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Ref: NMIAL/MOEF/GEN/0105

23rd Mar 2022

To,
Shri Suresh Kumar Adapa,
Scientist D / Jt. Director,
Regional Office (WCZ),
Ministry of Environment, Forest & Climate Change (MoEFCC),
Ground Floor, East Wing, New Secretariat Building,
Civil Lines, Nagpur-440001
Email - apccfcentral-ngp-mef@gov.in

Subject: – Submission of Six-Monthly Compliance Report (Jul - Dec 2021) for Environmental and CRZ Clearance in respect of proposed Navi Mumbai International Airport reg.

Reference: - Environmental Clearance and CRZ Clearance for on-going project granted No. 21-60/2021-IA-III dated: 28.11.2021

Dear Sir,

We are submitting herewith the six-monthly Environmental Compliance Status report for the period Jul- Dec 21 for proposed establishment of green field airport at Navi Mumbai as per the following:

1. Data Sheet
2. Clause wise EC Compliance Report for the period of July - December 2021 with annexures
3. Environmental Monitoring Data

We hope the above is to your satisfaction.

Thanking you

Yours faithfully,

For Navi Mumbai International Airport Pvt Ltd.

Charudatta Deshmukh

Joint President- Planning & Design

Navi Mumbai International Airport Pvt Ltd
11th Floor, V Times Square, Plot no 3,
Sector 15, CBD Belapur,
Navi Mumbai – 400 614
Maharashtra, India

Tel +91 22 6851 9500

CIN - U45200MH2007PTC169174

Registered office: CSMI Airport, 1st Floor, Terminal 1B, Santacruz (E), Mumbai 400 099, India. T +91 22 6685 0900 / 6685 0901

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Copy to: 1) The Vice Chairman & Managing Director, City & Industrial Development Corporation of Maharashtra Ltd. (CIDCO), CIDCO Bhavan, CBD Belapur, Navi Mumbai- 400614 for information and necessary action.

2) The Member Secretary, Maharashtra Pollution Control Board, 3rd Floor, Kalpataru Point, Sion, Mumbai – 400 022.

3) The Zonal Officer, Central Pollution Control Board, Parivesh Bhavan, Opp. VNC ward office No. 10, Subhanpura, Vadodara – 390023.

4) The Chairman, Maharashtra Coastal Zone Management Authority, Room No. 217, Mantralaya (Annex Building), Mumbai – 400 032.

5) Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, Jor Bagh Road, New Delhi – 3.

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Six Monthly Compliance Report of Environmental & CRZ Clearance

For Ongoing project For Establishment of Greenfield Airport

Navi Mumbai International Airport (NMIA)

At Panvel, Dist. Raigad, Maharashtra

Submitted to:

Integrated Regional Office (IRO),
Ministry of Environment, Forest & Climate Change (MoEF&CC), Nagpur.

Central Pollution Control Board, New Delhi.

Maharashtra Pollution Control Board, Mumbai

Submitted By:
Navi Mumbai International Airport Pvt Ltd. (NMIAL)

For

Period of July to December -2021

Index

Monitoring the Implementation of Environmental Safeguards
Ministry of Environment, Forest & Climate Change
Regional Office (West Central Zone), Nagpur
Monitoring Report
Part – I
DATA SHEET

1st July to 31st December 2021

1.	Project Type: River-valley / Mining / Industry /Thermal / Nuclear / Other (Specify)	Other- Infrastructure Green field Airport
2.	Name of the Project	**NAVI MUMBAI INTERNATIONAL AIRPORT PVT. LTD.**
3.	Clearance Letter (s) / OM No. and date	1. F. No. 10-53/2009-IA.III dt 22nd Nov 2010 valid up to 21st Nov 2017. 2. Extension of Validity vide dt 20th Dec 2017 valid up to 21st Nov 2020. 3. NMIAL has received Transfer of Environment & CRZ Clearance on its name vide letter dated 17th Aug 2020. (MOEF&CC Notification dated 18th Jan 2021 considering the adverse impact of Covid-19 pandemic, had extended NMIA project EC validity up to 21st Nov'21). 4. Fresh Environment and CRZ Clearance has been granted to NMIA project by MoEF&CC on dated 28th Nov 21 & issued on 1stDec'21.
4.	Location a. District (s) b. State (s) c. Latitude d. Longitude	 a. Raigad b. Maharashtra c. 18°59'33.00"N d. 73°4'18.00"E
5.	Address for correspondence a. Address of concerned Project Chief Engineer (with Pin Code & Telephone/ Telex/ Fax Numbers) b. Address of Executive Project Engineer / Manager (with pin code/fax numbers)	Charudatta Deshmukh, Navi Mumbai International Airport Limited (NMIAL), Terminal I-B, CSI Airport, Santacruz, Mumbai- 400 099 Telephone 022-66850840/ Mobile (9833301594) -

6.	Salient features a. Of the Project Of the Environmental Management Plan	NMIA site is located at Panvel taluka, district Raigad, Navi Mumbai. • Airport Area- 1160 Ha (2,867 acres) • Planned Capacity- Passengers- 60 MPPA, Cargo- 1.5 MTPA. • Phase- I & II BUA (20 MPPA)- 6,27,335.678 Sq. Mtrs. • Total BUA Area (60 MPPA)- 14,13,069.178 Sq. Mtrs. • Project Cost (Phase-I & II) – Rs 19,647 Crores • Total Project Cost- Rs 41,302 Crores. NMIAL is planned with objective to be one of the most resource efficient & Green airport in the world. It has been planned to achieve environmental sustainability through resource optimization, recycling and reuse. • Zero Sewage Discharge • Rainwater Harvesting Ponds. • Utilization of Solar Power. • Energy Optimization • Waste Re-cycling • Natural Day Lighting. • Plantation & Landscape
7.	Breakup of the Project area a. Submergence Area: Forest & Non-Forest b. Others	a. Not Applicable b. Air side Area- 942.25 Ha; Landside area- 217.75 Ha (Total 1160 Ha); LAND USE in Ha - Facilities, pavements, building and structures - 605.47; Green/open spaces - 384.9; Transportation-roads, parking, metro - 139.32; Utilities - 10.12; Drains - 20.19 Permission for Removal of Mangroves (Order from Hon'ble Bombay High Court) Notice of Motion No. 419 of 2011 in PIL No 87of 2006 dated 29th Oct 2013. Forest Clearance- 250.0635 Ha (Stage I and Stage II clearance obtained vide F. No. 8-95/2012-FC dated 17 December 2013 and 24 April 2017 respectively)
	a. Total Plot Area	1160 Ha.

	b. Built - Up Area (Including Road)	Phase- I&II BUA (20MPPA)- 6,27,335.678 Sq. Mtrs. Total BUA Area (60 MPPA)- 14,13,069.178 Sq. Mtrs
	c. Open Space available	Phase I & II (20 MPPA) - 27,06,720. sqm Total Final Phase (60 MPPA) - 38,49,047.682 Sq. Mtrs
	d. Green belt area	Same as above
8.	Breakup of the Project affected population with enumeration of those losing houses/dwelling units only, agricultural land only, both dwelling units & both dwelling units & agricultural land & landless laborers/artisan a. SC, ST/Adivasis b. Others a. (Please indicate whether these figures are based on any scientific and systematic survey carried out or only provisional figures, if a survey carried out gives details and years of survey.)	The entire land for the Project including land for airport site i.e., 1160 ha has been acquired. Out of the Total Land parcel of 1160 Ha, it has handed over 1158.71 hectares to NMIAL as per CIDCO, which is 99.89% of total site area. At present as on 28th Jan 2022 there are now around about 99.89% of R&R completed. (2601 structure of 2633 total 32 number structures to be demolished as per CIDCO).
9.	Financial Details a. Project costs as originally planned & subsequent revised estimates and the year of price reference. b. Allocations made for Environmental Management Plan with item wise & year wise breakup. c. Benefit Cost Ratio / Internal rate of Return and the year of assessment. d. Whether (c) includes the cost of Environmental Management as shown in the above.	a) Total cost of the development of airport zone consist of aeronautical and non-aeronautical activities works out for four Phases at FY 2010 prices by CIDCO Rs.9,625 Cr. Revised FY 2015 prices by CIDCO Rs 13,560 Cr Revised FY 2019 prices by NMIAL Rs 36,538 Cr. Revised FY 2020-21: - Rs 41,302 Crores. b) Allocation for EMP NMIAL allocated Rs. 291.37 Cr for EMP for Development & Operation Phase of NMIA. - -

	e. Actual expenditure incurred on the Project so far f. Actual expenditure incurred on the Environmental Management Plan so far	e) Rs 5478 Cr (by CIDCO till March 2021 including R&R Cost) f) Rs 3.16 Cr incurred on EMP so far.
10.	Forest land requirement a. The status of approval for diversion of Forestland for non-forestry use b. The Status of clearing felling c. The status of compensatory Afforestation programme in the light of actual field experience	a. Permission for Removal of Mangroves (Order from Hon'ble Bombay High Court) Notice of Motion No. 419 of 2011 in PIL No 87of 2006 dated 29th Oct 2013. 250.0635 Ha (Stage I and Stage II clearance obtained vide F. No. 8-95/2012-FC dated 17 December 2013 and 24 April 2017 respectively) b. Completed c. Status of Compensatory Afforestation I. 250.0635 Ha Degraded Forest Land taken up in Alibaug, Dahanu and Shahpur Division and total of 70,073 trees planted through Forest Department. II. CIDCO has undertaken 109 Ha compensatory mangroves plantation to NE of site on S. No. 27, village Kolhekhar in between Jui creek and Taloja creek through the Mangrove Cell of State Forest Dept. III. Compensatory Mangrove Plantation done over 109 Ha as per FC condition (to compensate loss of mangroves) linked to the airport development Location: S. No. 27, village Kolhekhar. HOFF (Head of Forest Forces, Maharashtra state, Nagpur) has visited site on 12th Dec 2018 and reviewed the compliance to Forest Clearance.
11.	The status of clear felling in non-forest areas (such as submergence area of reservoir, Approach roads), if any with quantitative information	-
12.	Status of construction a. Date of commencement (Actual and/or Planned)	a. Commencement- April 2017

	b. Date of completion (Actual and/or Planned)	b. Phase-I & II of NMIAL is expected to be completed by end of Year 2024.
13.	Reasons for the delay if the project is yet to start	The project implementation of NMIA commenced in April 2017, after receipt of Forest Clearance. Therefore, despite getting EC in 2010, the project implementation for predevelopment works could commence only after 7 years. The entire 7-year validity of EC was consumed by Forest Clearance and no construction work could be done. Due to Covid-19 the project implementation is affected, but despite this, CIDCO and NMIAL have maintained the momentum of project implementation.
14.	Dates of site visits a. The dates on which the Project was monitored by Regional Office on previous occasions if any Date of site visit for this monitoring Report	11th Nov 2020 for issuance of certified compliance report. -
15.	Details of correspondence with project authorities for obtaining action plan / information on status of compliance to safeguards other than the routine letters for logistic support for site visit. d. (The monitoring report may obtain the details of all the letters issued so far but the later reports may cover only the letters issued subsequently)	1. Request letter dated 4th June 2020 sent to MOEF&CC Nagpur for Issuance of Certification of Compliance Report for Navi Mumbai International Airport (NMIA). 2. Request letter dated 12th Oct 2020 sent to MOEF&CC Nagpur for Issuance of Certification of Compliance Report for Navi Mumbai International Airport (NMIA). 3. Letter dated 29th Oct 2020 sent to IRO, Nagpur with monitoring data sheet and additional information of project for issuance of certification of Compliance Report for NMIA. 4. RO- MOEFCC has visited NMIA site on 11th Nov 2020. 5. Certified Compliance Report Received vide letter F. No: 6-22/2010(ENV)/7994 dated 31st March 2021. 6. Action Taken Report (ATC) of Certification EC Compliance Report submitted to Regional Office Nagpur MOEF&CC dated 1st Oct 2021.

EC COMPLIANCE REPORT
(01.07.2021 to 31.12.2021)

Introduction

Environmental and CRZ Clearance was granted to NMIA project with CIDCO as project proponent, by Ministry of Environment, Forest and Climate Change (MoEF&CC) on 22ndNov'10 and Extension of Validity to EC was granted on 20thDec'17. & was valid till 21stNov'20. GoI, considering the adverse impact of on-going Covid-19 pandemic on project implementation, has extended validity of current Environmental Approval granted by MoEF&CC for all on-going projects, which includes NMIA project, till 21stNov'21.

NMIAL received Transfer of EC on its name on 17th Aug 2020 from MOEF & CC. Fresh Environmental and CRZ Clearance has been granted for on-going project for 60 MAPP & Cargo capacity 1.5 MTPA, NMIA as project proponent by MoEF&CC granted on 28th Nov 2021 issued on 1st Dec 2021,

Present Status of completed/ on-going works are given as follows:
It comprises the following:

1. Cutting of hills at site up to +8m AMSL, and filling of site up to + 5.5m AMSL completed.
2. CIDCO has handed over the site to NMIAL in a phase wise starting from 7th July 2018 (1124 Ha). As on date total about 99.89% (1158.71 Ha) land has been handed over to NMIAL.
3. R and R of nearly 2633 structures in 10 villages by developing seven R and R pockets near the airport site and shifting of PAPs, handover of plots by CIDCO.
4. Cutting and/or transplantation of trees in non-forest area in the site as directed by Tree authority.
5. Construction of Ulwe recourse channel on the south of site completed.
6. Shifting /relocation of existing Utilities.
7. Re-routing of High Voltage Transmission Lines from NMIA site by Tata Power and MSETCL are completed.

MOEFCC's Environment and CRZ Clearance identification No.EC21A029MH183036 & file no 21-60/2021-IA-III dated 28th Nov 21 and issued on 1st Dec 2021.
Project is under construction, detailed pointwise compliance pertaining to construction phase are prepared. Operation phase conditions will be complied prior to the commencement of the airport.

	EC & CRZ Conditions-2021	Compliance Status
A	**Specific Condition**	
i.	Conditions specified in Environmental & CRZ Clearance issued vide letter No. 10-53/2009-IA.III dated 22.11.2010 shall be strictly complied.	**Agreed to Comply:** We will abide by the conditions specified in Environmental & CRZ Clearance issued vide letter No. 10-53/2009-

	EC & CRZ Conditions-2021	Compliance Status
		IA.III Dated 22.11.2010. is given Annexure-I.
ii.	PP shall submit compliance report to IRO-MoEF&CC, Nagpur for pending compliances within 6 months.	**Agreed to Comply:** We will abide by the condition.
iii	Where construction activity is likely to cause noise nuisance to nearby residents, restrict operation hours between 7 AM to 6 PM.	**Agreed to Comply:** We will abide by the condition. Construction activities will be carried during Day time to avoid noise nuisance to nearby residents. **Following are the measures will be taken to reduce load on Ambient Noise & Air:** ▪ Temporary barricades are erected around the premises. ▪ The noise generating activities will be carried out only during daytime. ▪ Transportation of the construction material will be carried out during daytime. Operation hours will be restricted to 7 am to 6 pm. ▪ Separate Entry & Exit for the construction vehicles will provided.
iv	Hazard Identification and Risk Assessment for the project shall be carried out and adequate mitigation measures shall be adopted to ensure that all safety issues are addressed. The documentation shall be reviewed periodically and shall be submitted to the regional office along with six-monthly compliance report.	**Agreed to Comply:** NMIAL has engaged an EPC contractor for ongoing work (currently only land development work is ongoing at site). Contractor will have own HSE team at site which will be supervised by NMIAL site HSE Team. Each contractor works out an Environmental Health, Safety Emergency plan identifying aspects requiring attention and how each will be tackled. Contractor adopts following tools to identify safety measures required during ongoing work - conduct Training program - Tool Box Talks on HSE issues - Safety committees - HSE audit

	EC & CRZ Conditions-2021	Compliance Status
		- HIRA - accident investigation - Monthly & quarterly reports Similar practices will be continued during construction phase also.
v	A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 km radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development Department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.	**Complied:** CIDCO & MMRDA has appointed consultant for carrying out study for Detailed traffic management and traffic decongestion plan for Airport. CIDCO has submitted final report for detailed traffic management and traffic decongestion plan for Airport to MOEF vide letter No. CIDCO/GM(ENV&F)/NMIA/2020 /491 dated 14th July 2020. Development of all off site infrastructure (along with obtaining clearances and compliances to the same) is being done by CIDCO as per NOC for transfer of EC and CRZ clearance given by CIDCO to NMIAL vide letter No. CIDCO/T&C/CT&CP/ NMIA/1317 dt 10th Feb 2020.
vi	Solar power generation capacity of 22.14 MW shall be established as proposed.	**Agreed to Comply:** We will abide by the condition.
vii	Rainwater harvesting pond of 29,747 cum capacity shall be provided as proposed. Rainwater harvesting structures shall conform of CGWA designs. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition.

	EC & CRZ Conditions-2021	Compliance Status
viii	A certificate from the competent authority/ agency handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W generated from project.	**Agreed to Comply:** Presently, only land development work is ongoing at site. We assure MOEFCC to abide by the condition during construction & operational phases.
ix	Fresh water requirement from local authority shall not exceed 10.61 MLD during final operational phase. As committed, no groundwater abstraction shall be done during construction as well as operation phase of the project.	**Agreed to Comply:** We will abide by the condition. The total water demand in final phase is 21.82 MLD. Of which, freshwater demand of 10.61 MLD will be sourced from CIDCO and balance 11.21 MLD will be recycled water from on – site STPs There will be no ground water abstraction carried out during construction phase as well as operational phase of project.
x	As proposed, wastewater shall be treated in onsite STPs of total 14.25 MLD capacity (during final phase). Treated water from the STP shall be recycled and reused for gardening, flushing etc. There shall be no discharge of treated water from the project as proposed.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition. There will be no discharge of treated water from the project.
xi	The project proponents would commission a third-party study on the implementation of conditions related to quality and quantity of recycle and reuse of treated water, efficiency of treatment systems, quality of treated water being supplied for flushing (specially the bacterial counts), comparative bacteriological studies from toilet seats using recycled treated waters and fresh waters for flushing, and quality of water being supplied through spray faucets attached to toilet seats.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition.
xii	Area for greenery shall be provided as per the details provided in the project document i.e., about	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition.

	EC & CRZ Conditions-2021	Compliance Status
	384.90 ha. will be developed as green area.	
xiii	PP shall explore the use of non-ozone depleting substances in air conditioning systems.	**Agreed to Comply:** Non-CFC refrigerant is specified for chillers & DX units such substances for use in air conditioning system to avoid depletion of ozone layer in environment. We assure to abide by the condition.
xiv	The PP shall also provide electric charging points in the parking areas for e-vehicles.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition.
xv	The proposed ongoing work of Navi Mumbai International Airport should be carried out strictly as per the provisions of CRZ Notification, 2011 as amended from time to time and with a commitment of protection and conservation of coastal environment.	**Agreed to Comply:** provisions of CRZ Notification will be strictly complied. Project has obtained CRZ recommendation from Environment & Climate Change Department, Govt. of Maharashtra vide letter No. CRZ 2021/CR 156/TC 4 dated 27.09.2021.
xvi	NMIA shall carry out the balance work without change in location, scope, area or capacity.	**Agreed to Comply:** NMIA will carry out development work without change in location, scope area or capacity.
xvii	No mangrove destruction is allowed to carry out balance ongoing work of the project. There shall not be violation of the Hon'ble High Court order dated 23rd October, 2013 in PIL 87/2006.	**Agreed to Comply**: We undertake that no mangrove destruction will be carried out for balance ongoing work at the project. and that there will not be violation of the Hon'ble High Court order dated 23rd October, 2013 in PIL 87 /2006.
xviii	Work of diversion of Ulwe and Gadhi River is completed. NMIA shall carry out the studies pertaining hydraulic flow conditions, to understand the impact of diversion of Ulwe and Gadhi streams on Panvel Creek coastline, its coastal ecology and surrounding area/ settlements/ habitat/ social economic pattern. The hydraulic study shall also take into account the anticipated impacts of climate change and sea level rise on proposed airport site and surrounding area. Hydraulic studies need to be carried out with	**Complied:** It may be noted, as per CIDCO report, as submitted to MOEFCC, that: 1. CWPRS, Pune has carried out 1D, 2D mathematical & physical Model studies based on the MoEF's approved layout plan of airport covering 1160 Ha. CIDCO is designing the master drainage plan of surrounding areas by incorporating the various recommendations of CWPRS. 2. The detailed drainage plan for the airport has been prepared by the NMIAL as a part of Master Plan, incorporating CWPRS

	EC & CRZ Conditions-2021	Compliance Status
	an objective to anticipate the probable flooding situations in low lying areas and accordingly implement the possible mitigation measures.	recommendations and integrating with CIDCO plans and abiding by EC conditions. The whole Storm Water from Airport area will be discharged in Gadhi River. 3. The master drainage plan of airport and surrounding area is prepared for the worst conditions (highest high tide, tidal surge, maximum rainfall condition and flooding in all rivers and a safety factor which is dependent upon climate surge) as submitted by NMIAL. It was submitted that NMIAL has also engaged CWPRS for checking the internal drainage system designed for the airport area so that it ties very well with the Master Drainage system planned for the area. 4. The Master plan developed by NMIA has ensured that there will be no discharge into the Ulwe recourse channel from Airport as mandated in EC. CIDCO has signed long term MOU with CWPRS, so that the drainage plans for all areas in Navi Mumbai prepared by it are checked by CWPRS. This practice is followed for all areas near the proposed airport also. All matters pertaining to Ulwe recourse channel will be in scope of CIDCO as per NOC for transfer of EC and CRZ clearance given by CIDCO to NMIAL vide letter No. CIDCO/T&C/CT&CP/NMIA/1317 dt 10th Feb 2020.
xix	NMIA shall regularly monitor the marine water quality of the Panvel creek during construction and post construction of the project.	**Agreed to Comply:** During construction period Marine Water quality monitoring is carried out by NMIAL through MoEF&CC recognized & NABL accredited Lab. Monitoring will be continued during operation phase.

