345 Crore (EPC cost).

(viii) **Item of Schedule to the EIA Notification, 2006:** 7(f) Highways.

(ix) **Applicability of General/Specific Conditions as per EIA Notification, 2006:** Not Applicable.

(xiii) **Why appraisal/ approval is required at the Central level:** As per EIA notification 2006 and its subsequent amendment, New National Highway projects required to be appraised at Central level.

(xiv) **Whether project involves any violation under notification S.O 804(E) dated 14.03.2017:** No.

(xv) **Landuse/Landcover of project site:**

Within buffer of 10 km either side of project road				
S.No.	**Landuse/ Landcover**	**Area (ha)**	**%**	**Remarks, if any**
1	Agriculture land	256450.47	96.03	
2	Built-up Area	8792.22	3.29	
3	Forest	393.52	0.15	
4	Waterbody/River/ Canal	1401.23	0.52	
	Wasteland	22.13	0.01	
Total		**267059.58**	**100**	

(xvi) **Landuse/Landcover around 10 km radius of project site:**

Within buffer of 1 km either side of project road				
S.No.	**Landuse/ Landcover**	**Area (ha)**	**%**	**Remarks, if any**
1	Agriculture Land	24547.55	97.15	-
2	Built-up	668.43	2.65	-
3	Foresst Plantation	40.65	0.16	-
4	Waterbody/River	10.67	0.04	-
Total		**25267.31**	**100.00**	**-**

(xvii) **Right of Way (RoW), only for projects covered under 7(f) category of EIA Notification, 2006:** The project is Greenfield. Project road length is 118.533 P RoW is 70 m other than locations of Toll Plaza, way side amenities and Junctions.

(xviii) **Terrain and topographical features:** Entire project road alignment passes through plain terrain.

(xix) **Details of water bodies, impact on drainage, if any:** At 32 location project road cross minor irrigation canals including Eastern Yamuna Canal and its small branches. Also, at 4 locations project road cross rivers

		including Hindon river. There are 2 village ponds coming to PRoW which is to be filled. Other than these 4 nos. of village ponds are likely to get partial impact which are located along the project road.
	(xx)	**Water requirements, sources (during construction and operation phases) and NOC:** Water will be procured from nearby available sources both (Ground water & Surface water). Details will be furnished in EIA report.
	(xxi)	**Groundwater extraction/usage and NOC/Clearance from CGWA/State Ground Water Department:** Water will be procured from nearby available sources both (Ground water & Surface water). On behalf of NHAI, the Concessionaire will take permission/NOC prior to extraction / use of both Ground and Surface water**.**
	(xxii)	**Whether the project is in Critically Polluted area:** No.
	(xxiii)	**Tree cutting, types, numbers, girth size etc.:** Approximately 2828 nos. of trees are to be felled. Out of these 2828 nos. of impacted tree approx. 250 trees are on PF land which is linear plantation along the cross roads and Eastern Yamuna Canal. Most of private trees are Populus tree (*Populus tremula*), Eucalyptus (*Eucalyptus hybrid*) mango (*Mangifera indica*). Girth wise details of impacted trees shall be given in EIA Report.
	(xxiv)	**Whether the project involves diversion of forest land:** Yes, project involves diversion of 2.2680 Hectare of forest land. This forest land is having legal status of protected forest land (PF) along the existing cross roads. The application for forest land diversion is to be uploaded and presently it is under process.
	(xxv)	**Whether the project is located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc.:** No.
	(xxvi)	**Whether the project is located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC::** No.
	(xxvii)	**STP: Provide details of treatment and usage of treated sewage with STP's capacity.:** In Worker cum Construction camp, septic tank will be provided with optional provision of mobile STP.
	(xxviii)	**Brief description of Socio-economic condition of local people:** The alignment passé through mostly rural area of districts-Baghpat, Shamli, Saharanpur & Muzaffarnagar. The basic social infrastructure of settlement along the project road is moderately developed along the route. The settlements along the project road have primary health care facilities, basic education and access to market and also connected to main road. Population of Saharanpur district is 34,66,382. Males constitute 53% of the population and females 47%. Saharanpur has an average literacy rate of 70.49%, with 78% of the males and 61% of females literate. In Baghpat district, Males constitute 53% of the population and females 47%. Baghpat has an average literacy rate of 66%, with 82% of the males and 58% of females literate. 13% of the population is under 6 years of age. Shamli district has a population of 13,13,650. The district has a population density of 1125 inhabitants per square kilometre (1,700/sq mi). Shamli has a sex ratio of 878 females for every 1000 males, and a literacy rate of 53.89%.

	Muzaffarnagar district has a population of 4,143,512. The district has a population density of 960 inhabitants per square km. Muzaffarnagar has a sex ratio of 886 females for every 1000 males and a literacy rate of 70.11%. Minority population is about 40% of the total population of the district. The economy of the area is mainly based upon sugarcane and sugar industry. The large-scale production of sugarcane encourages the sugar industry and paper board industry in area specially Baghpat and Muzaffarnagar district. During EIA study, Socioeconomic survey and census survey shall be done along with R&R study and the same will be incorporated in EIA report. (xxix) **R&R issues involved, if any:** Most of the land coming under the project area is agricultural land except some protected forest land which will be converted into six lanes project highway. The required land will be acquired by NHAI before the commencement of construction work. R&R plan is being prepared and will be submitted in EIA-EMP report. (xxx) **Employment potential, No. of people to be employed:** Approximately 1000 labours in 4 construction packages shall be employed per day for a period of 30 month. Also, during operation of highway around 150 persons will get employment at toll plaza, Patrolling including medical staff and in maintenance of highway. (xxxi) **Benefits of the project:** The project will have multiple benefits. It will improve efficiency of freight movement to Delhi. Overall improvement will be expected in local area in following ways: • Development and improvement in transportation infrastructure facility will connect villages with the nearby cities. • Better approach to Medical & Educational services and quick transportation of perishable goods like fruits, vegetables and dairy products. • Development of tourism and pilgrimage. • Transporting, processing and marketing of agricultural products. • Fast and safe connectivity resulting in savings in fuel, travel time and total transportation cost to the society. • Reduction in pollution due to reduction in congestion. • Indirect and direct employment opportunity to people from all skilled, semiskilled and unskilled streams will act as social benefits. • It is assumed that the overall Bharatmala project will boost socio-economic development in the entire central region of Uttar Pradesh & Uttarakhand. (xxxii) **Details of Court cases, if any:** No.
3.9.2	The EAC, after detailed deliberations during 239th meeting held on 29-30 July, 2020, **recommended** the project for grant of **Terms of Reference (ToR)**, and for preparation of EIA/EMP report with public consultations subject to compliance of all conditions as notified in the standard ToR applicable for such projects and specific

	conditions, as mentioned below: (i) Since the proposed alignment will pass through areas in close vicinity of Yamuna flood plain (distance=1.8 km), proponent shall plan alignment in such a way that flood plains are not affected. Proper drainage plan shall be prepared for flood plain areas along the proposed corridor. (ii) Rain water harvesting structures to be constructed at the either sides of the road with special precaution of oil filters and de-silting chambers. (iii) Provide compilation of road kill data on existing roads (national and state highways) in the vicinity of the proposed project. (iv) Provide measures to avoid road kills of wildlife by the way of road kill management plan. (v) 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. (vi) 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. (vii) The activities and budget earmarked for Corporate Environmental Responsibility (CER) shall be as per ministry's O.M No 22-65/2017-IA.II (M) dated 1st May, 2018 and the action plan on the activities proposed under CER shall be submitted at the time of appraisal of the project included in the EIA/EMP Report. (viii) 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. (ix) The Action Plan on the compliance of the recommendations of the CAG as per Ministry's Circular No. J-11013/71/2016-IA.I (M), dated 25th October, 2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.
3.10	**Development of Punjab Section from km 135+056 to km 397+712 of Delhi-Katra Expressway (262.656 Km) and additional Greenfield connectivity to Amritsar (starts at km 306+000 of Delhi-Katra Expressway and ends at Amritsar Ajnala Road NH-354 for a total length of 99km) with a total length of 361.656 km by M/s National Highways Authority of India – Amendment to Terms of Reference** **[Proposal No. IA/PB/NCP/162192/2020] [File No. 10-18/2020-IA.III]**
3.10.1	The project proponent along with the EIA consultant M/s Feedback Infra Private Limited, made a presentation through Video Conferencing and provided information regarding this proposal. The proposal is for amendment to Terms and Reference (ToR) granted by the Ministry vide Letter No. 10-18/2020-IA.III dated 17th March 2020, for Development of Punjab Section from Km 135+056 to Km 396+863 of Delhi-Amritsar-Katra Expressway by M/s National Highways Authority of India. As per

approved ToR, RoW shall not exceed 70m at any point of the proposed 8-lane alignment, except for the junction improvement at the intersections of the other roads.