	EC & CRZ Conditions-2021	Compliance Status
		Environmental analytical reports for the reporting period are enclosed herewith Annexure-II.
xx	NMIA shall ensure that all ground service vehicles will be operated on Electric or CNG. No petrol/diesel vehicles would be allowed in the Airport Premises.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition.
xxi	Mangrove Park shall be developed in consultation with Mangrove Cell, on site identified by the CIDCO.	**Agreed to Comply:** All matters pertaining to development and maintenance of mangrove pockets will be in scope of CIDCO as per NOC for transfer of EC and CRZ clearance given by CIDCO to NMIAL vide letter No. CIDCO/T&C/ CT&CP/NMIA/1317 dt 10th Feb 2020 As discussed in the 74th EAC meeting held on 8th Oct'21 in which the Committee expressed that, as the conditions pertain to the proposal for the development of NMIA. Therefore, even if CIDCO is the implementing agency w.r.t the said conditions, the Project Proponent (PP) shall continue to be involved in the process, to monitor & ensure compliance to aforesaid conditions.
xxii	NMIA to implement environment measures such as rainwater harvesting, solar lighting, efficient solid and hazardous waste management practices. NMIA shall ensure the zero liquid discharge during construction and operation of the project.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition. Necessary energy conservation and water conservation measures will be adopted.
xxiii	NMIA during construction shall not disturb the coastal ecology comprising mangroves/mudflats present along the Panvel creek, present outside the northern boundary of the project site.	**Agreed to Comply:** Repeat Condition- Already replied in Sr. (XV) of EC 2021.
xxiv	NMIA should carry out detailed study on the impact of fishing and livelihood of people depending on local fishing and take efforts to	**Agreed to Comply:** NMIA will be engaging specialist agency to conduct livelihood assessment study particularly for fishermen

	EC & CRZ Conditions-2021	Compliance Status
	maintain the livelihood of traditional fisher folks supposed to be affected by the project directly or indirectly.	community dependent on local fishing and make efforts to ensure their wellbeing.
xxv	Green bell area (33% of total project area) of adequate width and density with local species along the periphery of the project site shall be developed so as to provide protection against particulate matter and noise	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition.
xxvi	NMIA shall set up a full-fledged in house Environment Management Cell comprising concern experts for effective implementation of Environment Management Plan. The EM Cell shall carry out marine water quality monitoring, erosion/accretion status of the coastline along Panvel Creek, monitoring of tidal flow patterns due to diversion of Ulwe & Gadhi streams, development of mangrove park etc. and implement recommendations of the Socio-economic study as well as Disaster Management Plan.	**Agreed to Comply:** NMIA has a full-fledged in -house Environment Management Cell comprising Sr. Vice President (Environment and Sustainability) with a site Health, Safety and Environment (HSE) Team headed by General Manager (HSE) which is part of construction vertical. GM – HSE reports to Head – E & S as well as Head – Construction. Sr. Vice President – E & S reports to the Joint President (Planning and Design), who in turn reports to Top Management. EM Cell is responsible for following up on ensuring all environmental compliances and sustainability issues for the project. The Environment Management Plan detailing the mitigation measures and the Environmental budget is being updated as part of the EIA being prepared. Roles and responsibilities of various parties and timelines of completion will be given therein.
xxvii	NMIA/ CIDCO to implement. the recommendations of the report on the BNHS with respect to protection/ conservation of the biodiversity around the Airport site.	**Agreed to Comply:** BNHS is appointed to do the periodic base line survey of avian fauna and quarterly as well as annual reports are being received and placed on CIDCO'S website. CIDCO has also signed a long-term MOU (ten year period ending 2028) to track Bird movements and advice regarding

	EC & CRZ Conditions-2021	Compliance Status
		overall development of Navi Mumbai to ensure adequate habitats are maintained for the sustenance and growth of birds and do not endanger flight movements. NMIAL will abide by CIDCO directives in this regard.
xxviii	The Environmental and CRZ Clearance to the project is primarily under provisions of EIA Notification, 2006 and CRZ Notification, 2011. The Project Proponent is under obligation to obtain approvals/clearances under any other Acts/ Regulations or Statutes as applicable to the project.	**Complied:** NMIAL is obtaining all necessary approvals for the project for establishment of green field airport. Similarly, CIDCO is obtaining separate approvals for associated infrastructure of surrounding airport area.
B	**Standard Conditions:**	
I	**Statutory compliance:**	
i.	The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.	**Complied:** Stage-I & Stage-II forest clearance for 250.0635 Ha land has been obtained form MOEF&CC vide letter no 8-98/212-FC dated 17-12-2013 and 24.04.2017 respectively.
ii.	The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.	**Complied:** Wildlife Clearance was recommended in the 29th Meeting of Standing Committee and communicated vide Minutes No. P.No.6-43/2007 WL-I dt. 1st August, 2013 of Wildlife Division of Ministry of Environment & Forest, Govt. of India.
iii	The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan/ Wildlife Management Plan shall be implemented in consultation with	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by condition.

	EC & CRZ Conditions-2021	Compliance Status
	the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of Schedule-I species in the study area).	
iv.	The project proponent shall obtain Consent to Establish/Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee,	**Complied:** NMIA has been granted CTE for 20 MPPA & 0.57MTPA Cargo by MPCB vide letter dated 5th Oct 2021. Consent to Operate (CTO) will be obtained prior to the commencement of the project operation.
V.	The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water/ from the competent authority concerned in case of drawl of surface water required for the project.	**Not applicable** No ground water to be tapped during construction or operation phases. CIDCO has assured water supply for the project.
vi	Clearance from Directorate General of Civil Aviation (DGCA) and Airports Authority of India (AAI) for safety and project facilities shall be obtained.	**Agreed to Comply:** NMIAL has prepared Airport safety and security plan which are approved by DGCA, AAI, BCAS & CIDCO as per following details 1. In-Principle Approval to NMIA Master Plan for Construction of Navi Mumbai International Greenfield Airport at Navi Mumbai by Director General of Civil Aviation (DGCA), Govt. of India vide AV.20024/40/2003-AL dt 28th August, 2018 2. In-Principle Approval to NMIA Master Plan for Construction of Navi Mumbai International Greenfield Airport at Navi Mumbai by Bureau of Civil Aviation Security (BCAS), Govt. India vide CAS-6/2018/Div-Ops-I/Navi Mumbai (E-135357) dt 28th August, 2018 3. Approval of Bureau of Civil Aviation Security (BCAS), Govt. of India for construction of Terminal-

	EC & CRZ Conditions-2021	Compliance Status
		1 Building on NMIA vide CAS-6/2018/Div-Ops-I/Navi Mumbai (E-135357) dt 26th July, 2019 The DCA mandates safety requirements and procedures will be followed while developing the plan.
vii	A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.	**Agreed to Comply:** The energy demand is estimated under the Master Plan prepared by the NMIAL and shows that cumulative peak power demand will be 96 MVA which is much lower than the CEIA estimate 190 MVA, by adhering to ECBC norms. The power supply requirement will be met through Maharashtra State Electricity Transmission Company Limited (MSETCL) Approval/NoC from MSETCL for Power Supply to NMIA vide MSETCL/CO/STU/EHV Cons/ NMIA/ NO13379 dt 27th December 2018.
viii	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition. NMIAL has obtained Fire safety approvals as per following details 1. Approval/NoC of Fire Dept. CIDCO for Location for Airport Rescue & Fire Fighting Stations (ARFF) in NMIA Master Plan vide CIDCO/FIRE/HQ/ 2019/542 dt 30th September, 2019 2. Fire NoC from Fire Dept. CIDCO for Construction of Terminal-1 Building on NMIA vide CIDCO/FIRE/HQ/ 665/2019 dt 20th December, 2019 The DGCA mandates safety requirements and procedures will be followed while developing the plan
I.	**Air quality monitoring and preservation:**	

	EC & CRZ Conditions-2021	Compliance Status
i.	The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g., PM10 and PM2.5 in reference to PM emission, and SO2 and NOx in reference to SO2 and NOx emissions) within and outside the airport area at least at four locations (one within and three outside the plant area at an angle of 120 each), covering upwind and downwind directions.	**Complied:** NMIAL has appointed a Laboratory recognized by MOEFCC, for the monitoring for Air & noise (9 stations) and Ground water sampling (5 locations) on monthly basis. Marine/ Surface water (10 stations), & soil sampling (5 locations) on quarterly basis. Environmental analytical reports for the reporting period are enclosed herewith. (Annexure-II)
ii	Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low Sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases. The DG sets will be operated only during power failure. Location of DG sets will be in utility blocks and plan showing utility block locations is submitted to MPCB at the time of grant of CTE.
iii	Soil and other construction materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction phase. Water will be sprinkled on trucks carrying material, soil and sub stratum as also on roads and near construction sites e.g., excavation, material handling, RMC plant etc. to suppress dust prior to loading, unloading at regular intervals.
iv	The excavation working area should be sprayed with water after operation so as to maintain the entire surface wet.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction phases.
v	Excavated materials shall be handled and transported in a manner that they do not cause any problems of air pollution.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction phase.
vi	The soil/ construction materials carried by the vehicle should be covered by impervious sheeting to	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction phases.

	EC & CRZ Conditions-2021	Compliance Status
	ensure that the dusty materials do not leak from the vehicle.	
	II. Water quality monitoring and preservation:	
i	Run off from chemicals and other contaminants from aircraft maintenance and other areas within the airport shall be suitably contained and treated before disposal. A spillage and contaminant containment plan shall be drawn up and implemented to the satisfaction of the State Pollution Control Board.	**Agreed to Comply**: Since, project is yet to be operational. We assure MOEFCC to abide by the condition.
ii	Proper drainage systems, emergency containment in the event of a major spill during monsoon season etc. shall be provided.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
iii	The runoff from paved structures like Runways, Taxiways, can be routed through drains to oil separation tanks and sedimentation basins before being discharged into rainwater harvesting structures.	**Agreed to Comply**: To reduce the impact on water quality, measures taken will include (1) providing bunds around areas storing chemicals, wastes and soil for containing spills (2) passing the spill collected through Grit chamber and Oil water separator We assure MOEFCC to abide by the condition.
iv	Storm water drains are to be built for discharging storm water from the air-field to avoid flooding/water logging in project area. Domestic and industrial waste water shall not be allowed to be discharged into storm water drains.	**Agreed to Comply:** Separate storm water drains to avoid water logging in project area. Approval of CWPRS for NMIA Drainage Master Plan has been received vide A.P.Y.P/CIDCO/2019 /434 /318 dt 18th July 2019 and A.P.Y.P/NMIAPL/ 2020 dt 23rd June 2020. Since, project is yet to be operational. We assure MOEFCC to abide by the condition.
v	Rain water harvesting for roof run-off and surface run-off, as plan submitted should be implemented. Rain water harvesting structures shall conform to CGWA designs. Before recharging the surface run off, pre-treatment must be done to	**Agreed to Comply**: We assure MOEFCC to abide by the condition during operational phase.

	EC & CRZ Conditions-2021	Compliance Status
	remove suspended matter, oil and grease.	
vi	Total freshwater use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.	**Agreed to Comply**: The total water demand in final phase is 21.82 MLD. Of which, freshwater demand of 10.61 MLD will be sourced from CIDCO. Water assurance has been obtained from Water Supply Dept. CIDCO for Water Supply to NMIA vide CIDCO/ EE (Hetwane)/ 2018/ 322 dt 3rd August, 2018.
vii	A certificate from the competent authority for discharging treated effluent/untreated effluents into the Public sewer/ disposal / drainage systems along with the final disposal point should be obtained.	**Agreed to Comply**: Consent to Establish Phase-I&II granted by MPCB. Since, project is yet to be operational. We assure MOEFCC to abide by the condition
viii	A detailed drainage plan for rain water shall be drawn up and implemented.	**Agreed to Comply**: Since, project is yet to be operational. We assure MOEFCC to abide by the condition
III.	**Noise monitoring and prevention:**	
i	Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six monthly compliance report.	**Agreed to Comply**: Ambient Noise monitoring are regularly carried out as per Environmental Protection Act 1986 & reports in this regard submitted to regional office of Ministry as part of six monthly compliance report regularly. (Annexure II)
ii	Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipment's.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
iii	Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.

	EC & CRZ Conditions-2021	Compliance Status
iv	During airport operation period, noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.	**Agreed to Comply**: Since, project is yet to be operational. We assure MOEFCC to abide by the condition.
IV.	**Energy Conservation measures:**	
i.	Energy conservation measures like installation of LED/CFL.s/TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning.	**Agreed to Comply**: Necessary energy conservation and water conservation measures will be adopted .
V.	**Waste management:**	
i.	Soil stockpile shall be managed in such a manner that dust emission and sediment runoff are minimized. Ensure that soil stockpiles are designed with no slope greater than 2:1 (horizontal/ vertical).	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
ii	The project activity shall conform to the fly Ash notification issued under the E P. Act of 1986.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction phase.
iii	Solid inert waste found on construction sites consists of building rubble, demolition material, concrete; bricks, timber, plastic, glass, metals, bitumen etc. shall be reused/ recycled or disposed off as per Solid Waste Management Rules, 2016 and Construction and Demolition Waste Management Rules, 2016.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
iv	Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.	**Agreed to Comply**: Construction and demolition waste generated during development phase shall be handled as per The Construction and Demolition (C&D) Waste Management Rules, 2016. We assure MOEFCC to abide by the condition during construction phase.

	EC & CRZ Conditions-2021	Compliance Status
v	The project proponents shall implement a management plan duly approved by the State Pollution Control Board and obtain its permissions for the safe handling and disposal of:	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
	a. Trash collected in flight and disposed at the airport including segregation, collection and disposed.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition
	b. Toilet wastes and sewage collected from aircrafts and disposed at the Airport.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition
	c. Wastes arising out of maintenance and workshops	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition
	d. Wastes arising out of eateries and shops situated inside the airport complex.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition
	e. Hazardous and other wastes	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
vi.	The solid wastes shall be segregated as per the norms of the Solid Waste Management Rules, 2016. Recycling of wastes such as paper, glass (produced from terminals and aircraft caterers), metal (at aircraft maintenance site), plastics (from aircrafts, terminals and offices), wood, waste oil and solvents (from maintenance and engineering operations), kitchen wastes and vegetable oils (from caterers) shall be carried out. Solid wastes shall be disposed in accordance to the Solid Waste Management Rules, 2016 as amended.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
vii.	Used CFLs and TELs should be properly collected and disposed off/ sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition. • Used CFL and TFLs will be collected and disposed off through MPCB authorized disposal facilities.

	EC & CRZ Conditions-2021	Compliance Status
VI.	**Green Belt:**	
i.	Green belt shall be developed in area as provided in project details, with native tree species in accordance with Forest Department. The greenbelt shall inter alia cover the entire periphery of the Airport.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition.
	Top soil shall be separately stored and used in the development of green belt.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
VII.	**Public hearing and Human health issues:**	
i	Construction site should be adequately barricaded before the construction begins.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction phase.
ii	Traffic congestion near the entry and exit points from the roads adjoining the airport shall be avoided. Parking should be fully internalized and no public space should be utilized.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
iii	Provision of Electro-mechanical doors for toilets meant for disabled passengers. Children nursing/feeding room to be located conveniently near arrival and departure gates.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition
iv	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition.
v	Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures lo be removed after the completion of the project.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction phase.

	EC & CRZ Conditions-2021	Compliance Status
vi	Occupational health surveillance of the workers shall be done on a regular basis.	**Agreed to Comply**: Regular health check-up of workers will be carried out by contractor appointed by NMIA. We assure MOEFCC to abide by the condition during construction & operational phases.
VIII.	**Miscellaneous:**	
i	The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and Safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.	**Complied:** Public was informed about the grant of EC by advertisement in newspaper Business Standard Mumbai on 10.12.2021 and Lokmat (Marathi) on 10.12.2021 and copies of Newspaper cutting were enclosed herewith as Annexures-III. Copy of EC and CRZ clearance, Consent to establish are available on NMIAL web site https://www.nmiairport.co.in/circulars.html
ii	The copies of the environmental clearance shall be submitted by the project proponent to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.	**Complied:** MOEF&CC granted EC copy submitted Local Bodies, Panchayats and municipal bodies. Acknowledgement copies enclosed as Annexure -IV
iii	The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.	**Agreed to Comply**: All EC related compliance reports filed by NMIAL are uploaded on NMIAL website and available at the link (https://www.nmiairport.co.in/circulars.html)
iv	The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the Ministry of Environment, Forest and Climate Change at environment clearance portal.	**Agreed to Comply**: All EC related compliance reports filed by NMIAL are uploaded on NMIAL website and available at the link (https://www.nmiairport.co.in/circulars.html)

	EC & CRZ Conditions-2021	Compliance Status
v	The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/ deviation/ violation of the environmental /forest/ wildlife norms/ conditions. The company shall have defined system of reporting infringements/ deviation/ violation of the environmental/ forest/ wildlife norms/ conditions and/or shareholder's/ stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.	**Agreed to Comply**: NMIA has prepared Environmental Policy. Environment Management at NMIA shall involve a system of checks and balances through continuous inspection and monitoring of environment, health & safety standards, regular assessment of methods/processes & records and review for further improvements at policy level. This will also facilitate to identify gaps which lead to update guidelines and to undertake remedial measures as well. Proactive & preventive measures on Environment, Health and Safety will be thoroughly implemented during development and operation phases of NMIA.
vi	A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.	**Agreed to Comply**: Details of Environmental Management Cell is given in Sr No. (xxvi) above During the development/ construction phase, the EPC contractor will be engaged. NMIAL will have in house Environment Management Cell (EMC) will be headed by VP (Environment and Sustainability) who will have a field HSE team to support on day to day compliance on site. EPC contractor will have EMC and will be responsible for developing EMP for each of their activities. Day to day environment management and monitoring of safety will be the responsibility of the contractor's EMC team under supervision of NMIAL HSE Team, while legal compliances will be under Sustainability and Environment Team.

	EC & CRZ Conditions-2021	Compliance Status
vii	Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted or any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.	**Agreed to Comply**: Various activities during construction phase and HSE impacts and mitigation measures will be identified. Site level EMP is Responsibility of EPC Contractor in accordance with contract and will be submitted to NMIAL for approval of the same before commencement of construction work. NMIAL will ensure that all their activities of EPC contractor and sub-contractors are carried out in accordance with the Contractor's EMP and will adhere to conditions imposed by various statutory authorities. Implementation of the EMP for development phase as applicable to each work area and activity. Responsibility matrix of the company will be prepared and will be duly approved by competent authority. The year wise funds earmarked for environmental protection measures will be kept in separate account and not to be diverted for any other purpose. Year wise progress of implementation of action plan will be reported to the Ministry/ Regional Office along with the Six-Monthly Compliance Report. NMIAL will thus ensure compliance always with the requirements of applicable legislations and relevant standards as outlined in this document, and all requirements of this EMP for development phase and Contractor's EMP.
viii	Self environmental audit shall he conducted annually. Every three	**Agreed to Comply:** NMIAL will conduct internal & external regular inspections, audits &

	EC & CRZ Conditions-2021	Compliance Status
	years third party environmental audit shall be carried out.	trainings of all contractor and sub contractor works from EHS angle during construction/ development phase at defined frequency. Also regular inspections, audits & trainings will be undertaken for each department, to ensure their readiness to comply the environmental regulatory requirements..
ix	The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition. Environmental Statement as per Form V will be prepared during operations and will be submitted at the end of each financial year-end to MPCB.
x	The criteria pollutant levels namely, PM10, PM2.5, SO2, NOx (ambient levels) shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	**Agreed to Comply:** All EC related compliance reports will be uploaded on NMIAL website. NMIA will regularly monitored pollutants like PM10, PM2.5, SO2, NOx will be monitored and will be displayed at main gate in public domain.
xi	The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.	**Agreed to Comply:** Since project Financial Closure and Final approval is under finalization stage, we assure to abide by the condition.
xii	The project. authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	Noted
xiii	The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation	Agreed

	EC & CRZ Conditions-2021	Compliance Status
	to the Export Appraisal Committee.	
xiv	No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	Agreed.
xv	Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.	Noted
xvi	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Noted
xvii	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Noted
xviii	The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data/information/ monitoring reports.	Noted
xix	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement| Rules, 2016 and the Public Liability	Noted

	EC & CRZ Conditions-2021	Compliance Status
	Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/ High Courts/NGT and any other Court of Law relating to the subject matter.	
xx	Any appeal against this EC shall lie with the National Green Tribunal. if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.	Noted

Present Status of Compliance to Conditions stipulated in EC &CRZ Clearance No.10-53/2009-I.A. III dt. 22.11.2010 & dt 21.11.2017 (Annexure- I)

Sr. No		Stipulated Condition-2010	Compliance status
		Specific Condition	
I.		**Construction Phase**	
	(i)	"Consent for Establishment" shall be obtained from State Pollution Control Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at the site.	**Complied:** Consent for Establish (CTE) is granted to NMIA by MPCB vide letter No. Format 1.0/ CAC/UAN No. 0000100222/CE-2110000162 dt. 5.10.2021 for Phase I & II (20 MPPA & Cargo Capacity 0.57 MTPA) which is valid up to 4.10.2026.
	(ii)	CIDCO shall rehabilitate about 3000 families of 10 settlements from 7 villages falling within the airport zone as per the R & R policy of the Government of India or the Government of Maharashtra, whichever is more beneficial to the project affected persons.	**Complied:** R and R package development and implementation is in scope of CIDCO as per NOC for transfer of EC and CRZ clearance given by CIDCO to NMIAL vide letter No. CIDCO/T&C/CT&CP/ NMIA/ 1317 dated 10th Feb 2020. At present as on 28th Jan 2022 there are now around about 99.89% of R&R completed. (2601 structure of 2633 total 32 number structures to be demolished as per CIDCO). Out of the Total Land parcel of 1160 Ha, it has handed over 1158.71 hectares to NMIAL as per CIDCO, which is 99.89% of total site area.
	(iii)	CIDCO shall obtain necessary permission from Hon'ble High Court of Bombay for cutting or damaging of mangroves and clearance under Forest Conservation Act 1980 as per the orders in respect of notice of Motion no. 417 of 2006 in PIL no. 87/2006, as required.	**Complied:** Necessary approvals / clearances have been taken by CIDCO from the MoEF&CC (stage II Forest clearance vide File No.: 8-95/2012-FC dated 24th April 2017 for diversion of 250.0635 ha area) and Permission for Removal of Mangroves over 108.607 Ha (98 Ha within site and balance in offsite area) vide Bombay High Court order dated October 29, 2013 as applicable.
	(iv)	The plantation and protection of mangroves over an area of	**Complied:** The Urban Development Department, GoM

Sr. No		Stipulated Condition-2010	Compliance status
		615 ha (245 hectares of good quality Mangroves Park shall be developed at Vaghivli on the north of the airport area + 60 hectare area located on the west side of the airport site around Moha creek and Panvel Creek + 310 hectares area on the northeast of the airport site between Gadhi River, Mankhurd Panvel Rail corridor and National Highway 4B shall be declared as No-development zone and CIDCO shall under take the development as Mangroves park/green area) would be developed and maintained in the shape of Biodiversity Mangrove Parks well before the airport project is initiated and its progress reported to the high level committee mentioned below at (xxxiii). CIDCO shall formally amend the land use in the sectioned development plan of Navi Mumbai following the due procedure under MRTP Act to achieve this objective.	has sanctioned change in Navi Mumbai Development Plan vide letter G.R.No.TPS/1711/2495/ C.R.202/11 /UD -12 dated 21st march, 2012. It was noted that work of plantation & Protection of 310 ha + 60ha + 20 ha has been completed by Mangrove Cell, State Forest department as submitted in the earlier six-monthly report. In addition, 108 ha mangrove plantation has been completed in Kolekhar village near this NDZ as per the Forest clearance condition of compensatory mangrove plantation. Details of mangrove pockets development including compensatory mangrove plantation and development of other pockets has been submitted by CIDCO vide letter CIDCO/GM(ENV&F)/nmia/2019/038 dtd 11th September 2020. Since the villagers have not vacated the Vaghivali village and considering the recommendation of BNHS, • Mangrove Park should be located away from the airport influence zone considering the bird hazard issue • The island will be protected as NDZ for the time being and mangroves will be retained in their natural state as reported by CIDCO in the earlier compliance report.
	[v]	The proposed re-coursing of tidally influenced water body outlets from Ulwe river has a large cross sectional area at the middle with the river/creek on either end remaining unchanged with its natural course. The whole system should function as was	**Complied:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021.