M/s NHAI has mentioned that there is a need to realign approximately 18 km of the above mentioned expressway to avoid the Bhatinda Jammu Natural Gas pipeline at some stretches and crossing the GIGL's existing Gas Terminal SV-7009 & CNG station at Mari Buchian village of Shri Hargovindpur tehsil of Gurdaspur district, both of which are under operations with high pressure natural gas. The end chainage of the revised alignment will be changed to Km 397+712 of Delhi – Katra Expressway. In addition to this, Green field Connectivity to Amritsar (starts at Km 306+000 of Delhi – Katra Expressway and ends at Amritsar – Ajnala Road NH-354 for a total length of 99 Km) will also be included with this project road. The comparative statement of alignment as per approved ToR vis-à-vis proposed amendment is as under:

Particulars	As per Approved ToR	Proposed amendments
Project Name	Development of Punjab Section from Km 135+056 to Km 396+863 of Delhi Amritsar-Katra Expressway	Development of Punjab Section from Km 135+056 to Km 397+712 of Delhi - Katra Expressway including Green field Connectivity to Amritsar (starts at Km 306+000 of Delhi - Katra Expressway and ends at Amritsar - Ajnala Road NH-354 for a total length of 99 Km)
Project Districts	Patiala, Sangrur, Ludhiana, Jalandhar, Kapurthala and Gurdaspur Districts	Patiala, Sangrur, Ludhiana, Jalandhar, Kapurthala, Tarn Taran, Amritsar and Gurdaspur Districts
Length (Km)	261.807 Km in Punjab section	361.656 km (262.656 Km of Delhi Katra Expressway and 99 km of Greenfield Amritsar Connectivity)
Proponent	National Highway Authority of India	No Change
EIA Category	Category A (New National Highway)	No Change
Location	Punjab	No Change
Configuration	4 lanes expandable to 8 lanes with provision of service road for future	No Change
Particulars	Details as per Approved ToR	Revised Details
Present Land use	Agricultural, habitation and road side / canal side plantation	No Change
Connectivity	NH 64, NH 95, NH 71, NH 1, SH 08, SH 10, SH 12A, SH 11, SH 20 and SH 22	NH 64, NH 95, NH 71, NH 1, SH 08, SH 10, SH 12A, SH 11, SH 20 and SH 22
		Addition of NH 354, NH15 along stretch of Amritsar Connectivity
Land Requirement	Total land to be acquired is ~4074.4 Ha.	~4388.415 ha land (3498 ha for Punjab Section of Delhi – Katra expressway and 890.415 ha for Amritsar Connectivity)
Forest Area	~74 Ha. of road-side and canal side Plantation	~102 ha (74 ha in Punjab Section of Delhi – Katra expressway and 28 ha in Amritsar Connectivity) of road-side and canal side Plantation
Civil Cost (INR)	~13,363 Cr.	~15969 Cr. (13,363 Cr. for Punjab Section and INR 2,606 Cr. for Amritsar Connectivity)
No. of villages	178 no.	188 no.
Employment	~5350	~7400

3.10.2 In view of above mentioned reasons and justification given by the proponent, the EAC, after detailed deliberations during 239th meeting held on 29-30 July, 2020, **recommended** the proposal for amendment to **Terms of Reference (ToR)**, as proposed below, for preparation of EIA/EMP report with public consultations subject to compliance of all conditions as notified in the standard ToR applicable for such projects and specific conditions, as per Ministry's letter no. 10-18/2020-IA.III dated 17th March 2020.

Particulars	As per Approved ToR	Proposed amendments
Project Name	Development of Punjab Section from Km 135+056 to Km 396+863 of Delhi Amritsar-Katra Expressway	Development of Punjab Section from Km 135+056 to Km 397+712 of Delhi - Katra Expressway including Green field Connectivity to Amritsar (starts at Km 306+000 of Delhi - Katra Expressway and ends at Amritsar - Ajnala Road NH-354 for a total length of 99 Km)
Project Districts	Patiala, Sangrur, Ludhiana, Jalandhar, Kapurthala and Gurdaspur Districts	Patiala, Sangrur, Ludhiana, Jalandhar, Kapurthala, Tarn Taran, Amritsar and Gurdaspur Districts
Length (Km)	261.807 Km in Punjab section	361.656 km (262.656 Km of Delhi Katra Expressway and 99 km of Greenfield Amritsar Connectivity)
Connectivity	NH 64, NH 95, NH 71, NH 1, SH 08, SH 10, SH 12A, SH 11, SH 20 and SH 22	NH 64, NH 95, NH 71, NH 1, SH 08, SH 10, SH 12A, SH 11, SH 20 and SH 22
		Addition of NH 354, NH15 along stretch of Amritsar Connectivity
Land Requirement	Total land to be acquired is ~4074.4 Ha.	~4388.415 ha land (3498 ha for Punjab Section of Delhi – Katra expressway and 890.415 ha for Amritsar Connectivity)
Forest Area	~74 Ha. of road-side and canal side Plantation	~102 ha (74 ha in Punjab Section of Delhi – Katra expressway and 28 ha in Amritsar Connectivity) of road-side and canal side Plantation
Civil Cost (INR)	~13,363 Cr.	~15969 Cr. (13,363 Cr. for Punjab Section and INR 2,606 Cr. for Amritsar Connectivity)
No. of villages	178 no.	188 no.
Employment	~5350	~7400

3.11 **Development of Model Economic Township at Jhajjar, Haryana, by M/s Model Economic Township Limited, Haryana – Amendment to Environmental Clearance**

[Proposal No. IA/HR/NCP/161095/2020] [File No. 21-39/2011-IA.III]

3.11.1 The project proponent along with the EIA consultant M/s Perfact Enviro Solutions Pvt. Ltd., made a presentation through Video Conferencing and provided information regarding this proposal. The proposal is for amendment to Environmental Clerance granted by the Ministry vide Letter No. 21-39/2011-IA-III dated 16th August, 2012, for Development of Model Economic Township at Jhajjar, Haryana, by M/s Model Economic Township Limited, Haryana. The Validity of the Environmental Clearance was extended for further three years, i.e., upto 15th August, 2022, vide letter of even no. dated 13th December, 2019.

The proponent has requested that as per the condition no.4 (ii) of EC extension letter

	dated 13th December, 2019, they are required to complete the water supply system within 8-10 months' time and from 1st August, 2020 onwards for this project no ground water shall be used in any case. In this regard, it was requested that the construction activities for the project were affected due to expiry of ToR in August, 2019 and then due to restrictions imposed by the Environment Pollution Prevention and Control Authority (EPCA) in the Nation Capital Region. Now unfortunately, COVID-19 outbreak is a major setback to the entire nation. Completion of infrastructure for water supply like Intake, Water Treatment Plant, Transmission Mains, Storage and Distribution Network has been delayed by several months and unable to complete the work for the surface water supply system till July, 2020, as mentioned in the Environment Clearance extension letter. It is therefore requested to extend the timelines for completion of surface water infrastructure till August, 2022 and allow them to utilize the groundwater till the availability of surface water at the project site as per the approval of the CGWA.
3.11.2	In view of above mentioned reasons and justification given by the proponent, the EAC, after detailed deliberations during 239th meeting held on 29-30 July, 2020, **recommended** the proposal for amendment to EC condition no. 4(ii) of EC extension letter dated 13th December, 2019 as mentioned in the table given below. All other terms and conditions as stipulated in Ministry's letters no. 21-39/2011-1A.III dated 16th August, 2012, 24th September, 2012 and 13th December, 2019, shall remain unchanged.

EC condition no. 4(ii) of EC extension letter dated 13th December, 2019	Recommended amendment
Since the project proponent has submitted an undertaking that completion of the water supply system will take 8-10 Months the proponent shall use only surface water from 1st August, 2020 onwards for this project and then no ground water shall be used in any case.	Project proponent shall permit to use the ground water up to 31st July, 2022 or till completion of the construction of surface water system whichever is earlier. After this 1st August, 2022, no ground water shall be used for this project.

3.12	**Development of Dighi Port based Industrial Area at Taluka Mangaon and Roha, District Raigad, Maharashtra by M/s Maharashtra Industrial Development Corporation (MIDC) – Terms of Reference** **[Proposal No. IA/MH/NCP/164072/2020] [File No. 21-41/2020-IA.III]**
3.12.1	The project proponent along with the EIA consultant M/s Aditya Environmental Services Private Limited, made a presentation through Video Conferencing and provided the following information: (i) **Brief description of the Proposal:** The proposal is a new project for the development of the Dighi Port based Industrial Area (DPIA) in Mangaon and Roha talukas of Raigad district in Maharashtra. The total land available for development in the DPIA comprises of 5040.04 Ha. The proposed development will be carried out by Maharashtra Industrial Development Corporation (MIDC). The proposed development includes plotting and zoning Pharmaceuticals (non-API), Engineering and Food zone as well as

Residential zone within the proposed MIDC area including area development and land infrastructure like roads, water lines, SWDs, power lines, CSTP, MSW management facility, utility areas etc.