Sr. No		Stipulated Condition-2010	Compliance status
		functioning earlier without airport project. Surface runoff should not be let into the channel just because the area of cross section is large. The whole airport area will be reclaimed, and the level raised to 7m whereas the existing level all around the airport will continue to be low in its natural state. There will be flow all around due to surface runoff. This additional quantity must be collected by appropriate drainage system and let into Gadhi River and not into the re-coursing channel. The recourse channel may be able to take it but not the river or creek on either side of the channel. This aspect shall be examined by CIDCO in details to avoid the flooding of the low-lying areas besides inducting other hydrological and environmental studies.	
	(vi)	The entire system shall be studied as one composite system with appropriate boundary conditions to reflect the worst conditions – minimum 100 years to be specified and compliance ensured such as - flooding, surface runoff not only from the airport but also from surrounding areas as well, normal flow, tidal flow due to tidal surge having a long return period, possible obstructions to flow, tributaries joining the main river etc. so as to take appropriate protection and remedial measures. Due to construction of recourse Channels and also due to tail end of the Gadhi & Ulwe Rivers into Panvel Creek, there is a need to prepare a	**Complied:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021.

Sr. No		Stipulated Condition-2010	Compliance status
		Comprehensive Master Plan for Surface drainage and Flood protection, keeping in view the proposed developments. CIDCO shall submit the above Master Plan to the Ministry.	
	(vii)	Systemic and periodic monitoring mechanism need to be put in place by CIDCO to assess the impact on sub-surface flow/ impact on aquifers as well as surface water bodies in different seasons. Necessary additional environmental protection measures to be adopted to address the impact of proposed development in coastal sub-subsurface flow as well as impact on aquifers.	**Complied:** NMIAL has appointed a Laboratory recognized by MOEFCC, for the monitoring for Air & noise (9 stations) and Ground water sampling (5 locations) on monthly basis. Marine/ Surface water (10 stations), & soil sampling (5 locations) on quarterly basis. Environmental analytical reports for the reporting period are enclosed herewith. (Annexure II)
	(viii)	CIDCO shall prepare a Management Plan to handle the runoff from the airport and to ensure that runoff associated risks/ impacts such as siltation in receiving water body are avoided and are taken care within airport area during monsoons.	**Complied:** Master Drainage Plan Report of Airport and its surrounding area is prepared which includes the issue of management of runoff and associated risks during the monsoon. CWPRS studies show that siltation rates in Gadhi River and Panvel creek are fairly low and obstructions due to such factors are considered while designing Master Drainage layout. During construction phase run off will be passed silt traps before letting out to nearby area. The SW drainage will incorporate features like grit chamber and Oil water separator to remove suspended matter and oils. Thus it will be ensured that no additional load of suspended matter during development & operation phase.
	(ix)	On the northern part of the airport there is a secondary channel of the Gadhi River which will be filled up for the airport runway construction. This will be replaced by a shorter	**Complied:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021.

Sr. No		Stipulated Condition-2010	Compliance status
		channel along the northern boundary of the airport. The channel shall be designed appropriately through overall modeling study so that the channel provides tidal water to the mangrove park and moderate tidal flows under worst environmental conditions. Need for widening and deepening of Gadhi River may also be studied simultaneously, if required. The revised widths and depths of recourse channels shall be determined with modified drainage and worst rainfall/ tide conditions including appropriate factor of safety.	Construction of new Channel for Gadhi River, north of NMIA Site is to be completed by CIDCO before commencement of Phase-I operations of NMIA, same discussed in the 74th EAC meeting held on 8th Oct'21 in which the Committee expressed that, as the conditions pertain to the proposal for the development of NMIA. Therefore, even if CIDCO is the implementing agency w.r.t the said conditions, the Project Proponent (PP) shall continue to be involved in the process, to monitor & ensure compliance to aforesaid conditions.
	[x]	The flow channels and the low - lying mangrove area which will receive water from diverted recourse/ channels should remain undisturbed. No road, embankment or any other construction shall be permitted. Any island formed due to deposition of sediment in front of Panvel creek shall be periodically removed.	**Complied:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021.
	[xi]	A detailed map shall be submitted by CIDCO to the Ministry with quantification of affected mangrove area with density i.e., initial proposal & modified proposal and proposed mangrove forestation with species. The work on the proposed compensatory mangrove park should commence well before the construction of the airport is undertaken. The mangrove irrigation systems and diverse species selections for all the four areas may be scientifically made. The river front	**Complied:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021.

Sr. No		Stipulated Condition-2010	Compliance status
		development in all the areas not protected by adequate mangrove buffer along the Panvel creek and Gadhi river may be considered through studies.	
	[xii]	Whatever EIA data was submitted and presented was related to a situation for "no airport condition". The project proposal has under gone many changes in terms of converting the lagoon as Mangrove Park, shifting of non-aeronautical activities to the south etc. Updated EIA report with all the modifications and commitments given by CIDCO shall be submitted to the MoEF, MPCB and to MCZMA. This updated EIA report will serve as the preliminary baseline data. CIDCO shall submit the second report (EIA Report II) after finalization of all the facilities followed by Comprehensive EIA report prepared with approved layout of the airport, new hydrological scenario, altered topography and land use. The Comprehensive EIA report should also include ecological aspects answering quires raised by BNHS and several other points raised during the meeting. After completion of Phase I of the project, the CIDCO shall conduct the "Environmental Audit" with a reputed organization and the audit shall also include the "Validation of the conclusions drawn in the EIA Report" and to submit to MoEF, MPCB and to MCZMA and shall be uploaded on the website.	**Complied:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021. NMIAL has submitted EIA report 2021 to MOEFCC vide letter dated 25th Oct 2021 for obtaining fresh clearance. The EIA report is uploaded on web site also & link is: https://nmiairport.co.in/circulars.html Environmental Audit will be conducted after commissioning of phase-I of the airport. It may be noted that the same has been mandated in the Concession Agreement for NMIA.
	[xiii]	The water quality of the River Gadhi, Ulwe, the Panvel Creek	**Complied:** Water quality monitoring is being carried out on

Sr. No		Stipulated Condition-2010	Compliance status
		and the ground water is to be monitored on quarterly basis for TOC, Pb, Cd and Hg at all the locations identified in the EIA study for a period of at least 2 years from the commencement for the construction work and the quarterly reports to be submitted to Ministry of Environment and Forests Govt. of India and MPCB.	monthly basis by NMIAL through MoEF&CC recognized Lab. During construction and operation period also monitoring of the water quality will be carried out by NMIAL and the EPC contractor. Environmental analytical reports for the reporting period are enclosed as Annexure -II
	(xiv)	The waste water generated from the aircraft maintenance hangers may contain hazardous materials like lead, chromium, Sulphates, Phenolic compounds, V.O.C's etc. The surface runoff from the airport area shall also contain oils, grease, Sulphates etc, which cannot be sent directly to sewage treatment plant for the treatment. A separate treatment plant for managing the wastewater shall be specified and adopted.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition.
	[xv]	Based on the geological profile underneath the proposed airport, suitable consolidation factor shall be arrived to assess the additional noise/ vibration levels that would be produced during impact of landing & take off the air crafts simultaneously on both the runways. Further, the partially quarried hills in the vicinity will become a rebound shell for noise. CIDCO shall examine the details of noise/ vibration levels those are likely to be increased both during day and nighttime and the mitigation measures shall be installed to reduce the (noise/ vibration levels) impacts.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition. NMIAL has undertaken detailed Noise modelling studies for various air traffic scenarios and submitted as part of EIA studies. However, it may be noted that runway pavement will be designed taking into consideration subsoil condition beneath to minimize noise/vibration. Necessary actions to reduce noise/vibration levels during the operations phase will be taken.
	[xvi]	Standard instrument arrival and departure procedure shall be designed to minimize the noise levels within the permissible	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition.

Sr. No		Stipulated Condition-2010	Compliance status
		limits for the area falling in the funnel near the airport on either side.	
	(xvii)	Energy conservation to the extent of 20% shall be incorporated in the bidding documents including water conservation (reuse/ recycle, rainwater harvesting and water efficient fixtures) and other green building practices for various buildings proposed within the airport complex. CIDCO shall consider ECBC Guidelines 2009 to achieve the energy – efficient design.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition. However, we also assure that necessary energy conservation and water conservation measures have been envisaged and will be adopted.
	(xviii)	CIDCO shall prepare a detailed traffic management plan to take care of increased vehicular traffic which should also cover/ clearly delineate widening/ increasing the existing roads and associated road infrastructure approving / installation of road safety features/ pedestrian facility/ FOB / under passes etc. (that can be done by carrying out road safety audits). Measures shall be taken to prevent encroachment along/within the ROWs on connecting/ main arterial roads.	**Complied:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021.
	(xix)	Necessary road (National and State Highways) and rail connectivity shall also be upgraded to handle the increased passenger and cargo traffic, in addition to metro for transition of passengers. The proposal of Hoverport shall not be taken up on the north part of the airport area as this shall damage the mangroves.	**Complied:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021.
	(xx)	The measures should be taken to improve public transportation including dedicated road / MRTS	**Complied:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021.

Sr. No		Stipulated Condition-2010	Compliance status
		corridors to access to Airport, may also be considered for the same. Energy Efficient dedicated rail based public transport facility; suburban/ metro train in particular, may be created between the Santa Cruz and the Navi Mumbai Airport in addition to all other links connecting various parts of Mumbai city.	
	(xxi)	Traffic Management during construction phase should be clearly planned so that the traffic situation is not further worsened on the existing connecting roads. Installations of Noise barrier/ Green Belts should be clearly indicated in the plan (After identifying critical locations).	**Agreed to Comply:** Since project is yet to be developed & Operational, we assure to abide by the condition. Noise barriers will be installed as required.
	(xxii)	To avoid accidental damage (fire, hazardous material waste handling, oil spills, wastewater disposal) in the adjacent ecologically fragile surroundings and mangrove area – a risk assessment plan and disaster management plan should be prepared and with periodic compliance of safety measures in place to avoid loss due accidental damage that could have been otherwise avoided. Further CIDCO shall appoint a dedicated professional team/cell to handle disaster and associated risks.	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition. However, we submit that Risk Assessment and Disaster Management Plan is prepared for development & operational phases to avoid accidental damage in the adjacent ecologically fragile surroundings and mangrove area. Disaster Management Plan will be updating periodically.
	(xxiii)	In addition to the above – CIDCO shall ensure that all the risks (such as fire, hazardous material waste handling, oil spills, waste – both liquid/solid wastes) associated/ resultant risk during various stages of development (like planning, construction, operation) are managed within	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition. However, we assure that action will be taken as per condition (xxii) cited above.

Sr. No		Stipulated Condition-2010	Compliance status
		the airport area. In case of any unforeseen event as stated above the liability – environmental and social will rest with the developer/ CIDCO, the decision of the high-level Committee, stipulated below will be full and final for liability fixations.	
	[xxiv]	The compliance report of the monitoring committee shall be made 'public' (put online and/or also displayed for wider dissemination of compliance) at all stages (planning, construction, operation) to ensure effective monitoring and compliance of conditions.	**Complied:** After approval of MoEF&CC for Transfer of Environment & CRZ Clearance from CIDCO to NMIAL has been obtained vide letter No. F. No. 10-53/2009-IA-III dated 17th August 2020, onwards NMIAL uploaded on NMIA website EC Compliance Report at the following link. https://nmiairport.co.in/assets/docs/NMIA_Six_Monthly_EC_Compliance_Report_Jan_Jun_2021.pdf
	[xxv]	Environment Management Plan or associated monitoring plan shall ensure that mitigation measures detailed out in terms of role, responsibility, budgetary provisions, timeline for completion, frequency of monitoring and compliance etc.	**Complied** Detailed Construction and Operation phase EMP and monitoring plan with budgetary allocation have been dealt in EIA report September 2021 which was submitted to MOEF&CC. Further, we assure you to abide by the condition.
	[xxvi]	In order to meet all the essential aeronautical requirements and the further airport expansions, no property development shall be undertaken within the proposed aeronautical Airport Zone area (1160 ha).	**Agreed to Comply:** Since project is yet to be operational, we assure to abide by the condition.
	[xxvii]	The Master plan/ Development plan of Navi Mumbai shall be revised and recasted in view of the airport development to avoid and unplanned haphazard growth around the airport. The land use should take care of bird menace including that from the Mangrove Parks.	**Complied:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021.
	[xxviii]	All other nearby villages, if not required to be relocated should	**Complied:** Details are same as submitted earlier vide letter no

Sr. No		Stipulated Condition-2010	Compliance status
		be provided with best possible infrastructure so that they compare well with the adjoining ultra-modern airport infrastructure.	NMIA/MOEF/GEN/0061 dated 30th Aug 2021.
	[xxix]	CRZ provisions shall be applicable on the tidally influenced diverted channels of Ulwe and Gadhi Rivers and CIDCO shall finalize the Airport plans accordingly.	**Agreed to Comply:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021. Master Plan was prepared for NMIA development is in strict compliance of the prevailing CRZ provisions and requirement for compliance in this regard has been incorporated appropriately into the Concessionaire Agreement with NMIAL. Further, it shall be monitored by Environment Cell as well as HLAMC.
	[xxx]	Any cutting or filling up the airport site will create significant turbidity problem. CIDCO shall examine the impact on the marine life. The details will be put up on the website every 3 months.	**Complied:** Turbidity during pre-construction and construction period is tested and analyzed regularly through MOEF & CC recognized laboratory appointed to carry out regular environmental monitoring at pre-defined locations in surface waters around the airport. The quarterly monitoring of turbidity is being carried out. Environmental analytical reports for the reporting period are enclosed herewith. (Annexure -I).
	[xxxi]	CIDCO shall conduct the baseline survey of avian fauna before the start of construction and the details shall be put up every 3 months on the website in association with BNHS.	**Complied:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021.
	[xxxii]	The Environmental Clearance / CRZ Clearance is recommended below is only for the Navi Mumbai Airport project. CIDCO shall obtain the Environmental and CRZ clearance separately for off airport facilities and other off infrastructure projects after finalizing the	**Complied:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021.

Sr. No		Stipulated Condition-2010	Compliance status
		locations and details as may be required under the EIA Notification 2006 and the CRZ Notification.	
	[xxxiii]	Taking a cue from the man-made 26/11 incident arising out of external threat to our country, a strategic airport safety and security plan covering also surrounding inhabited areas of the airport shall be prepared and put in place in consultation with appropriate government departments	**Agreed to Comply:** We assure that Airport safety and security plan will be prepared as per DGCA mandates safety requirements and procedures for submission to DGCA, AAI, BCAS.
	[xxxiv]	A high level advisory and monitoring committee which should include International experts of repute, reporting directly to the highest Airport Management Authority shall be constituted by CIDCO to plan, execute and maintain the environmental issues / recommendations mentioned above. The monitoring shall be done at various stages (planning, construction, operation) of project for compliance of conditions. Budgetary provisions shall be made to the satisfaction of this Committee. The committee shall meet at least once in three months and the decisions taken in the meetings shall be put up on the web site for public information.	**Agreed to Comply:** The implementation was discussed in the EAC 74th Meeting held on 8th Oct 2021, and it was explained that the project is monitored by CM, GOM and Chief Secretary, GOM. Thus, condition may be considered as complied and no separate meeting is required.
	[xxxv]	Regular modeling study of air, noise shall be carried out due to the increase in traffic.	**Complied**: Monthly monitoring of ambient air and noise levels is being continued by NMIAL and reports are being submitted along with six monthly compliance reports (Annexure - II).

Sr. No		Stipulated Condition-2010	Compliance status
	[xxxvi]	The solid waste shall be properly collected, segregated and disposed as per the provision of Solid Waste (Management and Handling) Rules, 2000.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
	[xxxvii]	Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases. EPC Contractor is mandated to give proper labour housing facilities during construction phase of the airport as per requirements of CA and EC.
	[xxxviii]	A First Aid Room will be provided in the project both during construction and operation of the project.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases. First aid facilities will be provided at offices of various contractors as also in labour colony. In addition, EPC contract mandates contractor to maintain an ambulance and have tie up with local Hospitals to ensure that in case of emergency necessary facilities will be available to working personnel.
	[xxxix]	Disposal of muck during construction phase should not create any adverse effect on the neighboring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
	[xl]	Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.	**Complied:** Soil & ground water quality monitoring during pre-development work was being carried out by CIDCO through MOEFCC recognized Lab and regular reports have been

Sr. No		Stipulated Condition-2010	Compliance status
			submitted to MOEFCC along with six monthly compliance reports. NMIAL has continued the monitoring for Air & noise (9 stations) and Ground water sampling (5 locations) on monthly basis. Marine/ Surface water (10 stations), & soil sampling (5 locations) on quarterly basis. Environmental analytical reports for the reporting period are enclosed herewith (Annexure-II).
	[xli]	Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
	[xlii]	Installation and operation of DG set shall comply with the guidelines of CPCB.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
	[xliii]	The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to Environment (Protection) Rules prescribed for air and noise emission standards.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
	[xliv]	The diesel required for operating DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
	[xlv]	Vehicles hired for bringing construction material to the site should be in good condition and should have a pollution check certificate and should conform to applicable air and noise emission standards and should be operated only during non-peak hours.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.

Sr. No		Stipulated Condition-2010	Compliance status
	[xlvi]	Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/ MPCB.	**Agreed to Comply:** Noise levels monitoring during pre-development work was being carried out by CIDCO through MOEFCC recognized Lab and regular reports have been submitted to MOEFCC along with six monthly compliance reports. NMIAL has continued the monitoring for Air & noise (9 stations) and Ground water sampling (5 locations) on monthly basis. Marine/ Surface water (10 stations), & soil sampling (5 locations) on quarterly basis. Environmental analytical reports for the reporting period are enclosed herewith (Annexure-II).
	[xlvii]	Fly ash should be used as building material in the construction as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27th August, 2003.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction phase.
	[xlviii]	Ready mixed concrete must be used in building construction.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction phase.
	[xlix]	Storm water control and its re-use as per CGWB and BIS standards for various applications.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
	(l)	Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and This condition need to be incorporated in the Bid Document to be issued to prospective bidders. This condition need to be incorporated in the Bid Document to be issued to prospective bidders. other best practices referred.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
	(li)	Use of glass may be reduced by upto 40% to reduce the electricity consumption and	**Agreed to Comply**: We assure MOEFCC to abide by the condition once construction works are

Sr. No		Stipulated Condition-2010	Compliance status
		load on air-conditioning. If necessary, use high quality double glass with special reflective coating in windows.	commenced. We have designed our airport buildings in accordance with ECBC standards to make them more energy efficient.
	(iii)	The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of firefighting equipment, etc. as per National Building Code including protection measures from lightening etc.	**Agreed to Comply**: We assure MOEFCC to abide by the condition once construction works are commenced.
	(iiii)	Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.	**Agreed to Comply**: We assure MOEFCC to abide by the condition during construction & operational phases.
II.		**Operation Phase: -** Project is under construction, the condition pertaining to operation phase will be implemented. However, We assure MOEFCC to comply all the conditions once construction is completed. Further, status of few conditions pertaining to construction phase as included in this section is given below.	
	iv)	Weep holes in the compound walls shall be provided to ensure natural drainage of rainwater in the catchment area during the monsoon period.	**Agreed to Comply**: We assure MOEFCC to abide by the condition once construction works are commenced.
	vi)	The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.	**Complied:** Monitoring of ground water level and its quality around the project site have been carried out by CIDCO and reports were submitted along with Six monthly compliance report to MOEFCC. NMIAL has continued the monitoring for Air & noise (9 stations) and Ground water sampling (5 locations) on monthly basis. Marine/ Surface water (10 stations), & soil sampling (5 locations) on quarterly basis. Environmental analytical reports for the reporting period are enclosed herewith (Annexure -II).

Sr. No	Stipulated Condition-2010	Compliance status
	General Conditions:	
(i)	In the event of any change in the project profile a fresh reference shall be made to the Ministry of Environment and Forests.	**Agreed to Comply**: We will abide by the condition.
(ii)	This Ministry reserves the right to revoke this clearance, if any, of the conditions stipulated are not complied with to the satisfaction of this Ministry.	**Agreed to Comply**: We will abide by the condition.
(iii)	This Ministry or any other competent authority may stipulate any additional conditions subsequently, if deemed necessary, for environmental protection, which shall be complied with.	**Agreed to Comply**: We will abide by the condition.
(iv)	Full support should be extended to the officers of this Ministry's Regional Office at Bhopal and the offices of the Central and State Pollution Control Board by the project proponents during their inspection for monitoring purposes, by furnishing full details and action plans including the action taken reports in respect of mitigative measures and other environmental protection activities.	**Complied:** Full support was extended to the officers of this Ministry's Regional Office during visit and assured to render the same as & when required.
8	These stipulations would be enforced among others under the provisions of water (Prevention and Control of Pollution) Act, 1974 the Air (Prevention and Control of Pollution) Act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and Municipal Solid Wastes (Management and Handling) Rules, 2000 including the amendments and rules made thereafter.	**Agreed to Comply**: We will abide by the condition.

Sr. No	Stipulated Condition-2010	Compliance status
9	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department and Civil Aviation Department from height point of view, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.	**Complied:** All the necessary approvals required for the project have been obtained and copies have been submitted to R.O, MOEFCC, Nagpur. We will abide by the condition.
10	The project proponent should advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded CRZ Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment and Forests at http://www.envfor.nic.in. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same should be forwarded to the Regional office of this Ministry at Bhopal.	**Complied:** Public was informed about the grant of EC by advertisement in newspaper DNA, Mumbai on 30.11.2010 and Lokmat (Marathi) on 30.11.2010 and copies of Newspaper cutting were submitted to Regional Office.
11	Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004, if applicable to this project.	**Agreed to Comply**: We will abide by the condition.
12	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while	**Complied:** CIDCO had submitted status as "Complied" in the earlier compliance report.

Sr. No	Stipulated Condition-2010	Compliance status
	processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	
13	The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO_2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.	**Complied:** CIDCO has been submitting six monthly compliance reports regularly. All EC related compliance reports are uploaded on the CIDCO website at the following link: https://cidco.maharashtra.gov.in/navi_mumbai_airport# under Pre-Development tab as submitted by CIDCO. After approval of MoEF&CC for Transfer of Environment & CRZ Clearance from CIDCO to NMIAL has been obtained vide letter No. F. No. 10-53/2009-IA-III dated 17th August 2020, onwards NMIAL uploaded on NMIA website EC Compliance Report at the following link. https://nmiairport.co.in/circulars.html Six Monthly EC Compliance Report Jan-Jun 2021.pdf
14	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated EC conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF, the respective Zonal Office of CPCB and the SPCB.	**Complied:** Same as mentioned above in General Condition 13.
15	The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall	**Agreed to Comply**: We will abide by the condition.

Sr. No	Stipulated Condition-2010	Compliance status
	also be put on the website of the company along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF by e-mail.	

Compliance to additional conditions stipulated by MOEFCC while granting Extension of Validity for Environmental and CRZ Clearance to NMIA Project vide letter dated 20th Dec 2017.

No.	Stipulated Condition-	Compliance status
i)	Certified report on sources and availability of water from the local body supplying water along with the permission received by them for the shall be submitted. This report shall specify the total annual water availability with the organization (local Body), the quantity of water already committed to other development projects, the quantity of water committed for this project and the balance water available for distribution. This should be specified separately for ground water and surface water sources and ensure that there is no impact on other uses.	**Complied:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021.
ii)	Detailed traffic management and traffic decongestion plan, to ensure that the current level of service of the roads within a 5 kms radius of the project site is maintained and improved upon, shall be drawn up through an organization of repute and specializing in Transportation Planning within next 6 months. This should be based on the cumulative impact of all development and increased inhabitation being carried out by the project or other agencies in this 5 kms radius from the site under different scenarios of space and time and shall be implemented to the satisfaction of State Urban Development and Transports Departments with the consent of all the concerned implementing agencies.	**Complied:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021.

No.	Stipulated Condition-	Compliance status
iii)	Treated effluents shall also be used for irrigation and Road side plantation after taking due permissions from the concerned authorities/Forest department.	**Agreed to Comply**: We assure to abide by the condition.
iv)	Project proponent shall satisfactorily address all the complaints that have been received against the project and submit a compliance report to the Ministry.	**Agreed to Comply:** Details are same as submitted earlier vide letter no NMIA/MOEF/GEN/0061 dated 30th Aug 2021.
v)	The extension of validity is being granted for the original proposal for which Environmental and CRZ Clearance was granted earlier. The Project proponents will not make any changes any changes in the project nature, structure and configuration and limit themselves to activities for which the Environmental and CRZ Clearance has been given earlier.	**Agreed to Comply:** The approval of MoEF&CC for Transfer of EC from CIDCO to NMIAL has been obtained vide letter No. F. No. 10-53/2009-IA-III dated 17th August 2020. NMIAL has applied to MOEFCC for grant of fresh EC & CRZ clearance and validity of existing EC is extended up to 21st Nov 2021 in reference to MOEFCC's Notification dated 18th Jan 2021. Fresh Environmental Clearance and CRZ Clearance for on-going project granted No. 21-60/2021-IA-III dated: 28.11.2021 and issued on 1st Dec 2021.

Annexure-II
Environmental Monitoring Report
(July- December 2021)

ENVIRONMENTAL COMPLIANCE MONITORING REPORT
for
Navi Mumbai International Airport (NMIA)

Sponsor:

Navi Mumbai International Airport Pvt. Ltd. (NMIAL)

Period:

July to December 2021

PREPARED BY

ADITYA ENVIRONMENTAL SERVICES PVT.LTD.
MOEFCC Recognized Laboratory under EP Act 1986
Accredited under ISO 9001: 2015 & OHSAS 18001: 2007 by ICQS
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1. INTRODUCTION

Mumbai Metropolitan Region (MMR) comprises of areas in and around Mumbai city and includes parts of Mumbai, Thane and Raigad Districts in Maharashtra. Mumbai is known as the commercial capital of India and the MMR is an industrially and technologically advanced region, which has experienced rapid growth in income and employment. The increase in trading, business and financial services demands the highest order of infrastructure. There is a need for enhancement of the available capacity of the airport, as the existing airport in Mumbai is under tremendous pressure to meet the air traffic demands of this vibrant region. Realizing this need, the Government of Maharashtra conceptualized the Navi Mumbai International Airport (NMIA) project and appointed City and Industrial Development Corporation of Maharashtra Ltd. (CIDCO) as the Nodal Agency for implementation of the project.

The site for the airport was selected near Panvel in Raigad district of Maharashtra with central coordinates 18°59'33.00"N and 73°4'18.00"E. The Director General of Civil Aviation (DGCA) has approved the site. Environmental Impact Assessment (EIA) study was conducted by Centre for Environmental Science and Engineering (CESE), Indian Institute of Technology (IIT) Mumbai and updated report submitted in April 2011.

City and Industrial Development Corporation of Maharashtra Ltd (CIDCO) as the Nodal Agency appointed by the Government of Maharashtra obtained Environmental and CRZ Clearance (EC) for the project vide F. No. 10-53/2009-IA.III dated 22 November 2010 valid up to 21 November 2017 and later, Extension of Validity dated 20 December 2017 valid up to 21 November 2020.

CIDCO also obtained Consent to Establish (CTE) for Phase I of the project, that is for capacity 10 MPPA vide Format1.0/BO/CAC-cell/EIC-RD-3154-15/CE/CAC-12995 dated 14 October 2015, valid up to 14 October 2020.

Pre-development works including Land Development Works, R & R, shifting of Ulwe Recourse channel, shifting of EHVT and utility lines and compensatory Mangrove plantation for the project were commenced on site by CIDCO in April 2017 after receiving Stage-II Forest Clearance.

2. APPOINTMENT OF NMIAL AS CONCESSIONNAIRE FOR THE PROJECT

This project was taken up on Public Private Partnership (PPP) basis, on approval of the Government of India and the Government of Maharashtra. After an open global bidding process, CIDCO issued Letter of Award dated 25 October 2017 to Mumbai International Airport Pvt Ltd (MIAL) for development of the project. A Special Purpose Vehicle, namely Navi Mumbai International Airport Pvt Ltd (NMIAL) was formed and appointed as Concessionaire vide Concession Agreement (CA) dated 08 January 2018 for execution of the project with CIDCO holding 26% share and MIAL holding 74% share in the SPV. NMIAL is to Design, Build, Finance, Operate and Transfer (DBFOT) the Navi Mumbai International Airport over a concession period of 30 years, which is further extendable by 10 years.

As per the Concession Agreement signed between CIDCO and NMIAL, NMIAL will be responsible for obtaining and complying all applicable permits for the construction, operation and maintenance of the project.

Pre-development work for the project is now nearing completion and CIDCO has granted Right of Way over 1156 Ha (of the 1160 Ha) to NMIAL to develop the airport.

CIDCO has issued NOC for transfer of Environmental and CRZ Clearance and Consent to Establish to the name of NMIAL vide letter No. CIDCO/T&C/CT&CP/NMIA/1317 dated 10 February 2020. EC transfer letter to that effect has been granted by the MoEF&CC dated 17 August 2020 with same validity as earlier EC (that is 21 November 20). NMIAL has initiated process for grant of fresh EC.

During the pre-development works at site, to comply the conditions stipulated in the Environmental and CRZ Clearance, CIDCO had undertaken Compliance Environmental Monitoring for the New Mumbai International Airport (NMIA) site and vicinity.

The six monthly reports for compliance to EC conditions were submitted by CIDCO until December 2020 as per above and also hosted on its web site. Now, in light of the transfer of EC to NMIAL from CIDCO, six monthly compliance reports will be prepared and filed by NMIAL.

The focus of compliance monitoring is to assess the baseline environmental conditions in and around the surrounding project area to check for possible impacts on environment at an early stage so that necessary actions can be initiated. The assignment comprises monitoring of following parameters:

- Ambient Air Monitoring
- Ambient Noise Level Monitoring
- Soil
- Ground/Surface Water
- Marine Water for Biological and Physicochemical Parameters

3. SCOPE OF MONITORING WORK

3.1 Scope of Monitoring Work as per Work Order:

Scope of monitoring work as per Work Order are as given below:

Table 3-1: Scope of Environmental Monitoring Work as per Work Order

Sr. No.	Parameters – as per Annexure B	Location	Frequency	Samples/ Year
1.	**Ambient Air Quality:** As per NAAQS standards Published by CPCB (12 Parameters)	9	9 Stations per Month	108
2.	**Noise: Parameters: Leq Noise level** - Day time & Nighttime separately as per CPCB norms.	9	Same as Air Quality	108
3.	**Ground Water Quality:** As per IS 10500:2012 Revised	5	5 Stations per Month	60
4.	**Soil: Parameters:** pH, Texture, EC, Na, Available N, Available K, Available Phosphorus, Sulphate, Chloride, Ca, Mg, Fe, Mn, Cu, Hg, Cd, As, Pb, Zn, Al, Ni, Co, Cr, Na	8	8 Stations (Quarterly)	32
5.	**Marine/Surface Water Quality parameters:** **Physico Chemical parameters:** PH, Temperature, Turbidity, EC, Salinity (ppt), **Chemical Parameters:** DO, BOD, Magnesium, Hardness, Alkalinity, Chloride, Sulphate, Fluoride, Sodium, Potassium, Phenol, Total phosphorus, Total Nitrogen. **Heavy Metals:** Fe, Zn, Mg, Mn, Cd, Cr, Hg, Pb **Bacteriological parameters:** Coliform Colonies (MPN). **Marine Biology:** Chlorophyll, Phaeophytin, Phytoplankton, Zooplankton, Benthos, Diversity indices	10	10 stations (Quarterly)	40

3.2 Locations of Monitoring:

Sampling Locations have been specified by NMIAL in its Work Order. Details of monitoring stations for Ambient Air Quality, Ambient Noise, Soil, Ground Water, Marine Water-physicochemical & biological showing station locations are as given below:

Table 3-2: Details of Ambient Air Quality Monitoring Stations

Station Code	Station	Remarks
A1	Panvel	residential zone
A2	Pargaon High School	Receptor oriented - 400m from proposed runway
A3	Ulwe Node	Area near highway
A4	Kille Gaothan Guest House	Receptor oriented – on main access road
A5	Panchsheel Guest House	Receptor oriented – on main access road
A6	NMIA Project Site	Within project site
A7	Kombadbhuje	Within Project site
A8	Jui Village	Eastern side of NMIA, outside project site
A9	Owale Village	Residential Village

Figure 3-1 Ambient Air Monitoring Locations

Table 3-3: Ambient Noise Level Monitoring Stations

Sr. No.	Station Name	Category of area
N1	Panvel	Residential Area (Mixed category)
N2	Kille Gaothan Guest House	Receptor oriented – on main access road
N3	Panchsheel Guest House	Receptor oriented – on main access road
N4	Pargaon School	Sensitive area (Mixed category)
N5	NMIA Project site	Within Airport site
N6	Jui Village	Eastern end, outside project site
N7	Kombadbhuje	Within Airport site
N8	Owale Village	Residential Area
N9	Ulwe Node	Sensitive Area

Figure 3-2 Noise Level Monitoring Locations

Table 3-4: Soil Quality Monitoring Stations

Station Code	Stations Name
S1	Kopar
S2	Koli
S3	Kombadbhuje
S4	Vaghivali/Owale
S5	Ulwe
S6	Pargaon
S7	GVK Office
S8	Chinchpada

Figure 3-3 Soil Sampling Locations

Table 3-5: Details of Ground Water Quality Monitoring Stations

Station Code	Stations Name
GW1	Open well at Koli
GW2	Open well at Kopar
GW3	Open well at Chinchpada
GW4	Open well at Pargaon
GW5	Open well at Vaghivali /NMIA Project site

Figure 3-4 Ground Water Sampling Locations

Table 3-6: Details of Marine Water Quality Monitoring Stations

Station Code	Station details / Location
W1	Extreme end of Gadhi River (upstream side)
W2	Near Chinchpada village (2 km from W1) in Gadhi River
W3	Near Jui Village (1.8 from W2) in Gadhi River
W4	At Junction of Ulwe and Gadhi Rivers in Panvel Creek
W5	Near Vaghivali village (2 km from W4) in Gadhi River
W6	Near CBD Belapur (1.5 km from W5) in Panvel Creek
W7	Near Vaghivali Creek Junction (800m from W6) in Gadhi River
W8	Near Rathi bander in Panvel Creek
W9	Mouth of Panvel Creek
W10	Ulwe River near Owle Village

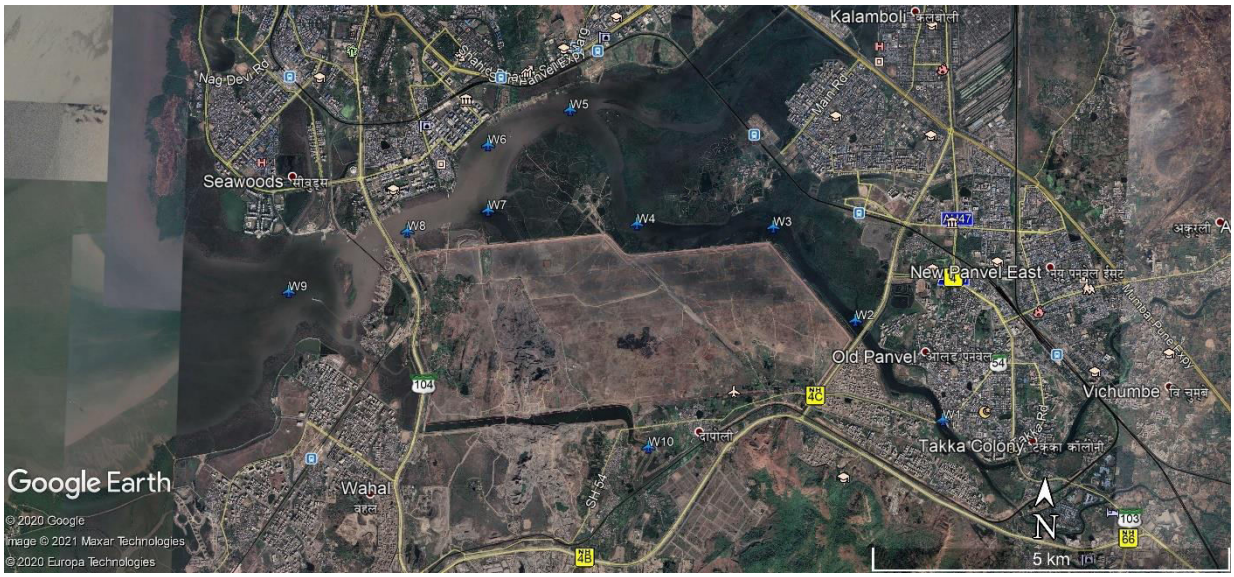


Figure 3-5 Marine Water Sampling Locations

3.3 Period/Time of Sampling (July to September 2021):

The sampling survey was planned to carry out as per schedule mentioned in Table below.

Table 3-7: Period/Time of Sampling for this Survey

Month	Parameter	Sampling Stations	Dates of Sampling	Time Period
July 2021	AAQ	A2,A3, A9	27.07.2021	24 hours starting from 10:00am
		A4, A6, A7	28. 07.2021	
		A1,A5,A8	29. 07.2021	
	NLS	N4, N8, N9	27.07.2021	
		N2,N5, N7	28. 07.2021	
		N1,N3, N6	29.07.2021	
	GW	GW1, GW2, GW3, GW4, GW5	27. 07.2021	Grab Sample
August 2021	AAQ	A2, A3, A9	23.08.2021	24 hours starting from 10:00am
		A4, A6, A7	24.08.2021	
		A1, A5, A8	25.08.2021	
	Noise Level	N2,N8, N9	23.08.2021	
		N4, N5, N7	24.08.2021	
		N1,N3, N6	25.08.2021	
	GW	GW1, GW2, GW3, GW4, GW5	25.08.2021	Grab Sample
September 2021	AAQ	A1, A3,A6	20.09.2021	24 hours starting from 10:00am
		A2,A7, A9	21.09.2021	
		A4, A5, A8	22.09.2021	
	Noise Level	N1, N3,N6	20.09.2021	
		N2,N7, N9	21.09.2021	
		N4, N5, N8	22.09.2021	
	Ground Water	GW1, GW2, GW3, GW4, GW5	23.09.2021	Grab Sample
	Soil	S1, S2, S3, S4, S5, S6, S7, S8	25. 09.2021	Grab Sample
	Marine Water	W1, W2, W3, W4, W10	27.09.2021	Grab Sample
		W5, W6, W7, W8, W9	28.09.2021	
October 2021	AAQ	A2,A3,A9	18.10.2021	24 hours starting from 10:00am
		A4, A6, A7	19.11.2021	
		A1, A5,A8	20.11.2021	
	Noise Level	N4, ,N3, N9	18.10.2021	
		N4, N5, N7	19.10.2021	
		N1, N6, N9	20.10.2021	
	Ground Water	GW1, GW2, GW3, GW4, GW5	21.10.2021	Grab Sample
November 2021	AAQ	A2, A3, A9	22.11.2021	24 hours starting from 10:00am
		A4,A6, A7	23.11.2021	
		A1, A5, A8	24.11.2021	
	Noise Level	N4, N8, N9	22.11.2021	
		N2, N5, N7	23.11.2021	
		N1, N3, N6	24.11.2021	

Month	Parameter	Sampling Stations	Dates of Sampling	Time Period
	Ground Water	GW1, GW2, GW3, GW4, GW5	22.11.2021	Grab Sample
December 2021	AAQ	A2, A3, A9	20.12.2021	24 hours starting from 10:00am
		A4, A6,A7	21.12.2021	
		A1, A5, A8	22.12.2021	
	Noise Level	N2, N8, N9	20.12.2021	
		N4, N5, N7	21.12.2021	
		N1, N3, N6	22.12.2021	
	Soil	S1, S2, S3, S4, S5, S6, S7, S8	21.12.2021	Grab Sample
	Ground Water	GW1, GW2, GW3, GW4, GW5	20.12.2021	Grab Sample
	Marine Water	W1, W2, W3, W4, W10	24.12.2021	Grab Sample
		W5, W6, W7, W8, W9	25.12.2021	

4. METHODOLOGY ADOPTED FOR ENVIRONMENTAL MONITORING

4.1 AMBIENT AIR QUALITY

4.1.1 Reconnaissance Survey:

Reconnaissance survey in study area (10 km around proposed airport site) shows that sources of air pollution include the following:

- Airport land development work and predevelopment works
- heavy traffic along Amara Marg, NH4/4BB and Uran / JNPT Road
- construction activity in Ulwe node and nearby areas
- industries in Panvel (private), MIDC Taloja (6km NE of site) & MIDC TTC (4km N of site)
- burning of poor quality fuels in villages to the south of proposed site

In order to arrest the deterioration in air quality, Govt. of India has enacted Air (Prevention and Control of Pollution) Act in 1981. The responsibility has been further emphasized under Environment (Protection) Act, 1986. The National Ambient Air Quality Standards (NAAQS) have been published by CPCB in November 2009 giving methods for measurement.