(ii) **Whether the proposal was considered in earlier meetings of EAC:** Yes. The proposal was considered in 237th EAC meeting held on 29th June 2020 for the ToR approval. However, EAC deferred the proposal, as Stage I (having area of 5040.04 ha) and Stage II (having area of 1420 ha) of the proposed development was mentioned in the proposal. EAC has directed us to submit the revised proposal with an opinion that two proposals cannot be taken up simultaneously and also to carry out analysis of alternative site.

(iii) **Whether proposal is part of interlinked project**: No.

(iv) **Address of project site (Plot No. / Village / Tehsil / District / State):** Development is proposed in: Villages Raatwad, Koshimbale (Nizampur), Pansai, Kalwan, Nilaj, Ghotwal, Dakhane, Potner, Bhale, Javate, Nizampur, Kandalgaon Budruk from Taluka Mangaon and Jamgaon, Patharshet, Pahur from Taluka Roha, District Raigad, Maharashtra.

(v) **Geo-coordinates of project site:**

Direction	Latitude	Longitude
North	18^0 24' 32.37"N	73^0 17' 42.31"E
South	18^0 16' 24.09"N	73^0 16' 36.34"E
East	18^0 20' 37.27"N	73^0 19' 35.45"E
West	18^0 21' 54.33"N	73^0 13' 55.07"E

(vi) **Site alternatives under consideration:** The Dighi Port Industrial Area (DPIA) was conceptualized to be developed as one of the major nodes that would be developed as a part of the prestigious Delhi-Mumbai Industrial Corridor (DMIC) Project. The objective was to expand India's Manufacturing & Services base and develop DMIC as a "Global Manufacturing and Trading Hub".

The criteria for selection of land by the State Government were:

- Availability of large quantity of contiguous land away from MMR (Mumbai Metropolitan Region) and PMR (Pune Metropolitan Region) areas
- Availability of ample water and power nearby
- Good connectivity by road, rail, ports
- Availability of gas pipelines
- Willingness of villagers for land acquisition

Following three alternate sites were identified by MIDC:

(1) Present site comprising 15 villages as Site 1

(2) Site in Tala Taluka comprising 17 villages as Site 2

(3) Site in Mangaon Taluka comprising 11 villages as Site 3

However, site (2) and (3) did not fit the criteria due to reasons specified:

- There is stiff resistance from villagers against acquisition of land.

- Large contagious land parcel not available.
- Water, fuel (gas pipeline) and power sources are available at greater distance.
- increasing the cost of infrastructure.
- National Highway, State Highways connecting to Pune, Konkan Railway etc. at greater distance.

Tala site has heritage site (Tala Fort) located close by (2.5km W) while Mangaon site has the historically important Raigad fort in 5km vicinity.

The Selected project site is a unique site having the following features:

(vii)

Government of Maharashtra Criteria for land selection	**Features seen on DPIA site**
Availability of land (ha) / Length (km)	5040.04 ha large contiguous land is available. The site does not have any prime agricultural land and majority of the land is wasteland.
Availability of ample water, power	Kundalika river flows North of site and has good quality water available all through the year which is released from the Bhira Power station. The water reservation of about 102 MLD is available for DPIA area at present. The power supply can be tapped from existing Kandalgaon sub station
Good connectivity by road, rail, ports	The National Highway (NH17), Pune-Kolad Highway (SH60), Pune-Mangaon Highway (SH97) and Konkan Railway are adjacent to the site. Further, the Konkan Railway passes adjacent to the site and Indapur Railway station is about 1.4km from site. Dighi port is located about 55km and JNPT 100 km from the site. Pune International Airport is about 68km from site.
Availability of gas pipeline	Dahej – Dabhol Gas pipeline passes through the DPIA site and alternate low pollution fuel source is thus available at site
Willingness of villagers	Selected site encompasses 15 villages and local populace is favouring industrialization. About 52% land acquisition is completed and more than 74% people have given their consent letters for the project. The land acquisition done has not required any forced acquisition. Hence the present site is most suitable and has been selected for development
Notified under MIDC act 1961	Selected site is notified by the Government of Maharashtra vide notification part 4-b, guruwar to budhwar, August 9-15, 2012/ shrawan 18-24, shakey 1934 dated 3rd August 2012.

Area of the proposed project: Total area for proposed industrial development is 5040.04 Ha.