4.1.2 Methodology for Ambient Air Quality Monitoring:

To monitor Air Pollutants in Ambient air following method of analysis adopted

Table 4-1 Methods Adopted for Analysis of AAQ Parameters

S N	Parameter	Sampling Equipment	Method of Analysis
1.	PM_{10}	RSPM Sampler/ Glass Fiber filter paper.	IS 5182 (Part 23) RA2017
2.	$PM_{2.5}$	$PM_{2.5}$ Sampler/Filter – PTFE, Teflon membrane	IS 5182 (Part 24) 2019
3.	SO_2	Absorption in TCM	IS 5182 (Part 2) RA2017
4.	NO_X	Absorption in NaOH	IS 5182 (Part 6) RA2017
5.	CO	Sampling in Tedlar bags / CO Meter	IS 5182 (part 10) RA2019
6.	Lead	Sampling using EPM 2000 equivalent Glass Fiber Filter paper	APHA Air method 822-3rd
7.	NH_3	Absorption in sulfuric acid	IS 5182 (part 25) RA 2018
8.	Ozone	Absorption in Potassium Iodide	IS 5182 (part 9) RA2019
9.	Benzene[C_6H_6]	Collection Activated Carbon	IS 5182 (part 11) RA2017
10.	Benzopyrene	Sampling using EPM 2000 equivalent Glass Fiber Filter paper	CPCB manual vol. I:2013
11.	Arsenic [As]	Sampling using EPM 2000 equivalent Glass Fiber Filter paper	APHA Air method 302-3rd
12.	Nickel [Ni]	Sampling using EPM 2000 equivalent Glass Fiber Filter paper	APHA Air method 822-3rd

Figure 4-1 Ambient Air Quality Monitoring

4.1.3 Selection of air sampling location

Selection of representative location is very important. Following precautions have been taken while installing AAQM stations:

- It is away from source & other interferences
- Samplers are installed at free flowing well mixed area (3m) above ground level
- Only Calibrated Air Samplers are used
- the samples are transported to the laboratory at the earliest for further analysis
- Gaseous samples were preserved in cold box before taking to laboratory

4.2 AMBIENT NOISE LEVEL

4.2.1 Reconnaissance Survey:

Reconnaissance survey in study area (10 km around proposed airport site) shows that sources of air pollution include the following:

- Airport land development work and predevelopment works
- heavy traffic along Amara Marg, NH4/4BB and Uran / JNPT Road
- construction activity in Ulwe node and nearby areas
- industries in Panvel (private), MIDC Taloja (6km NE of site) & MIDC TTC (4km N of site)
- burning of poor quality fuels in villages to the south of proposed site

Noise pollution in urban areas is now being recognized as a major environmental issue around the world. With increasing awareness of the adverse impacts of noise on human health, more and more people becoming less tolerant to environmental noise. The objective of this exercise is to assess the baseline status within study area and to compare the noise levels with Ambient Noise Standards as prescribed under Environmental Protection Act, 1986.

4.2.2 Methodology for Sample Collection

Integrated Sound Level Meter C390 was used for undertaking the surveys and installed on tripods at the selected locations over a 24-hour period. This Meter is then taken to laboratory where the data collected is downloaded onto PC using specialized software.

Center C-390 Sound level Meter with data logger

Noise is measured in decibel (dB) and 'A' weighting is used for this entire monitoring since in this method of frequency weighting, the signal generated reproduces the way the human ear responds to a range of acoustic frequencies. Leq: The equivalent continuous Sound Pressure Level for a particular duration. The Day-Night Equivalent Sound Level refers to average sound exposure over a 24- hour period. Leq day & night values are calculated from hourly Leq values, with the Leq values for the nighttime increased by 10 dB to reflect the greater disturbance potential from nighttime noises.

Figure 4-2 Ambient Noise level Monitoring

4.3 Soil

The purpose of soil testing is to identify contamination of soil due to land development works and the soil fertility from a viewpoint of use for landscape development .

4.3.1 Reconnaissance Survey:

Southern side of study area is rural in character and large tracts are being cultivated as paddy fields. Soil is also seen plentifully at bottom of hills where it supports large vegetation. However, Northern portion of study area is mostly urban in character since it has seen largescale development being part of Navi Mumbai.

4.3.2 Methodology of Sample Collection:

Soil samples are collected after removing top two inches – which may contain high amount of organic carbon and humus. The soil area and volume could be a large field, a small garden, or simply the root zone of a single tree or shrub. The most difficult step in soil testing is accurately representing the desired area of soil. When the sampling area is determined, a sufficient number of soil cores taken to acquire a representative sample. This is generally 10 to 20 cores. The depth of sample for surface soils was taken from 0 to 6 inches or as deep as the primary tillage.

Soil samples collected from proposed project stations by using stainless steel soil sampling probe, packed in labeled polythene bags & send for analyze the physicochemical characteristics. The sample so collected is then made representative by coning- quartering and then stored in plastic bags, sealed and then sent to laboratory for analysis.

Figure 4-3 Soil Sample Collection

4.4 GROUND WATER SAMPLING

4.4.1 Reconnaissance Survey:

The villages to the south of airport site use ground water from open/bore well for drinking and other domestic purposes. Ground water gets contaminated due to bad sanitary habits such as washing of utensils, cattle and bathing and location of septic tanks in/near the open wells.

4.4.2 Methodology of Sampling:

Ground water sample is collected by using containers and the sampling container is rinsed before using it for storing water samples. Ground water samples are stored in two separate containers for Physicochemical & Microbiological analysis and preservatives added as recommended by Standard Methods APHA, stored in cold storage box and transferred to the laboratory for the further analysis.

Figure 4-4 Ground Water Sampling

4.5 MARINE WATER, SEDIMENTS & PLANKTON SAMPLING EQUIPMENTS

4.5.1 Reconnaissance Survey:

The site for the project is located in four different micro water sheds – viz Panvel creek, Gadhi river, Kasardi river, Ulwe river. The study area represents complex hydrodynamic system. The Ulwe river flows down through the mountains (to the south) towards the centre of project site and has been diverted/retrained as part of the project. The Gadhi river flows from the East to the West and is partly retrained towards the northern part of the site. The river Gadhi receives sewage from Panvel town and nearby areas. Both the rivers drain into the Panvel creek flowing adjacent to the North of site which drains into the Arabian sea to the west. The Panvel creek also receives treated effluents from CETP at MIDC Taloja and sewage from NMMC STPs in Nerul.

4.5.2 Methodology of Sampling:

4.5.2.1 Niskin Bottle - Marine Water Sampler

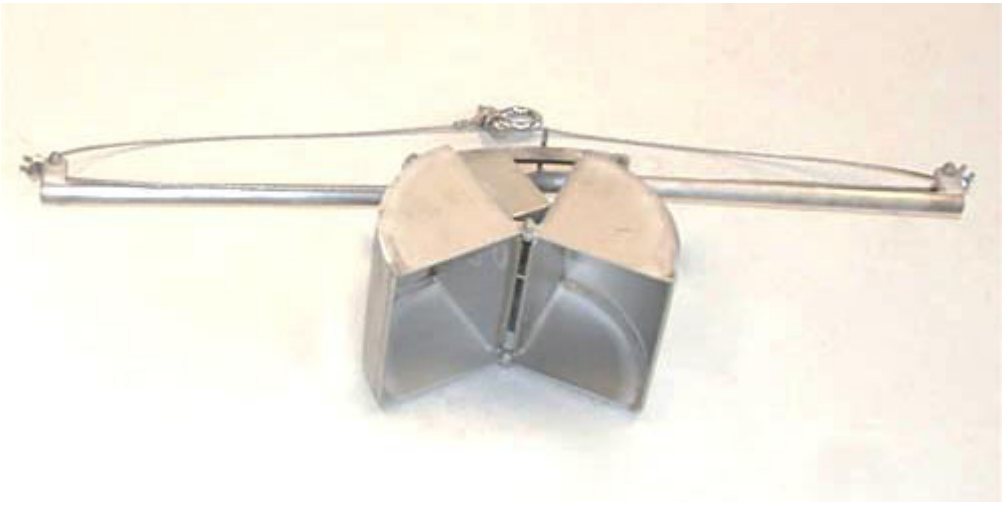
This Water Sampler is used to collect samples at various water depths and can operate at any depth on a cable or line with a messenger.

4.5.2.2 Plankton Net - Biological Samples

This plankton net operates a cable or lined by hand or behind a boat, it can be towed vertically or horizontally. Nets comes in varieties of size (Mesh no 00 equal an aperture of 0.30 inches)

4.5.2.3 Grab Sampler - For Marine Sediments

Sediment grab operate at any depth on a cable or line by free fall (without a messenger). It is extremely heavy and can take samples of hardest rocky ocean bottoms.



Grab Sampler

4.5.2.4 Selection of Stations, Preservation and Transportation of Samples:

Marine water samples were collected from sampling locations in Gadhi River, Ulwe River and Panvel Creek at the locations indicated by NMIAL – in all, 10 samples were collected from 10 sampling locations for physicochemical and Biological samples (Stations 1 to 4 are located in Gadhi River & Station 5 & 8 are Panvel Creek while station 9 Mouth of Panvel Creek and Station 10 in Ulwe River. A good amount of mangrove vegetation was noted on either side of stream 2, 3, 4 and 7. Sampling locations were approached by boats (wherever possible) and collection done irrespective of tide. Sampling were done only for surface water. The samples were preserved and taken to laboratory using vehicle on same day.

4.6 Laboratory Credentials

Sampling and analysis were done by laboratory of Aditya Environmental Services Pvt Ltd located at Plot P-1, MIDC Commercial plots, Mohopada, Tal Panvel, Dist. Raigad.

- Environmental Laboratory is recognized by Ministry of Environment & Forest (MoEFCC), Govt. of India under Environment (Protection) Act, 1986.
- Laboratory is also certified ISO 9001:2015 and OHSAS 18001:2007.
- Laboratory is accredited under ISO/IEC 17025:2005 (vide Certificate No. TC-7085) for water, wastewater and soil parameters
- Environmental sampling conducted by our experienced, qualified environmental staff & Analysis and reporting by approved Government Analyst.
- Instruments used for sampling are from reputed manufacturers & are regularly calibrated.
- Chemicals used are Analytical Reagent grade and from reputed manufacturer.
- Analytical Instrumentation used in the laboratory is regularly calibrated.
- Laboratory has a regular program of Preventive & Annual Maintenance for all critical equipment.
- Ground Water, Soil Analysis - using APHA, BIS, ASTM & CPCB standards Methods for water Analysis.
- Standard Methods Adopted in the laboratory are those prescribed by APHA, BIS, ASTM & CPCB for water, waste & marine water analysis using methods as per NIO (National Institute of Oceanography) Manual.
- Laboratory has CRMs (Certified Reference Material) for heavy metals from reputed

manufacturers for heavy metals and Standard sea water which we use for analysis.

- Laboratory is regularly participating in Proficiency testing with reputed Organizations like Central Pollution Control Board (CPCB), Goa State Pollution Control Board and others as also Intra laboratory QC testing to check performance of our chemists.

- Overall approach & methodology is with Annexure IA Scope of the work & the Best practices as per prevailing norms of Central Pollution Board /Ministry of Environment & Forest etc. /Internationally adopted practices.

5. COMPILATION OF DATA & INFERENCE

5.1 Ambient air quality monitoring report

5.1.1 AAQM Data

Ambient Air Quality was monitored at various locations for relevant parameters as per NAAQS standards published by CPCB in November 2009. Data is compiled and presented below:

Table 5-1: Ambient Air Quality monitoring at various stations during July 2021

Sampling Locations	Ulwe Node	Pargaon High School	Owale Village	Kille Gaothan Guest House	GVK Office	Kombadbhuje	Panvel	Panchsheel Guest House	Jui Village	Limit #	Unit
Sampling Date	**27.07.2021**			**28.07.2021**			**29.07.2021**				
SO_2	10.2	11.0	10.7	10.9	11.0	10.8	11.1	10.6	11.4	80	µg/m³
NO_X	19.7	19.7	19.4	18.8	19.6	19.3	19.5	18.9	18.9	80	µg/m³
PM_{10}	50.4	50.1	53.9	48.2	50.8	51.6	51.8	48.1	50.8	100	µg/m³
$PM_{2.5}$	17.1	18.8	17.1	18.3	17.1	17.5	17.5	16.7	17.1	60	µg/m³
Ozone (O_3)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	180	µg/m³
Lead (Pb)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL (DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	1	µg/m³
CO	0.32	0.28	0.32	0.25	0.28	0.27	0.26	0.28	0.31	4	mg/m³
Benzene (C_6H_6)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL (DL-0.2)	BDL (DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	5	µg/m³
Benzopyrene	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	1	ng/m³
Arsenic (As)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	6	ng/m³
Nickel (Ni)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	20	ng/m³
NH_3	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BD (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	400	µg/m³

BDL–Below Detectable Limit (Note # Limits as per National Ambient Air Quality Standards NAAQS,2009)

Table 5-2: Ambient Air Quality monitoring at various stations during August 2021

Sampling Locations	Ulwe Node	Pargaon High School	Owale Village	Kille Gaothan Guest House	GVK Office	Kombadbhuje	Panvel	Panchsheel Guest House	Jui Village	Limit #	Unit
Sampling Date	**23.08.2021**			**24.08.2021**			**25.08.2021**				
SO_2	11.3	11.4	11.1	10.5	10.9	11.0	11.1	10.8	11.2	80	µg/m³
NO_X	19.2	19.7	18.9	18.8	19.2	19.5	20.0	19.5	19.7	80	µg/m³
PM_{10}	55.7	56.0	54.1	54.7	55.5	53.7	58.1	53.7	57.7	100	µg/m³
$PM_{2.5}$	18.3	18.7	17.9	18.4	18.8	17.5	19.6	17.5	19.2	60	µg/m³
Ozone (O_3)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	180	µg/m³
Lead (Pb)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL (DL-0.8)	1	µg/m³
CO	0.32	0.32	0.30	0.28	0.29	0.31	0.28	0.31	0.29	4	mg/m³
Benzene (C_6H_6)	BDL (DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL (DL-0.2)	5	µg/m³
Benzopyrene	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	1	ng/m³
Arsenic (As)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	6	ng/m³
Nickel (Ni)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	20	ng/m³
NH_3	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BD (DL-1.0)	400	µg/m³

BDL–Below Detectable Limit (Note # Limits as per National Ambient Air Quality Standards NAAQS,2009)

Table 5-3: Ambient Air Quality monitoring at various stations during September 2021

Sampling Locations	Panvel	Panchsheel guest House	Jui Village	Ulwe Node	Kille Gaothan Guest House	Kombadbhuje	Pargaon High School	GVK Office	Owale Village	Limit #	Unit
Sampling Date	**20.09.2021**			**21.09.2021**			**22.09.2021**				
SO_2	12.8	12.0	12.5	12.2	12.6	12.5	12.1	11.7	12.3	80	µg/m³
NO_X	20.6	20.1	20.7	20.7	20.5	20.8	20.2	20.2	20.0	80	µg/m³
PM_{10}	60.1	57.5	59.1	61.0	60.7	58.6	58.2	57.4	59.6	100	µg/m³
$PM_{2.5}$	19.5	19.6	19.1	20.4	20.0	19.0	20.2	19.2	19.5	60	µg/m³
Ozone (O_3)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	180	µg/m³
Lead (Pb)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL (DL-0.8)	1	µg/m³
CO	0.30	0.34	0.31	0.34	0.33	0.35	0.29	0.31	0.28	4	mg/m³
Benzene (C_6H_6)	BDL (DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL (DL-0.2)	5	µg/m³
Benzopyrene	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	1	ng/m³
Arsenic (As)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	6	ng/m³
Nickel (Ni)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	20	ng/m³
NH_3	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BD (DL-1.0)	400	µg/m³

BDL–Below Detectable Limit (Note # Limits as per National Ambient Air Quality Standards NAAQS,2009)

Table 5-4: Ambient Air Quality monitoring at various stations during October 2021

Sampling Locations	Pargaon High School	Ulwe Node	Owale Village	Kille Gaothan	GVK Office	Kombadbhuje	Panvel	Panchsheel Guest House	Jui Village	Limit #	Unit
Sampling Date	**18.10.2021**			**19.10.2021**			**20.10.2021**				
SO_2	11.5	11.7	11.6	11.3	12.2	11.5	12.1	11.2	11.9	80	µg/m³
NO_X	19.8	20.4	20.1	19.7	19.8	20.1	21.4	20.7	21.5	80	µg/m³
PM_{10}	57.8	60.2	58.5	59.9	59.4	60.0	62.1	60.4	60.0	100	µg/m³
$PM_{2.5}$	18.8	20.9	17.5	19.6	20.8	19.2	20.4	20.0	19.7	60	µg/m³
Ozone (O_3)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	180	µg/m³
Lead (Pb)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL (DL-0.8)	1	µg/m³
CO	0.28	0.29	0.28	0.30	0.30	0.29	0.34	0.30	0.32	4	mg/m³
Benzene (C_6H_6)	BDL (DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL (DL-0.2)	5	µg/m³
Benzopyrene	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	1	ng/m³
Arsenic (As)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	6	ng/m³
Nickel (Ni)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	20	ng/m³
NH_3	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BD (DL-1.0)	400	µg/m³

BDL–Below Detectable Limit (Note # Limits as per National Ambient Air Quality Standards NAAQS,2009)

Table 5-5: Ambient Air Quality monitoring at various stations during November 2021

Sampling Locations	Pargaon High School	Ulwe Node	Owale Village	Kille Gaothan Guest House	GVK Office	Kombadbhuje	Panvel	Panchsheel guest House	Jui Village	Limit #	Unit
Sampling Date	**22.11.2021**			**23.11.2021**			**26.05.2021**				
SO_2	13.0	13.1	13.1	13.3	12.6	12.9	13.1	12.8	13.0	80	µg/m³
NO_X	24.1	23.9	24.2	24.3	23.8	23.9	24.3	23.9	23.3	80	µg/m³
PM_{10}	64.2	63.4	63.7	63.6	64.2	65.3	63.8	64.6	64.4	100	µg/m³
$PM_{2.5}$	21.6	22.1	22.5	21.3	21.7	23.3	20.4	21.2	22.1	60	µg/m³
Ozone (O_3)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	180	µg/m³
Lead (Pb)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL (DL-0.8)	1	µg/m³
CO	0.34	0.32	0.37	0.33	0.34	0.32	0.35	0.33	0.34	4	mg/m³
Benzene (C_6H_6)	BDL (DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL (DL-0.2)	5	µg/m³
Benzopyrene	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	1	ng/m³
Arsenic (As)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	6	ng/m³
Nickel (Ni)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	20	ng/m³
NH_3	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BD (DL-1.0)	400	µg/m³

BDL–Below Detectable Limit (Note # Limits as per National Ambient Air Quality Standards NAAQS,2009)

Table 5-6: Ambient Air Quality monitoring at various stations during December 2021

Sampling Locations	Pargaon High School	Ulwe Node	Owale Village	Kille Gaothan Guest House	GVK Office	Kombadbhuje	Panvel	Panchsheel guest House	Jui Village	Limit #	Unit
Sampling Date	**20.12.2021**			**21.12.2021**			**24.06.2021**				
SO_2	13.6	14.1	13.4	13.9	13.9	13.6	14.4	13.4	14.1	80	µg/m³
NO_X	14.8	25.3	24.6	24.1	24.8	23.7	25.3	24.8	25.0	80	µg/m³
PM_{10}	65.5	69.3	65.6	64.4	64.9	63.7	66.4	62.5	63.1	100	µg/m³
$PM_{2.5}$	22.1	25.0	22.9	23.3	22.1	22.9	22.9	21.2	22.5	60	µg/m³
Ozone (O_3)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	180	µg/m³
Lead (Pb)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL(DL-0.8)	BDL (DL-0.8)	1	µg/m³
CO	0.40	0.42	0.39	0.40	0.39	0.36	0.42	0.37	0.40	4	mg/m³
Benzene (C_6H_6)	BDL (DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL(DL-0.2)	BDL (DL-0.2)	5	µg/m³
Benzopyrene	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	BDL (DL-0.5)	1	ng/m³
Arsenic (As)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	BDL (DL-0.1)	6	ng/m³
Nickel (Ni)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	BDL (DL-0.3)	20	ng/m³
NH_3	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BDL (DL-1.0)	BD (DL-1.0)	400	µg/m³

BDL–Below Detectable Limit (Note # Limits as per National Ambient Air Quality Standards NAAQS,2009)

5.1.2 Inference of AAQM Data

The concentration of Particulate Matter – 10 µ (PM_{10}) was observed in range of 48.1 – 69.3 µg/m^3 - at all sampling locations monitored and level of Particulate Matter - 2.5 µ (PM 2.5) were noted under NAAQS limit i.e. in range of 16.7 – 25.0 µg/m^3 at all stations monitored. Gaseous pollutants - Nitrogen Oxide, Sulfur Dioxide and Carbon Monoxide are under NAAQS norms during collection period during January to June 2021 (Refer Tables 5.1 to 5.6 above) Lead, Ozone, Benzene (C_6H_6), Benzopyrene , Arsenic, Nickel and Ammonia were found below detectable level.

5.2 AMBIENT NOISE LEVEL MONITORING REPORT

5.2.1 Noise Level Data

Ambient Noise level was monitored over 24 hours' duration for Day and Nighttime as per Schedule - II of Environmental Protection Act 1986 for Industrial, Commercial, Residential and Sensitive Area (Refer Table 3.3).

Results of analysis are compiled below:

Table 5-7: Ambient Noise Level monitoring during July to December 2021

Stn Code	Sampling Location	Sampling Date	Observed Value (Leq) (dB(A))						Limiting Standard (Leq) as per EP Act Schedule II. dB(A)	
			Day Time			Nighttime				
			Max	Min	Avg	Max	Min	Avg	Day Time	Nighttime
N 4	Pargaon School	27.07.2021	76.9	55.7	58.9	75.9	51.8	54.7	55	45
N8	Owale Village		82.5	50.3	54.6	60.3	43.3	44.7	55	45
N 9	Ulwe Node		84.5	52.3	62.4	64.8	49.3	52.0	65	55
N 2	Kille Gaothan Guest House	28.07.2021	80.2	53.7	62.5	76.9	51.2	56.6	55	45
N 5	GVK Office		73.1	51.3	57.8	75.1	49.9	53.7	65	55
N 7	Kombadbhuje		66.7	49.5	51.8	62.4	39.5	41.6	55	45
N 1	Panvel	29.07.2021	70.9	53.5	61.2	61.0	48.3	56.7	65	55
N 3	Panchsheel Guest House		68.3	51.1	60.0	71.4	47.6	50.9	65	55
N 6	Jui Village		62.5	48.3	51.6	70.8	41.9	44.7	55	45
N4	Pargaon School	23.08.2021	63.2	48.1	51.0	68.8	41.3	44.4	55	45
N8	Owale Village		69.9	49.4	54.0	70.1	40.7	43.8	55	45
N9	Ulwe Node		80.3	51.6	60.0	70.3	42.8	47.2	65	55
N2	Kille Gaothan Guest House	24.08.2021	79.3	53.1	60.3	69.7	43.8	52.5	55	45
N5	NMIA Project site		68.9	50.2	55.5	66.3	50.3	52.0	65	55
N7	Kombadbhuje		66.8	49.3	53.6	62.5	40.9	43.5	55	45
N1	Panvel	25.08.2021	78.5	53.1	59.8	59.8	42.3	49.3	65	55
N3	Panchsheel Guest House		79.3	56.1	61.1	70.8	49.1	54.4	65	55

Stn Code	Sampling Location	Sampling Date	Observed Value (Leq) (dB(A))						Limiting Standard (Leq) as per EP Act Schedule II. dB(A)	
			Day Time			Nighttime				
			Max	Min	Avg	Max	Min	Avg	Day Time	Nighttime
N6	Jui Village		77.3	49.6	54.4	69.3	39.8	43.1	55	45
N1	Panvel	20.09.201	80.9	58.6	61.5	71.8	47.2	50.8	65	55
N3	Panchsheel Guest House		65.7	52.1	58.9	70.3	51.9	53.6	65	55
N6	Jui Village		73.5	50.4	55.3	72.6	51.3	53.8	55	45
N2	Kille Gaothan	21.09.2021	76.5	53.9	58.5	64.2	46.1	48.1	55	45
N7	Kombadbhuje		69.3	49.3	52.7	65.1	42.9	44.1	55	45
N9	Ulwe Node		73.4	52.2	64.6	73.1	48.6	54.1	65	55
N 4	Pargaon High School	22.09.2021	62.5	55.4	59.1	61.4	52.6	55.3	55	45
N5	NMIA Project site		81.3	55.3	60.9	68.7	49.3	53.6	65	55
N8	Owale Village		78.7	50.1	52.6	66.1	41.4	43.2	55	45
N4	Pargaon High School	18.10.2021	79.3	52.9	54.0	67.4	40.1	43.3	55	45
N8	Owale Village		74.6	53.8	58.3	70.6	50.1	57.7	55	45
N9	Ulwe Node		83.5	59.2	63.2	74.1	57.3	60.2	65	55
N2	Kille Gaothan	19.10.2021	77.1	55.3	57.9	70.6	49.1	53.0	55	45
N5	NMIA Office		117.1	42.3	87.9	69.3	50.0	52.9	65	55
N7	Kombadbhuje		78.1	52.6	55.3	73.4	45.3	50.5	55	45
N1	Panvel	20.10.2021	77.2	51.0	59.9	71.2	49.2	54.1	65	55
N3	Panchsheel Guest House		83.1	58.9	64.1	72.5	53.6	59.3	65	55
N6	Jui Village		73.5	50.5	53.4	68.9	49.3	52.0	55	45
N4	Pargaon School	22.11.2021	84.2	62.2	67.7	65.2	40.3	47.6	65	55
N8	Owale Village		64.3	52.4	55.2	61.2	41.8	47.0	65	55
N9	Ulwe Node		81.1	58.6	64.0	67.3	51.3	57.2	55	45
N2	Kille Gaothan Guest House	23.11.2021	77.8	60.1	64.2	71.1	54.1	59.9	55	45
N5	NMIA Office		62.1	48.4	56.4	60.3	49.6	53.3	65	55
N7	Kombadbhuje		64.8	48.1	52.9	66.3	49.0	51.6	55	45
N1	Panvel	24.11.2021	79.4	56.1	64.0	69.3	45.2	50.9	65	55
N3	Panchsheel Guest House		82.6	53.5	61.4	69.1	52.1	58.5	65	55
N6	Jui Village		83.9	56.4	60.2	74.6	49.3	53.1	55	45
N4	Pargaon School	20.12.2021	73.4	49.1	52.3	67.8	42.5	46.8	55	45
N8	Owale Village		76.8	50.3	56.1	66.4	47.3	51.0	55	45
N9	Ulwe Node		69.7	52.1	58.3	65.1	48.3	53.7	65	55
N2	Kille Gaothan Guest House	21.12.2021	66.9	48.3	59.1	68.1	52.7	55.2	55	45
N5	NMIA Office		71.1	53.6	58.0	72.9	54.4	58.6	65	45
N7	Kombadbhuje		70.3	47.3	51.4	68.3	48.6	50.8	55	45
N1	Panvel	22.12.2021	73.5	51.3	57.8	71.2	54.2	57.1	65	55
N3	Panchsheel Guest House		76.1	50.1	54.9	68.6	41.9	46.5	65	55
N6	Jui Village		78.9	51.6	54.6	62.1	40.9	44.1	55	45

5.2.2 Inference of Noise Data

During daytime, the average Noise level was observed in the range of 51.0 -87.9 dB(A) & Nighttime levels were observed at 41.6 – 60.2 dB(A) during sampling period. Following observations are made about average Noise levels in the monitoring carried out in different months:

- In July 2021 average Noise level exceeded the EP Act Standards during daytime (58.9 and 62.5 dBA) as well as nighttime(54.7 and 56.6 dBA) at Pargaon and Kille Gaothan respectively. The Noise level exceeds during nighttime only at Panvel (56.7 dBA) due to high vehicular movement.
- In August 2021 average Noise level exceeded the EP Act Standards during day as well as time (60.3 and 52.5 dBA) at Kille Gaothan Guest House vehicular movement. Rest of the other places the noise level were observed under EP act standards.
- In September 2021 average Noise level exceeded the EP Act Standards during daytime (55.3, 58.5 and 59.1 dBA) and as well as nighttime (53.8, 48.1 and 55.3 dBA) at Jui Village, Kille Gaothan Guest House and Pargaon respectively. At other places the Noise level was below EP act Standard.
- In October 2021 average Noise level exceeded the EP Act Standards during daytime (58.3, 57.9 and 55.3 dBA) as well as nighttime (57.7, 53 and 50.5 dBA) at Owale Village, Kille Gaothan Guest House and Kombadbhuje respectively. The noise level exceeds only during daytime (87.9 dBA) during construction work at NMIA project site. During nighttime (60.2, 59.3 and 52 dBA) at Ulwe Node, Panchsheel Guest House and Jui village. At other places the noise level is within NAAQS standard limit.
- In November 2021 average Noise level exceeds the EP Act Standards during daytime (64,64.2 and 60.2 dBA) as well as nighttime (57.2, 59.9 and 53.1 dBA) at Ulwe Node, Kille Gaothan and Jui Village respectively were higher than NAAQS limits. It average value exceeds during daytime (67.7 dBA) at Pargaon school and during nighttime (51.6 and 58.5 dBA) at Kombadbhuje and Panchsheel Guest House respectively. At other places the noise level is within NAAQS limit during day as well as nighttime.
- In December 2021 average Noise level exceeds the EP Act Standards during daytime (56.1 and 59.1 dBA) as well as nighttime (51 and 55.2 dBA) at Owale Village and Kille Gaothan Guest House respectively; and during nighttime its average value exceeds only during nighttime (46.8, 58.6, 50.8 and 57.1 dBA) at Pargaon School, NMIA project site, Kombadbhuje and Panvel respectively were higher than NAAQS limits. At other places the noise level is within NAAQS limit during day as well as nighttime.

5.3 SOIL QUALITY MONITORING REPORT

5.3.1 Soil Analysis Data (September 2021 and December 2021)

Data on soil analysis is compiled and presented below for the sampling period:

Table 5-8: Soil analysis of various stations in study area during September 2021

Sr. No.	Locations		Pargaon	Chinchpada	Koli	Kopar	Owale	Ulwe	NMIA Project site	Kombadbhuje	Unit
	Sampling Date		15.02.2021								
1.	pH		6.82	7.42	6.88	7.20	6.94	7.20	7.21	7.41	--
2.	Texture	Clay	71.2	72.1	73.8	78.9	78.2	79.5	74.2	78.5	%
		Silt	19.4	14.1	17.4	10.2	12.4	10.1	15.4	13.4	
		Fine Sand	9.4	13.8	8.8	10.9	9.4	10.4	10.4	8.1	
3.	Conductivity		280.9	310.4	290.4	310.1	298.5	320.8	341.8	341.2	µS/cm
4.	Organic Carbon		0.82	0.92	0.96	0.99	0.98	0.98	0.21	0.90	%
5.	Available Nitrogen		0.0098	0.0078	0.0030	0.0098	0.0084	0.0028	0.0052	0.0082	%
6.	Available Phosphorus		36.8	32.10	37.02	33.66	40	44	37.70	31	kg/ha
7.	Available Potassium		90	90	80	100	90	90	90	90	kg/ha
8.	Chloride		70.9	71.2	60.5	82	70	62	38	64	mg/kg
9.	Sulphate as SO_4		25.8	28.15	25.0	41	32	32	34	24	mg/kg
10.	Calcium as Ca		32	32	30	30	31	32	24	32	meq/l
11.	Magnesium as Mg		12	12	11	11	11	12	8	12	meq/l
12.	Sodium as Na		90	90	80	80	90	90	90	80	kg/ha
13.	Manganese as Mn		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
14.	Copper as Cu		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
15.	Cadmium as Cd		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
16.	Cobalt as Co		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
17.	Zinc as Zn		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
18.	Nickel as Ni		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
19.	Aluminium as Al		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
20.	Arsenic as As		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
21.	Mercury as Hg		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
22.	Chromium as Cr		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
23.	Iron as Fe		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
24.	Lead as Pb		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg

5.3.2 Soil Data Inference during September 2021:

The texture composition of soil is changed due to land filling activities at all villages. The pH is almost neutral at all places except Chinchpada and Kombadbhuje, which is alkaline in nature. The organic carbon is sufficient at all places except NMIA project site.
The Phosphorus is in medium range and Potassium is found in very less concentration at all places. the Nitrogen is found at less at all places (As per Handbook of Agriculture, Indian Council of Agriculture Research). The metal concentration increased in soil due to ongoing landfilling activities. Overall soil quality was observed fertile in nature and suitable to grow local plants varieties at all locations.

Table 5-9: Soil analysis of various stations in study area during December 2021

Sr. No.	Locations		Pargaon	Chinchpada	Koli	Kopar	Ulwe	NMIA project site	Kombadbhuje	Owale	Unit
	Sampling Date		25.05.2021								
1.	pH		6.92	7.32	6.94	7.32	7.20	7.12	7.32	7.01	--
2.	Texture	Clay	74.2	70.5	78.4	76.9	78.1	75.2	76.5	75.8	%
		Silt	20.1	13.5	15.6	16.2	17.2	15.8	15.2	12.9	
		Fine Sand	7.5	16.0	6.0	6.9	4.7	9.0	8.3	11.3	
3.	Conductivity		310.4	320.8	301.9	342.5	328.5	320.8	324.8	308.1	µS/cm
4.	Organic Carbon		0.78	0.82	0.83	0.80	0.88	0.25	0.92	0.99	%
5.	Available Nitrogen		0.0090	0.0088	0.0058	0.0094	0.0098	0.0062	0.0092	0.0098	%
6.	Available Phosphorus		38.13	34	38	32.5	34	34.2	34	42	kg/ha
7.	Available Potassium		80	80	80	90	80	90	90	90	kg/ha
8.	Chloride		70.9	64.0	63.8	78	77	38	58	63	mg/kg
9.	Sulphate as SO_4		28	30.3	32	46	42	34	28	36	mg/kg
10.	Calcium as Ca		34	32	32	32	32	28	32	32	meq/l
11.	Magnesium as Mg		14	12	12	11	11	10	12	12	meq/l
12.	Sodium as Na		90	80	90	80	80	90	90	90	kg/ha
13.	Manganese as Mn		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
14.	Copper as Cu		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
15.	Cadmium as Cd		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
16.	Cobalt as Co		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
17.	Zinc as Zn		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
18.	Nickel as Ni		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
19.	Aluminium as Al		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
20.	Arsenic as As		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
21.	Mercury as Hg		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
22.	Chromium as Cr		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
23.	Iron as Fe		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg
24.	Lead as Pb		<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg

5.3.3 Soil Data Inference during December 2021:

The texture composition of soil is changed due to land filling activities at all villages. The pH is almost neutral at all places. The organic carbon is sufficient at all places except NMIA project site due to land filling activity.
The Phosphorus is in medium range and Potassium is found in very less concentration at all places. the Nitrogen is found at less at all places (As per Handbook of Agriculture, Indian Council of Agriculture Research). The metal concentration increased in soil due to ongoing landfilling activities. Overall soil quality was observed fertile in nature and suitable to grow local plants varieties at all locations.

5.4 GROUND WATER QUALITY ANALYSIS REPORT

5.4.1 GW Analysis Data during July 2021

Ground water samples were collected in July 2021. Owale was selected as new location as access to Vaghivali was not possible during collection time.

Table 5-10: Ground water analysis at various stations during July2021

Sr. No.	Sampling Locations	Koli	Kopar	Pargaon	Chinchpada	Owale
	Sampling month	28.01.2021				
1.	Colour, Hazen	5.0	5.0	5.0	5.0	5.0
2.	pH@ 25°C	7.77	7.64	7.32	7.78	8.0
3.	Turbidity, NTU	2.5	2.8	2.6	2.5	2.4
4.	TDS, mg/l	300	200	250	300	200
5.	NH3(as N), mg/l	< 0.56	< 0.56	< 0.56	< 0.56	< 0.56
6.	Boron, mg/l	0.05	0.05	0.05	0.05	0.05
7.	Calcium as Ca, mg/l	45.6	40	28.1	45	17.6
8.	Chlorides, mg/l	60	38	48	58	40
9.	Fluoride, mg/l	0.32	0.33	0.32	0.36	0.32
10.	Free Res Cl_2, mg/l	0.65	0.62	0.56	0.56	0.65
11.	Iron, mg/l	0.036	0.034	0.036	0.033	0.033
12.	Magnesium as Mg, g/l	26.4	4.8	14.6	26.4	13.6
13.	Sulphate, mg/l	56	40	44	55	41
14.	Alkalinity, mg/l	200	110	130	200	92
15.	Hardness, mg/l	224	120	130	224	100
16.	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
17.	Aluminum, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
18.	Detergents, mg/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
19.	Barium, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
20.	Chloramines, mg/l	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
21.	Copper, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
22.	Manganese, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
23.	Mineral oil, mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
24.	Nitrate, mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
25.	Phenolic comp, mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
26.	Selenium, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
27.	Silver, mg/l	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
28.	Sulphide, mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
29.	Zinc, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
30.	Cadmium, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
31.	Cyanide, mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
32.	Lead, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
33.	Mercury, mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
34.	Molybdenum, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
35.	Nickel, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
36.	PCB, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
37.	PAH, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
38.	Arsenic, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

Sr. No.	Sampling Locations	Koli	Kopar	Pargaon	Chinchpada	Owale
	Sampling month	28.01.2021				
39.	Chromium, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
40.	Alachlor, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
41.	Atrazine, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
42.	Aldrin, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
43.	Alpha HCH, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
44.	Beta HCH, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
45.	Butachlor, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
46.	Chlorpyriphos, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
47.	Delta HCH, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
48.	2,4 Dichloro PAA, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
49.	DDT, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
50.	Endosulphan, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
51.	Ethion, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
52.	Lindane, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
53.	Isoproturon, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
54.	Malathion, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
55.	Methyl parathion, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
56.	Monocrotophos , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
57.	Phorate, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Microbiology						
58.	Coliform (MPN/100 ml)	>1600	>1600	>1600	>1600	>1600
59.	E. Coli	Present	Present	Present	Present	Present

5.4.2 GW Analysis Inference:

The ground water quality showed considerable variation. Some ground water parameters were within desirable limit, some between desirable and permissible limit and few exceeded the permissible limit. The ground water not fully complied the quality requirements as per IS 10500:2012 for purpose of drinking water.

The quality of collected ground water was not suitable for drinking purpose due to the presence of coliform & E. coli bacteria at all locations i.e. Koli, Kopar, Pargaon, Chinchpada, and Owale. Proper treatment of ground water required before consumption.

5.4.3 GW Analysis Data during August 2021

Ground water samples were collected in August 2021. Access was not available to predefined locations, hence sampling was done at nearby and other locations within study area.

Table 5-11: Ground water analysis at various stations during August 2021

Sr. No.	Sampling Locations	Panvel	Kille Gaothan	Jui	Kombadbhuje	Ulwe
	Sampling month	15.02.2021				
1.	Colour, Hazen	5.0	5.0	5.0	5.0	5.0
2.	pH@ 25°C	7.05	7.10	7.6	7.32	7.21
3.	Turbidity, NTU	2.5	2.6	2.5	2.6	2.3
4.	TDS, mg/l	200	220	310	250	210
5.	NH3(as N), mg/l	<0.56	<0.56	<0.56	<0.56	< 0.56
6.	Boron, mg/l	0.05	< 0.05	0.05	0.05	0.05
7.	Calcium as Ca, mg/l	40	31.2	45.6	28.1	39.3
8.	Chlorides, mg/l	42	44	62	48	48
9.	Fluoride, mg/l	0.32	0.30	0.32	0.32	0.32
10.	Free ResCl2, mg/l	0.56	0.62	0.56	0.56	0.56
11.	Iron, mg/l	0.033	0.036	0.032	0.036	0.033
12.	Magnesium as Mg, g/l	4.8	12.6	26.4	14.6	5.4
13.	Sulphate, mg/l	32	41.2	60	44	38
14.	Alkalinity, mg/l	110	124	200	128	116
15.	Hardness, mg/l	120	130	224	130	120
16.	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
17.	Aluminum, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
18.	Detergents, mg/l	<0.1	<0.1	<0.1	<0.1	<0.1
19.	Barium, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
20.	Chloramines, mg/l	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
21.	Copper, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
22.	Manganese, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
23.	Mineral oil, mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
24.	Nitrate, mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
25.	Phenolic comp, mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
26.	Selenium, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
27.	Silver, mg/l	<0.1	<0.1	<0.1	<0.1	<0.1
28.	Sulphide, mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
29.	Zinc, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
30.	Cadmium, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
31.	Cyanide, mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
32.	Lead, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
33.	Mercury, mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
34.	Molybdenum, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
35.	Nickel, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
36.	PCB, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
37.	PAH, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
38.	Arsenic, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
39.	Chromium, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01

Sr. No.	Sampling Locations	Panvel	Kille Gaothan	Jui	Kombadbhuje	Ulwe
	Sampling month	15.02.2021				
40.	Alachlor, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
41.	Atrazine, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
42.	Aldrin, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
43.	Alpha HCH, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
44.	Beta HCH, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
45.	Butachlor, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
46.	Chlorpyriphos, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
47.	Delta HCH, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
48.	2,4 Dichloro PAA, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
49.	DDT, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
50.	Endosulphan, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
51.	Ethion, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
52.	Lindane, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
53.	Isoproturon, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
54.	Malathion, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
55.	Methyl parathion, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
56.	Monocrotophos , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
57.	Phorate, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Microbiology						
58.	Coliform (MPN/100 ml)	>1600	>1600	>1600	>1600	>1600
59.	E coli	Present	Present	Present	Present	Present

5.4.4 GW Analysis Inference:

The ground water quality showed considerable variation. Some ground water parameters were within desirable limit, some between desirable and permissible limit and few exceeded the permissible limit. The ground water not fully complied the quality requirements as per IS 10500:2012 for purpose of drinking water.

The quality of collected ground water was not suitable for drinking purpose due to the presence of coliform & E. Coli bacteria at all locations i.e. Panvel, Kille Gaothan, Jui, Kombadbhuje and Ulwe. Proper treatment of ground water required before consumption.

5.4.5 GW Analysis Data during September 2021

Ground water samples were collected in September 2021. Owale was selected as new station as access to Vaghivali station was not possible.