(viii) **Connectivity to the site:** The proposed project is strategically located, the distance of project site from nearest city, railway station, airport is as

follows:

Nearest City	Alibaug (District Headquarters) at a distance of about 49 km towards north west from site
Roads	Mumbai-Goa National Highway (NH66), Pune-Kolad Highway (SH60) and Pune to Roha Highway (SH97) pass adjacent to DPIA
Nearest Railway Stations	Konkan Railway passes adjoining the site - Indapur Railway station at about 1.4 km from western site boundary - Kolad Railway Station at about 2.43 km to the north from the western site boundary
Nearest Airport	Pune International Airport at about 68 km from site boundary Chatrapati Shivaji Maharaj Industrial Area (CSMIA) 88km to North
Port	Dighi port at distance of 55 km
	JNPT 100 km from the site

(ix) **Investment/Cost of the project (Rs. in Lakh):** Rs. 2,100 Crore (excluding land).

(x) **Item of Schedule to the EIA Notification, 2006:** 7(c) Industrial estates / parks / complexes / areas, Export Processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes.

(xi) **Applicability of General/Specific Conditions as per EIA Notification, 2006:** Applicable General Condition: The proposed site falls within 10 km of the Notified Tamhini Wildlife Sanctuary. The draft Notification of ESZ for Tamhini WLS is published on 10th August 2017 vide S.O. 2567 (E). Final ESZ is awaited. Applicable Specific Condition: Nil.

(xii) **Why appraisal / approval is required at the Central level:** As per the EIA Notification, dated 14.09.2006 and subsequent amendment the proposed DPIA project comes under Category A of item no. 7(c) of Schedule. Since proposed area for industrial development is 5040.04 ha. and few industries of Category-B as per schedule of EIA notification 2006 are anticipated, the proposed development requires Environmental Clearance from Central level -Ministry of Environment Forest & Climate Change (MoEF&CC).

(xiii) **Whether project involves any violation under notification S.O 804(E) dated 14.03.2017:** No.

(xiv) **Landuse/Landcover of project site in tabular form:**

S. No.	Existing Landuse / Landcover	Area (sq.km.)	%	Remarks, if any
1.	Agriculture Crop Land	8.13	16.13	-
2.	Agriculture Fallow Land	11.9	23.61	-
3.	Open Scrub / Dense Scrub	3.37	6.69	-
4.	Barren /Unculturable / Waste land/Scrubland	25.2	51.43	-
5.	Built-up Land	0.46	0.91	-
6.	Waterbody	0.62	1.23	-
	Total	**50.40**	**100.00**	**-**

(xv) **Landuse/Landcover around 10 km radius of project site (1 km in case of Highway projects):**

S. No.	Existing Landuse / Landcover	Area (sq.km.)	%	Remarks, if any
1.	Agriculture Crop Land	122.38	13.78	-
2.	Agriculture Fallow Land	196.23	22.09	-
3.	Open Scrub / Dense Scrub	172.69	19.44	-
4.	Industrial Land	8.15	0.92	
5.	Forest	127.83	14.39	
6.	Barren / Unculturable /Waste land /Scrubland	236.87	26.67	-
7.	Builtup Land	15.37	1.73	-
8.	Waterbody	8.73	0.98	-
	Total	**888.25**	**100.00**	-

(xvi) **List of industries to be housed with the proposed project site, only for projects covered under 7(c) category of EIA Notification, 2006:** The proposed industrial area development has a plot area of 5040.04 Ha. Proposed industrial estate will have heterogenous industries in three different zones viz.

Sr. No.	Type of industrial Zone/Land use	Area (Ha)
		Provided
1.0	Industrial Land Use	
	Engineering Zone	2053.16
	Food Processing Zone	384.39
	Pharmaceutical Zone	757.03
2.0	Residential Zone	556.53
3.0	Open Space	752.99
4.0	Amenity Space	356.00
5.0	Area under Roads	179.94
	Total	**5040.04**

Category of Industries as per EIA Notification: The industrial estate will be primarily occupied by Engineering units, Food processing units and Pharma formulations units. Engineering, Pharma formulation and Food processing units do not attract provisions of EIA Notification 2006. Some secondary metallurgical activities likely to come in the Engineering zone will qualify as category B under EIA Notification as they will be located in approved industrial area. **Consent Category as per CPCB Classification Scheme date March 2016**: The Food processing, Pharma formulation and Engineering units will be in Red, Orange, Green and White category. Few Engineering units by virtue of their emission potential and quantum of discharge will be under Red category. The Pharma Zone will only have industries in non-API activities like Pharmaceutical Formulation, Biotech etc. Typical categories of industries which may come up are: **Engineering-** Secondary Metallurgical units, Rolling Mills, Induction furnaces, Electric arc furnaces, galvanizing, open hearth, fabrication, automobile/ bicycle /locomotive manufacturing, Blast furnaces, Brass and bell metal utensils/ fabrication, steel fabrication, Blast furnace, Open hearth furnace, Foundry,