Table 5-12: Ground water analysis at various stations during September 2021

Sr. No.	Sampling Locations	Pargaon	Koli	Kopar	Chinchpada	Owale
	Sampling month	16.03.2021				
1.	Colour, Hazen	5.0	5.0	5.0	5.0	5.0
2.	pH@ 25°C	7.22	7.89	7.82	7.88	7.99
3.	Turbidity, NTU	2.5	2.5	2.5	2.5	2.5
4.	TDS, mg/l	230	280	280	280	180
5.	NH3(as N), mg/l	<0.56	<0.56	<0.56	<0.56	<0.56
6.	Boron, mg/l	0.05	0.05	0.05	0.05	0.05
7.	Calcium as Ca, mg/l	28	46	50	48	18
8.	Chlorides, mg/l	50	58	40	56	42
9.	Fluoride, mg/l	0.33	0.32	0.33	0.32	0.32
10.	Free ResCl2, mg/l	0.56	0.56	0.62	0.56	0.65
11.	Iron, mg/l	0.033	0.033	0.034	0.032	0.032
12.	Magnesium as Mg, g/l	14.6	26	4.8	27	13.6
13.	Sulphate, mg/l	48	58	60	58	45
14.	Alkalinity, mg/l	128	210	170	180	98
15.	Hardness, mg/l	130	224	120	230	100
16.	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
17.	Aluminum, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
18.	Detergents, mg/l	<0.1	<0.1	<0.1	<0.1	<0.1
19.	Barium, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
20.	Chloramines, mg/l	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
21.	Copper, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
22.	Manganese, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
23.	Mineral oil, mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
24.	Nitrate, mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
25.	Phenolic comp, mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
26.	Selenium, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
27.	Silver, mg/l	<0.1	<0.1	<0.1	<0.1	<0.1
28.	Sulphide, mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
29.	Zinc, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
30.	Cadmium, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
31.	Cyanide, mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
32.	Lead, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
33.	Mercury, mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
34.	Molybdenum, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
35.	Nickel, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
36.	PCB, mg/l	< 0.0001	< 0.01	< 0.01	< 0.01	< 0.01
37.	PAH, mg/l	< 0.0001	< 0.01	< 0.01	< 0.01	< 0.01
38.	Arsenic, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
39.	Chromium, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
40.	Alachlor, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Sr. No.	Sampling Locations	Pargaon	Koli	Kopar	Chinchpada	Owale
	Sampling month	16.03.2021				
41.	Atrazine, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
42.	Aldrin, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
43.	Alpha HCH, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
44.	Beta HCH, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
45.	Butachlor, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
46.	Chlorpyriphos, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
47.	Delta HCH, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
48.	2,4 Dichloro PAA,µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
49.	DDT, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
50.	Endosulphan, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
51.	Ethion , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
52.	Lindane , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
53.	Isoproturon, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
54.	Malathion , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
55.	Methyl parathion, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
56.	Monocrotophos, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
57.	Phorate, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Microbiology						
58.	Coliform (MPN/100 ml)	>1600	>1600	>1600	>1600	>1600
59.	E coli	Present	Present	Present	Present	Present

5.4.6 GW Analysis Inference:

The ground water quality showed considerable variation. Some ground water parameters were within desirable limit, some between desirable and permissible limit and few exceeded the permissible limit. The ground water not fully complied the quality requirements as per IS 10500:2012 for purpose of drinking water.

The quality of collected ground water was not suitable for drinking purpose due to the presence of coliform & E. Coli bacteria at all locations i.e. Pargaon, Koli, Kopar, Chinchpada and Owale. Proper treatment of ground water required before consumption.

5.4.7 GW Analysis Data during October 2021

Ground water samples were collected in October 2021. No access was available to Kopar, Koli, Chinchpada, Pargaon during collection period, hence sampling was done in nearby and other villages within study area.

Table 5-13: Ground water analysis at various stations during October 2021

Sr. No.	Sampling Locations	Panvel	Kille Gaothan	Ulwe	Kombadbhuje	Jui
	Sampling month	14.04.2021				
1.	Colour, Hazen	5.0	5.0	5.0	5.0	5.0
2.	pH@ 25°C	7.49	7.14	6.88	7.53	7.91
3.	Turbidity, NTU	<2.0	2.8	<2.0	2.6	2.8
4.	TDS, mg/l	220	250	180	240	320
5.	NH3(as N), mg/l	<0.56	< 0.56	< 0.56	< 0.56	< 0.56
6.	Boron, mg/l	0.05	< 0.05	0.05	0.05	< 0.05
7.	Calcium as Ca, mg/l	41.6	28	23.2	32	48
8.	Chlorides, mg/l	48	47	42	38	68
9.	Fluoride, mg/l	0.34	0.32	0.32	034	0.34
10.	Free ResCl2, mg/l	0.68	0.62	0.64	0.64	0.62
11.	Iron, mg/l	0.034	0.033	0.034	0.036	0.036
12.	Magnesium as Mg, g/l	8.7	19.4	9.72	11.7	27.4
13.	Sulphate, mg/l	43	46	32	52	54
14.	Alkalinity, mg/l	94	130	88	118	204
15.	Hardness, mg/l	140	150	98	128	234
16.	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
17.	Aluminum, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
18.	Detergents, mg/l	<0.1	<0.1	<0.1	<0.1	<0.1
19.	Barium, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
20.	Chloramines, mg/l	< 2.0	< 2.0	<2.0	< 2.0	< 2.0
21.	Copper, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
22.	Manganese, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
23.	Mineral oil, mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
24.	Nitrate, mg/l	0.5	<0.5	<0.5	<0.5	<0.5
25.	Phenolic comp, mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
26.	Selenium, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
27.	Silver, mg/l	<0.1	<0.1	<0.1	<0.1	<0.1
28.	Sulphide, mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
29.	Zinc, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
30.	Cadmium, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
31.	Cyanide, mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
32.	Lead, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
33.	Mercury, mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
34.	Molybdenum, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
35.	Nickel, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
36.	PCB, mg/l	< 0.01	< 0.01	< 0.0001	< 0.01	< 0.01
37.	PAH, mg/l	< 0.01	< 0.01	< 0.0001	< 0.01	< 0.01
38.	Arsenic, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
39.	Chromium, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01

Sr. No.	Sampling Locations	Panvel	Kille Gaothan	Ulwe	Kombadbhuje	Jui
	Sampling month	14.04.2021				
40.	Alachlor, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
41.	Atrazine, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
42.	Aldrin, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
43.	Alpha HCH, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
44.	Beta HCH, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
45.	Butachlor, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
46.	Chlorpyriphos, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
47.	Delta HCH, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
48.	2,4 Dichloro PAA, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
49.	DDT, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
50.	Endosulphan, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
51.	Ethion, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
52.	Lindane, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
53.	Isoproturon, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
54.	Malathion, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
55.	Methyl parathion, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
56.	Monocrotophos , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
57.	Phorate, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Microbiology						
58.	Coliform (MPN/100 ml)	>1600	>1600	>1600	>1600	>1600
59.	E coli	Present	Present	Present	Present	Present

5.4.8 GW Analysis Inference:

The ground water quality showed considerable variation. Some ground water parameters were within desirable limit, some between desirable and permissible limit and few exceeded the permissible limit. The ground water not fully complied the quality requirements as per IS 10500:2012 for purpose of drinking water.

The quality of collected ground water was not suitable for drinking purpose due to the presence of coliform & E. Coli bacteria at all locations i.e. Panvel, Kille Gaothan, Ulwe, Kombadbhuje and Jui. Proper treatment of ground water required before consumption.

5.4.9 GW Analysis Data during November 2021

Ground water samples were collected in November 2021. Owale was selected as new station as access to Vaghivali station was not possible.

Table 5-14: Ground water analysis at various stations during November 2021

Sr. No.	Sampling Locations	Pargaon	Chinchpada	Koli	Kopar	Owale
	Sampling month	25.05.2021				
1.	Colour, Hazen	5.0	5.0	5.0	5.0	5.0
2.	pH@ 25°C	7.16	7.82	7.64	7.36	7.90
3.	Turbidity, NTU	2.3	2.3	2.2	2.2	2.2
4.	TDS, mg/l	240	290	280	260	160
5.	NH3(as N), mg/l	< 0.56	<0.56	< 0.56	<0.56	<0.56
6.	Boron, mg/l	0.05	0.05	0.05	0.06	<0.05
7.	Calcium as Ca, mg/l	32	41.6	40	44.8	15.2
8.	Chlorides, mg/l	54	52	50	48	38
9.	Fluoride, mg/l	0.33	0.30	0.32	0.30	0.33
10.	Free ResCl2, mg/l	0.56	0.60	0.56	0.60	0.65
11.	Iron, mg/l	0.033	0.033	0.033	0.033	0.033
12.	Magnesium as Mg, g/l	12	24	22.1	12.9	12.9
13.	Sulphate, mg/l	38	67	52	58	28
14.	Alkalinity, mg/l	122	164	190	152	90
15.	Hardness, mg/l	130	204	192	166	92
16.	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
17.	Aluminum, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
18.	Detergents, mg/l	<0.1	<0.1	<0.1	<0.1	<0.1
19.	Barium, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
20.	Chloramines, mg/l	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
21.	Copper, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
22.	Manganese, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
23.	Mineral oil, mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
24.	Nitrate, mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
25.	Phenolic comp, mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
26.	Selenium, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
27.	Silver, mg/l	<0.1	<0.1	<0.1	<0.1	<0.1
28.	Sulphide, mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
29.	Zinc, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
30.	Cadmium, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
31.	Cyanide, mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
32.	Lead, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
33.	Mercury, mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
34.	Molybdenum, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
35.	Nickel, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
36.	PCB, mg/l	< 0.0001	< 0.01	< 0.01	< 0.01	< 0.01
37.	PAH, mg/l	< 0.0001	< 0.01	< 0.01	< 0.01	< 0.01
38.	Arsenic, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
39.	Chromium, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
40.	Alachlor, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
41.	Atrazine, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Sr. No.	Sampling Locations	Pargaon	Chinchpada	Koli	Kopar	Owale
	Sampling month	25.05.2021				
42.	Aldrin, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
43.	Alpha HCH, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
44.	Beta HCH, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
45.	Butachlor, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
46.	Chlorpyriphos, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
47.	Delta HCH, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
48.	2,4 Dichloro PAA, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
49.	DDT, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
50.	Endosulphan, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
51.	Ethion, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
52.	Lindane, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
53.	Isoproturon, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
54.	Malathion, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
55.	Methyl parathion, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
56.	Monocrotophos , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
57.	Phorate, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Microbiology						
58.	Coliform (MPN/100 ml)	>1600	>1600	>1600	>1600	>1600
59.	E coli	Present	Present	Present	Present	Present

5.4.10 GW Analysis Inference:

The ground water quality showed considerable variation. Some ground water parameters were within desirable limit, some between desirable and permissible limit and few exceeded the permissible limit. The ground water not fully complied the quality requirements as per IS 10500:2012 for purpose of drinking water.

The quality of collected ground water was not suitable for drinking purpose due to the presence of coliform & E. coli bacteria at all locations i.e. Pargaon, Chinchpada, Koli, Kopar and Ulwe. Proper treatment of ground water required before consumption.

5.4.11 GW Analysis Data during December 2021

Ground water samples were collected in December 2021. No access was available to Koli, Kopar, Chinchpada during collection period, hence sampling was done at other nearby locations.

Table 5-15: Ground water analysis at various stations during December 2021

Sr. No.	Sampling Locations	Ulwe	Kombadbhuje	Jui	Panvel	Kille Gaothan
	Sampling month	21.06.2021				
1.	Colour, Hazen	5.0	5.0	5.0	5.0	5.0
2.	pH@ 25°C	6.76	7.16	7.22	7.32	6.98
3.	Turbidity, NTU	<2.0	2.2	2.4	<2.0	2.4
4.	TDS, mg/l	200	220	300	240	250
5.	NH3(as N), mg/l	< 0.56	<0.56	< 0.56	< 0.56	<0.56
6.	Boron, mg/l	0.05	<0.05	<0.05	<0.05	<0.05
7.	Calcium as Ca, mg/l	24.8	26.6	40.8	40.8	29.6
8.	Chlorides, mg/l	47	44	56	52	50
9.	Fluoride, mg/l	0.32	0.32	0.34	0.32	0.3
10.	Free ResCl2, mg/l	0.68	0.62	0.62	0.64	0.66
11.	Iron, mg/l	0.036	0.034	0.033	0.034	0.035
12.	Magnesium as Mg,g/l	10.1	13.4	27.8	11.5	20.6
13.	Sulphate, mg/l	39	46	52	46	54
14.	Alkalinity, mg/l	90	114	208	132	142
15.	Hardness, mg/l	104	122	218	150	160
16.	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
17.	Aluminum, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
18.	Detergents, mg/l	<0.1	<0.1	<0.1	<0.1	<0.1
19.	Barium, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
20.	Chloramines, mg/l	<2.0	< 2.0	< 2.0	< 2.0	< 2.0
21.	Copper, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
22.	Manganese, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
23.	Mineral oil, mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
24.	Nitrate, mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
25.	Phenolic comp, mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
26.	Selenium, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
27.	Silver, mg/l	<0.1	<0.1	<0.1	<0.1	<0.1
28.	Sulphide, mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
29.	Zinc, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
30.	Cadmium, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
31.	Cyanide, mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
32.	Lead, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01
33.	Mercury, mg/l	<0.05	<0.05	<0.05	<0.05	<0.05
34.	Molybdenum, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
35.	Nickel, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
36.	PCB, mg/l	< 0.0001	< 0.01	< 0.01	< 0.01	< 0.01
37.	PAH, mg/l	< 0.0001	< 0.01	< 0.01	< 0.01	< 0.01
38.	Arsenic, mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
39.	Chromium, mg/l	<0.01	<0.01	<0.01	<0.01	<0.01

Sr. No.	Sampling Locations	Ulwe	Kombadbhuje	Jui	Panvel	Kille Gaothan
	Sampling month	21.06.2021				
40.	Alachlor, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
41.	Atrazine, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
42.	Aldrin, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
43.	Alpha HCH, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
44.	Beta HCH, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
45.	Butachlor, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
46.	Chlorpyriphos, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
47.	Delta HCH, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
48.	2,4 Dichloro PAA, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
49.	DDT, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
50.	Endosulphan, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
51.	Ethion, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
52.	Lindane, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
53.	Isoproturon, µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
54.	Malathion, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
55.	Methyl parathion, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
56.	Monocrotophos , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
57.	Phorate, , µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Microbiology						
58.	Coliform (MPN/100 ml)	>1600	>1600	>1600	>1600	>1600
59.	E coli	Present	Present	Present	Present	Present

5.4.12 GW Analysis Inference:

The ground water quality showed considerable variation. Some ground water parameters were within desirable limit, some between desirable and permissible limit and few exceeded the permissible limit. The ground water not fully complied the quality requirements as per IS 10500:2012 for purpose of drinking water.

The quality of collected ground water was not suitable for drinking purpose due to the presence of coliform & E. coli bacteria at all locations i.e. Ulwe, Kombadbhuje, Jui, Panvel, and Kille Gaothan. Proper treatment of ground water required before consumption.

5.5 MARINE WATER QUALITY ANALYSIS REPORT DURING September 2021

Surface Marine water samples were collected for different Physiochemical and Biological parameters from 10 stations on 27th and 28th September 2021. Analysis part is mentioned in subsequent sections below.

Figure 5-1 Collection of Marine Water samples during September 2021

5.5.1 Analytical Data - Physicochemical Parameters during September 2021

Table 5-16: Marine water physicochemical analysis at various stations during September 2021

c	Parameter	W 1	W 2	W 3	W 4	W 5	W 6	W7	W 8	W9	W 10	Unit
		S	S	S	S	S	S	S	S	S	S	
1.	pH	6.81	6.82	6.81	6.80	6.78	6.81	6.78	6.81	6.90	6.81	--
2.	Temperature	28	27	28	28	27	28	28	28	29	27	°C
3.	Turbidity	6.12	4.99	7.98	5.8	7.18	6.54	9.86	11.3	10.6	34.6	NTU
4.	Conductivity	226	240	1068	2800	12020	11800	1181	11030	26300	419	µS/Cm
5.	Salinity,	0.112	0.14	0.54	1.45	7.21	6.99	6.3	14.2	20	0.21	ppt
6.	Iron as Fe,	<0.02	<0.02	<0.02	<0.02	0.036	0.16	0.036	<0.02	0.036	<0.02	mg/l
7.	Magnesium as Mg	12.4	13.6	25.7	56.3	486	236	291.6	520	802	13.6	mg/l
8.	Manganese as Mn	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	<0.01	< 0.01	mg/l
9.	Fluoride	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.26	<0.2	<0.2	mg/l
10.	Sulphate	11.1	10.6	42.5	115	579	537	516	9121	1373	30.5	mg/l
11.	Phenolic compound	<2.4	<2.4	<2.4	<2.4	5.6	3.05	2.6	<2.4	<2.4	<2.4	µg/l
12.	Alkalinity	82	88	96	98	114	118	1900	160	108	130	mg/l
13.	Hardness as CaCO3	100	106	168	324	2500	2000	120	3300	4100	144	mg/l
14.	Zinc as Zn	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l
15.	Cadmium as Cd	0.11	0.03	0.02	0.05	0.03	0.04	0.62	0.06	0.09	<0.01	mg/l
16.	BOD	2.0	1.4	1.2	0.4	0.03	0.9	0.43	0.3	1.64	1.14	mg/l
17.	Chloride	12	16	290	890.7	4748	0.9	80	7900	11196	43.9	mg/l
18.	DO	2.8	2.4	1.5	2.6	0.85	1.3	0.71	1.0	2.28	1.71	mg/l
19.	Total Nitrogen as N	2.2	2.6	3.0	2.4	3.0	1.3	2.8	3.6	5.2	2.4	µmol/l
20.	Phosphorus as P	1.15	2.45	2.78	2.29	3.11	2.62	2.78	5.08	1.64	2.5	µmol/l
21.	Sodium as Na	80	90	80	60	80	90	120	140	160	60	mg/l
22.	Potassium as K	50	80	60	50	70	60	100	80	80	40	mg/l
23.	Lead as Pb	0.03	0.02	0.03	0.03	0.09	<0.01	0.12	0.04	0.04	0.02	mg/l
24.	Mercury as Hg	0.002	0.003	0.003	0.004	0.004	<0.001	0.01	0.003	0.003	<0.001	mg/l
25.	Chromium as Cr	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	<0.01	< 0.01	mg/l

5.5.2 Inference - Physicochemical Parameters during September 2021

The pH value ranged from 6.78 to 6.90 at surface slightly acidic nature of water. Salinity was low at all 10 stations due to rain and influx of fresh water during collection Period of sampling.

Dissolved Oxygen level was observed low during collection of time due to seasonal variation. BOD value suggests the presence of organic matter present in water body which comes as domestic sewage discharge from surrounding areas (villages, STPs of NMMC in Nerul) and effluents from CETP at MIDC Taloja.

The concentration of Magnesium was low at W1 to W4 and W 10 and Iron were low at all stations (Refer Table 5.16).

5.5.3 Analytical Data - Biological Parameters during September 2021

Biological parameters viz. Phytopigments, Phytoplankton, Zooplankton, Benthos and Microbiology were analyzed, and compiled data is presented below:

Table 5-17: Marine Water biological analysis of stations (W1 to W5) during September 2021

Parameter	W 1	W 2	W3	W4	W5
	S	S	S	S	S
Phytoplankton					
Chlorophyll (mg/m³)	0.53	1.07	1.58	0.53	2.16
Pheophytin (mg/m³)	0.59	0.05	7.38	0.16	0.96
Population (nox10³/L)	24.8	36.8	10.4	36.8	71.2
Total Genera (No)	14	9	9	13	12
Major Genera	*Navicula Nitzschia Leptocylindrus Thalassiosira*	*Navicula Thalassiosira Leptocylindrus Anabaena*	*Nitzschia Navicula Thalassiosira Pleurosigma*	*Anabaena Thalassiosira Gyrosigma Skeletonema*	*Anabaena Thalassiosira Spirulina Navicula*
Diversity Index	2.17	1.83	2.03	1.74	1.49
Zooplankton					
Population (no x 10³/100m³)	3	3	2	8	1.6
Total Group (No)	2	2	2	4	8
Major Groups	Marine insect Decapod larvae	Marine insect Gastropods	Decapods Marine insects	Gastropods Insect Larvae	Gastropods Cladocera Copepods Decapod Larvae
Biomass (ml/100m³)	10	10	10	20	1.6
Diversity Index	0.45	0.50	0.63	1.21	1.33
Macrobenthos					
Population (no x 10²/m²)	0.35	31.60	27.43	4.34	6.42
Total Group (No)	1	1	1	2	3
Major Groups	Polychaete	Polychaete	Polychaete	Polychaete Decapods	Polychaete Amphipods Bivalve
Biomass (gm/m²)	0.06	6	2.13	1.03	6.15
Diversity Index	0.00	0.00	0.0	0.17	0.77
Microbiology					
Coliform(MPN/100 ml)	>1600	>1600	>1600	>1600	>1600

Table 5-18: Marine Water biological analysis of stations (W6 to W110) during September 2021

Parameter	W 6	W 7	W8	W9	W10
	S	S	S	S	S
Phytoplankton					
Chlorophyll (mg/m³)	0.42	1.34	0.42	0.47	0.51
Pheophytin (mg/m³)	5.08	1.18	3.96	0.21	0.59
Population (nox10⁴/L)	73.6	141.6	34.4	26.4	17.6
Total Genera (No)	11	12	10	13	6
Major Genera	*Thalassiosira Anabaena Skeletonema Spirulina*	*Anabaena Thalassiosira Skeletonema Spirulina*	*Oscillatoria Thalassiosira Skeletonema Spirulina*	*Skeletonema Guinardia Thalassiosira Spirulina*	*Anabaena Nitzschia Navicula Fragillaria*
Diversity Index	1.50	1.44	1.80	2.10	2.34
Zooplankton					
Population (no x 10³/100m³)	25	268	34	18	30
Total Group (No)	8	11	7	9	3
Major Groups	Gastropods Copepods Cladocera Decapod larvae	Copepods Decapod larvae Gastropods	Copepods Decapod larvae Gastropods	Copepods Decapod larvae Gastropods	Decapod Larvae Copepods Gastropods
Biomass (ml/100m³)	1.9	7.3	1.3	0.9	90
Diversity Index	1.34	0.27	0.74	0.65	0.68
Macrobenthos					
Population (no x 10²/m²)	10.24	3.47	3.33	1.74	1.56
Total Group (No)	5	5	2	3	2
Major Groups	Gastropods Polychaete	Gastropods Polychaete	Polychaete Amphipod	Gastropods Bivalve	Polychaete Isopods

Parameter	W 6	W 7	W8	W9	W10
	S	S	S	S	S
	Isopods	Amphipods		Isopods	
Biomass (gm/m²)	2.12	9.14	1.25	1.61	6.67
Diversity Index	1.50	1.21	0.377	0.639	0.349
Microbiology					
Coliform (MPN/100 ml)	>1600	>1600	>1600	>1600	>1600

5.5.4 Inferences - Biological Parameters during September 2021

5.5.4.1 Phytoplankton

In September 2021, Chlorophyll ranged from 0.42 to 2.16 mg/m^3 and pheophytin ranged 0.05 to 7.38 mg/m^3; at surface water of all 10 stations. The **Figure 5.2** below shows graphical representation of phytopigments in different stations.