		Aluminium utensils/furniture, repairs and maintenance activities, Forging, Plating, Pickling , Electrical and Electronic mfg. and other low polluting industries in Orange, Green and white category. **Pharmaceuticals-** Formulations, Biotech industries, Ayurvedic products manufacturing, R and D activities in Pharmaceutical formulations, For sustained release/ extended release of drugs only and not for commercial purpose Non – API and formulations manufacturing and other low polluting industries in Orange, Green and white category. **Food –** Agro processing, Dairy and Dairy processing, Fish processing, Fish feed, poultry feed, Cattle feed, Dal mills, Rice mills, Poha mills, Salt mills, Alcoholic and non-alcoholic beverages, Tobacco products, Vegetable oils, Manufacture of edible products – starch, sugar, tea/coffee processing, cashew, ground nut and others, Flour mills, Grain mills, Cereals, Bakery and confectionary products, Processed food/packaged food industry, Mineral water etc and other low polluting industries in Orange, Green and white category.
	(xvii)	**Terrain and topographical features:** The land is primarily rural in character partly under agriculture and fallow land use. There is very low built up area. The contours of the area vary from 25m to 134 m.
	(xviii)	**Details of water bodies, impact on drainage, if any:** The Kal Mandgaon River flows through the site and is non-perennial. The Kundalika River is outside the DPIA and is located to the North of the site. This river flows east to west and has ample amount of fresh water all through the year which is tail race from Bhira Dam. No waterbodies will be disturbed in project area. Buffer zone (green belt) of 100 m is kept on either side of Kal river as per MIDC DCR. 10 m buffer zone is kept for all seasonal streams /nalas.
	(xix)	**Water requirements, sources (during construction and operation phases) and NOC: Construction Phase:** Source: Water for domestic requirement of labourers will be sourced from tanker water supply. Construction water will also be sourced from tankers. Requirement: 30 cmd for domestic requirement of labourers and 92 cmd for construction purposes. **Operation Phase:** Source: Water will be sourced from proposed jackwell on Kundalika river near Kamat village for industrial use and residential use. Requirement: 85 MLD for DPIA – Agreement signed with Irrigation Department for 102 MLD through river Kundalika. Jackwell on Kundalika river near Kamat village and Water Treatment Plant near Pahur village will be established. 102 MLD Water reservation is available in the Kundalika River for this project.
	(xx)	**Groundwater extraction / usage and NOC / Clearance from CGWA / State Ground Water Department:** Not envisaged since ground water extraction in MIDC areas is not permitted.
	(xxi)	**Whether the project is in Critically Polluted area**: No.
	(xxii)	**Tree cutting, types, numbers, girth size etc.:** Approx. 830 trees falling within common infrastructure areas and ROW of proposed roads. Which will be cut or transplanted with due permissions from regulatory authority.
	(xxiii)	**Whether the project involves diversion of forest land:** Not Applicable. No diversion of forest land is envisaged. Patches of Reserve Forests are seen adjoining to the proposed layout of Dighi Port based Industrial Area. Green belt of 50 m is proposed around the Reserve forest patches in order

		to ensure the integrity of forest area and to maintain the natural form of forest.
	(xxiv)	**Whether the project is located within 10 km of Protected Areas (PA) including National Parks, Sanctuaries and Tiger Reserves etc.:** Tamhini Wildlife Sanctuary is located at 4.7 km to the west of the proposed site for which the Eco sensitive zone (ESZ) is not yet notified. Draft Notification of ESZ for Tamhini Wildlife Sanctuary is published on 10th August 2017 vide S.O 2567 (E) and DPIA site is outside the ESZ as per the draft Notification.
	(xxv)	**Whether the project is located within the Eco-Sensitive Zone (ESZ) or Eco-Sensitive Area (ESA) notified by the MoEF&CC.** No.
	(xxvi)	**CETP: Provide details type and quantity of effluent, effluent conveyance system from the member units to CETP with CETP's Capacity.** The units proposed to be established have low water polluting potential like Pharma formulation, Food processing and Engineering. Effluent from proposed units will be treated in Effluent Treatment Plant within individual plots and provision for reuse of treated water will be made by individual unit. All the units will be established on Zero Liquid Discharge (ZLD) and no treated effluent will be allowed to be disposed outside plot area.
	(xxvii)	**STP: Provide details of treatment and usage of treated sewage with STP's capacity.** Common STP will be provided for residential area to treat the sewage generated. Conventional Activated sludge process or Sequential Batch Reactor (SBR) will be provided with tertiary treatment facilities to enable treatment to less than 5 mg/L BOD and enable recycling for flushing and gardening.
	(xxviii)	**R&R issues involved, if any (Not more than 200 words):** The proposal does not involve any rehabilitation and resettlement.
	(xxix)	**Employment potential, No. of people to be employed: Construction Phase**: 300 to 350 nos. for development of infrastructure like Roads, CFC Centre, WTP, CSTP, MSW landfill and other Civil works mostly to be engaged by Contractor who will be engaged for developing the infrastructure over 5year period. Around 50 nos. of MIDC personnel will supervise the development. **Operation Phase**: Around 300 nos. of MIDC personnel will be responsible for Operation and Maintenance and Establishment activities. The industries to be set up will result in employment of about 50,000 personnel.
	(xxx)	**Benefits of the project:** **Financial Benefits:** • Over 50,000 Direct & Indirect Employment due to business, leading to Stimulation of economic growth outside MMR and PMR area. • Stimulating Local Economy due to direct & indirect impact of industries and related business. • Large investment around proposed project by other parties due to DPIA development stimulating all out development in Konkan region.

	• DPIA will serve as a trade and industrial hub that will augment India's western gateway to global trade, commerce and industry. **Social Benefits:** • Providing alternate employment opportunity to population in Konkan Region. • Socio- economic opportunities for business and employment population in Konkan Region. • Skill development and technical expertise enhancement possibilities due to influx of industries and skilled manpower. **Environmental Benefits:** • Reducing Congestion in Mumbai Metropolitan Region (MMR) and Pune Metropolitan Region (PMR) area. • Creation of environmentally friendly and sustainable development in and around DPIA. **Project Benefits to PAPs:** In order to give the local populace an opportunity to PAP to help realize their entrepreneurial dreams, MIDC has scheme to give Project Affected Persons (PAPs) three different options: • **Option 1** Complete Cash settlement (at rates more than LARR 2013 provisions). • **Option 2** to take Cash settlement 90% of amount due and balance amount of 10% by giving a PAP plot (Plot can be used for Industrial/ Commercial activity). • **Option 3** to take Cash settlement 85% of amount due and balance amount of 15% by giving a PAP plot (Plot can be used for Industrial/ Commercial/ Residential development activity). **Other social upliftment initiatives:** • Supply of piped drinking water to settlements within MIDC and adjacent villages at concessional rates. • PAPs are given preference in local employment. (xxxi) **Details of Court cases, if any:** No.
3.12.1	The EAC, after detailed deliberations during 239th meeting held on 29th July, 2020, **recommended** the project for grant of **Terms of Reference (ToR)**, for preparation of EIA/EMP report with public consultations, subject to the standard ToR applicable for such projects and specific conditions, as mentioned below: (i) 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. (ii) Only Pharmaceutical formulation, engineering and food industries shall be allowed in proposed Industrial area. iii) Maintain 500 m buffer zone around industrial township area and 100 m buffer on both sides of river Kal.

	iv)	Due to proximity with the Western Ghats, robust biodiversity/wildlife studies are to be carried out covering at least two seasons (monsoon and winter) with special focus on endangered and endemic species of flora and fauna. The mitigation plan should be focusing on endangered and endemic flora and fauna.
	(v)	Wildlife clearance to be obtained for the proposed project.
	vi)	No ground water shall be used in any case. Proponent is required to obtain permission from competent authority to use water from Kundalika river or other surface water sources. Consent to Operate shall not be issued without obtaining permission competent authority for use of surface water.
	vii)	Provide detailed water balance statement a scheme to achieve ZLD by each industrial unit as well as for utilization of treated sewage.
	iii)	Since, Kal River is passing through the proposed project site, it is important to have a detailed hydrogeological study on the catchment area of the drainage system within core zone of the project area.
	ix)	The activities and budget earmarked for Corporate Environmental Responsibility (CER) shall be as per ministry's O.M No 22-65/2017-IA.III dated 1st May, 2018 and the action plan on the activities proposed under CER shall be submitted at the time of appraisal of the project included in the EIA/EMP Report. The focus can be given to water conservation and agriculture and providing healthcare facilities to the government hospitals in the project affected areas in light of COVID 19 pandemic.
	(x)	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.
	xi)	The Action Plan on the compliance of the recommendations of the CAG as per Ministry's Circular No. J-11013/71/2016-IA.I (M) dated 25th October, 2017 needs to be submitted at the time of appraisal of the project and included in the EIA/EMP Report.