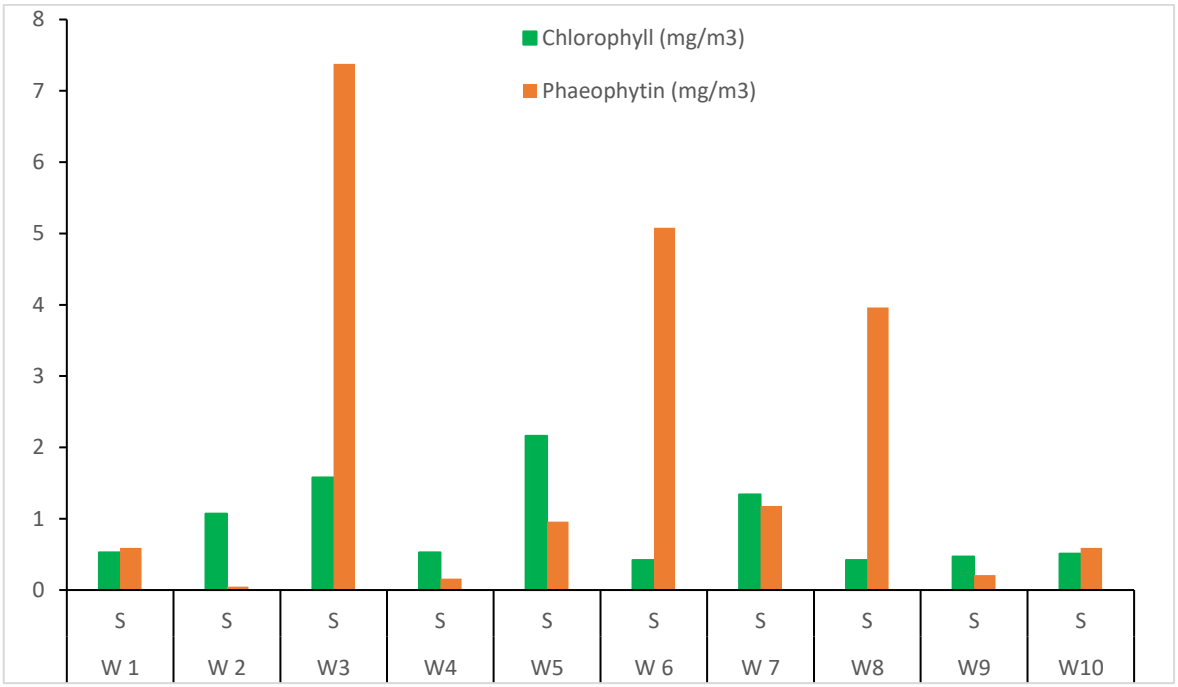


Figure 5-2: Representation of phytopigments for September 2021

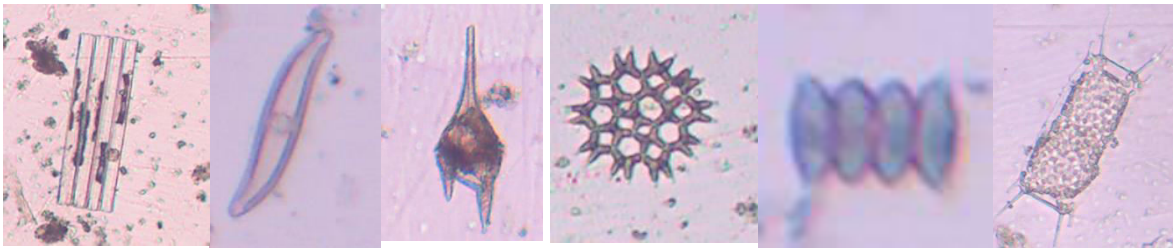
Phytoplankton population density ranges from 10.4-141.6 x 10^3/l at surface water of all 10 stations. Highest phytoplankton population at surface water of W7 may be due to influx of domestic water from surrounding villages; total generic groups ranges from 6-14 nos. at surface water of all 10 stations. Maximum generic diversity 17 no. is observed at surface water of Station W11 during September 2021 (Refer Table 5.17 and 5.18).

Thalassiosira, Anabaena, Navicula and *Nitzschia* are most common ones, followed by rest of observed genera like *Pleurosigma, Spirulina* and *Gyrosigma*. The other freshwater phytoplankton genera found are *Scenedesmus*, *Actinastrum, Pandorina, Anabaena, Oscillatoria and Pediastrum* in Gadhi River (W1) and Ulwe River (W10) respectively.

Graphical representations of phytoplankton population and total genera is represented in **Figure 5.3**.

The graph below represents the population of phytoplankton is more at W7; and less at station W3, which represents there is discharge of sewage and domestic waste. The phytoplankton trend with respect to total number of genera is high at Station W1 and lowest at W10. Some of the major genera seen were photographed and shown in **Figure 5.4**.

Figure 5-3: Representation of phytoplankton population & Total genera for September 2021

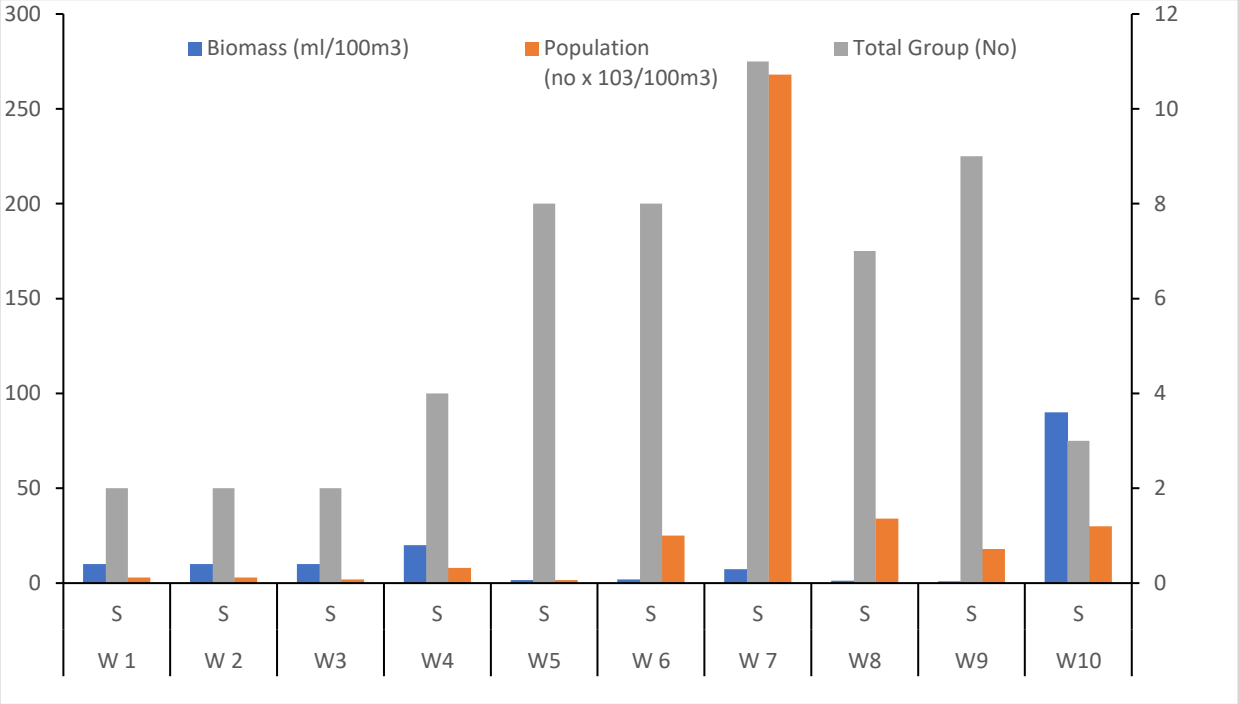


Fragillaria *Pleurosigma* *Ceratium* *Pediastrum* *Scendesmus* *Biddulphia*

Figure 5-4: Phytoplankton found in samples for September 2021

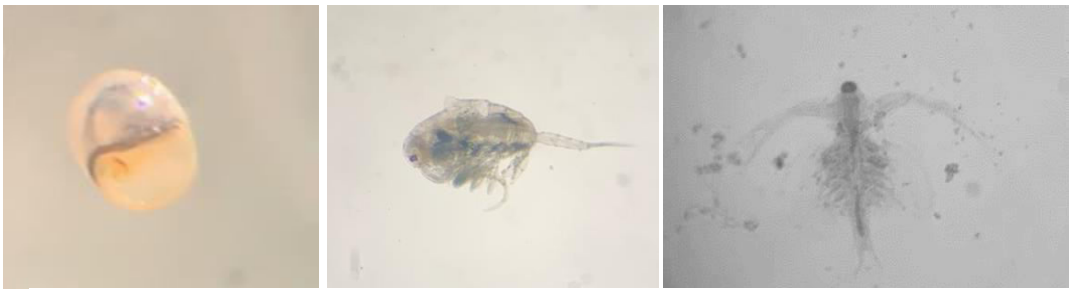
5.5.4.2 Zooplankton

In September 2021, the zooplankton biomass ranged from 0.9 to 90.0 ml/100 m^3 with population density of 1.6 to 268.0 no x 10^3/100 m^3 while having faunal group ranging from 2-11 nos. The zooplankton was noted with good population and group diversity. Copepods, Decapods and Gastropods were common groups observed, **Figure 5.5** represents zooplankton standing stock graphically and **Figure 5.6** represents photos of peculiar zooplankton genera.



The graph below represents that average standing stock reported from all stations; W8 shows lowest population as compared to W1 with highest population; and W7 shows lowest biomass and W1 shows highest biomass, respectively.

Figure 5-5: Representation of Zooplankton Biomass, Population & Total group for September 2021



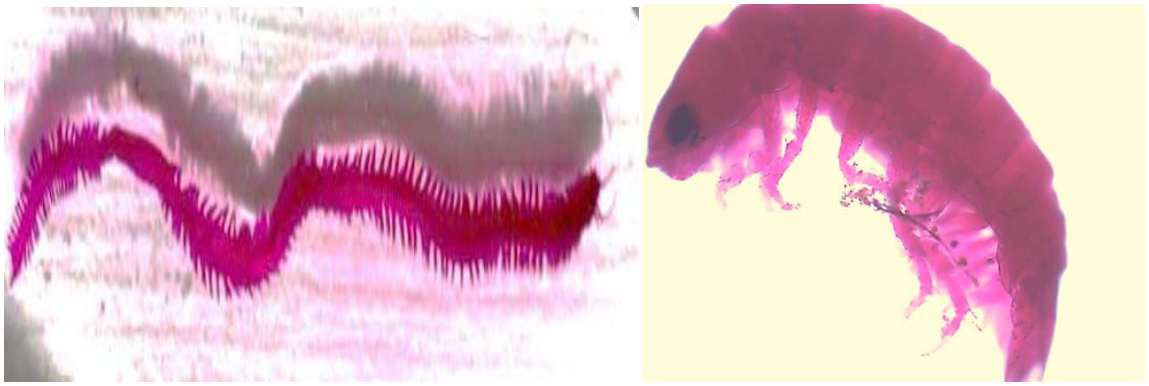
Gastropod Copepod Cladocera

Figure 5-6 Zooplankton found in samples for September 2021

5.5.4.3 Macrofauna

In September 2021, macro-benthic biomass ranged from 0.06 to 9.12 gm/ m^2 with population ranging from 0.35 to 31.6 (no x $10^2/m^2$). Total group ranges from 1 to 5. Low

biomass noted at W1 and high biomass at W7. Low population were noted at W1 and high population observed at W2. The faunal group found were majorly Polychaete.



Polychaete Amphipod

Figure 5-7 Benthic organism Found in samples for September 2021

5.5.4.5 Microbiology

Coliform microbes were present at all stations in surface level. No specific trend was observed.

5.6MARINE WATER QUALITY ANALYSIS REPORT DURING December 2021

Surface Marine water samples were collected for different Physiochemical and Biological parameters for 10 stations on 24th and 25th December 2021. Analysis part is mentioned in subsequent sections below.

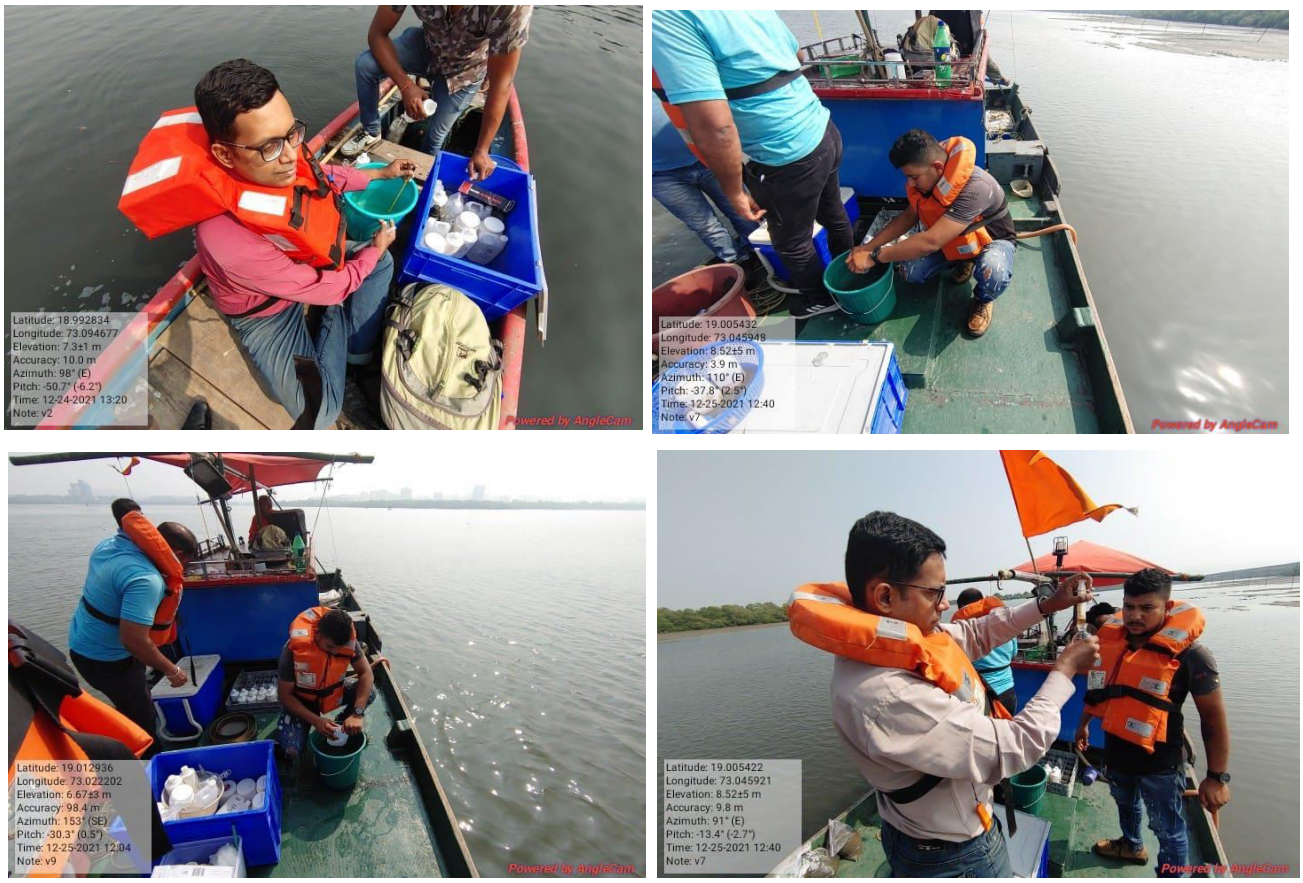


Figure 5-8 Collection of Marine Water samples during Decemeber 2021

5.6.1 Analytical Data - Physicochemical Parameters during December 2021

Table 5-19: Marine water physicochemical analysis at various stations during December 2021

Sr. No.	Parameter	W 1 S	W 2 S	W 3 S	W 4 S	W 5 S	W 6 S	W7 S	W 8 S	W9 S	W 10 S	Unit
1.	pH	7.44	7.32	7.14	7.16	7.13	7.19	7.21	7.29	7.30	7.85	--
2.	Temperature	27.7	27.6	27.8	27.6	27.7	27.8	28.2	28	26.4	27.8	**°C**
3.	Turbidity	7.4	5.04	4.15	6.19	6.59	5.25	6.21	6.94	7.69	23.4	**NTU**
4.	Conductivity	571	13880	29230	42550	37780	39640	39570	41060	41790	42550	µS/Cm
5.	Salinity,	0.18	7.73	16.57	18.41	21.65	22.93	22.02	23.47	25.29	1.65	ppt
6.	Iron as Fe,	0.076	0.11	0.022	0.022	<0.02	0.022	0.022	0.021	<0.02	0.13	**mg/l**
7.	Magnesium as Mg	16.38	301	583.2	743	1069	1020.6	1093	947.7	1069.2	111.8	**mg/l**
8.	Manganese as Mn	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	**mg/l**
9.	Fluoride	0.51	1.06	1.29	1.68	1.35	1.44	<0.2	1.71	1.45	0.36	**mg/l**
10.	Sulphate	47	299	496	726	872	909	655	931	1068	201	**mg/l**
11.	Phenolic compound	<2.4	<2.4	<2.4	<2.4	6.48	8.67	3.08	2.31	22.62	<2.4	µg/l
12.	Alkalinity	150	160	150	160	280	240	220	240	260	200	**mg/l**
13.	Hardness as CaCO3	164	1600	3300	3760	5500	5500	5800	5700	6600	700	**mg/l**
14.	Zinc as Zn	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	**mg/l**
15.	Cadmium as Cd	0.05	<0.01	<0.01	0.06	<0.01	0.03	<0.01	<0.01	<0.01	0.02	**mg/l**
16.	BOD	2.7	1.28	0.71	0.57	1.14	0.42	0.57	0.28	0.85	2.42	**mg/l**
17.	Chloride	213	4905	10662	11412	14246	14496	14895	14296	15595	1160	**mg/l**
18.	DO	3.0	1.57	0.85	0.85	1.28	0.71	0.85	1.0	1.28	3.57	**mg/l**
19.	Total Nitrogen as N	2.8	5.6	6.2	2.8	5.6	4.8	2.2	2.4	8.4	2.6	µmol/l
20.	Phosphorus as P	0.52	0.22	0.36	0.12	2.46	4.68	3.62	1.06	2.16	1.0	µmol/l
21.	Sodium as Na	80	80	110	100	90	80	100	100	120	110	**mg/l**
22.	Potassium as K	40	80	60	62	60	50	80	80	60	90	**mg/l**
23.	Lead as Pb	<0.01	0.02	0.05	0.02	0.04	0.10	<0.01	0.06	0.12	0.06	**mg/l**
24.	Mercury as Hg	<0.001	0.003	0.003	0.002	0.006	0.005	<0.001	<0.001	0.009	0.004	**mg/l**
25.	Chromium as Cr	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.02	< 0.01	< 0.01	**mg/l**

5.6.2 Inference - Physicochemical Parameters during December 2021

The pH value ranged from 7.13 to 7.85 at surface basic nature of water. Salinity was found in increasing trend from W1 to W9. The salinity was observed low at station W1 and W10 due to influx of fresh water during collection Period of sampling.

Dissolved Oxygen level was observed low during collection of time due to seasonal variation. BOD value suggests the presence of organic matter in water body which comes as domestic sewage discharge from surrounding areas (villages, STPs of NMMC in Nerul) and effluents from CETP at MIDC Taloja.

The concentration of Magnesium were high and Iron were low (Refer Table 5.19).

5.6.3 Analytical Data - Biological Parameters during December 2021

Biological parameters viz. Phytoplankton, Zooplankton, Benthos and Microbiology were analyzed, and compiled data is presented below:

Table 5-20: Marine Water biological analysis of stations (W1 to W5) during December 2021

Parameter	W 1	W 2	W3	W4	W5
	S	S	S	S	S
Phytoplankton					
Chlorophyll (mg/m³)	34.75	9.62	4.81	12.30	3.21
Pheophytin (mg/m³)	7.54	0.86	0.69	1.44	0.16
Population (nox10³/L)	438.4	278.4	211.2	144.8	83.2
Total Genera (No)	22	16	9	12	14
Major Genera	*Scenedesmus Leptocylindrus Agmenellum Navicula*	*Leptocylindrus Scenedesmus Agmenellum Thalassiosira*	*Leptocylindrus Thalassiosira Bacteriastrum Navicula*	*Leptocylindrus Thalassiosira Bacteriestrum Pleurosigma*	*Leptocylindrus Gyrosigma Agmenellum Thalassiosira*
Diversity Index	1.62	1.65	0.38	0.73	2.08
Zooplankton					
Population (no x 10³/100m³)	6	10	8	11	5
Total Group (No)	4	1	3	4	11
Major Groups	Copepods Cladocera Gastropods Marine Insects	Polychaete	Copepods Decapods Marine Insects	Polychaete Copepods Marine Insects Decapods	Copepods Medusae Decapods Marine Insects
Biomass (ml/100m³)	16.7	83.3	16.7	16.7	0.6
Diversity Index	1.15	0.0	1.00	1.22	0.81
Macrobenthos					
Population (no x 10²/m²)	35	69	2396	417	2118
Total Group (No)	1	1	1	1	3
Major Groups	Polychaete	Polychaete	Polychaete	Polychaete	Decapod Polychaete Bivalve
Biomass (gm/m²)	0.04	2.05	31.19	8.60	30.3
Diversity Index	0.4	0.0	0.0	0.0	1.05
Microbiology					
Coliform (MPN/100 ml)	>1600	>1600	>1600	>1600	>1600

Table 5-21: Marine Water biological analysis of stations (W6 to W10) during December 2021

Parameter	W 6	W 7	W8	W9	W10
	S	S	S	S	S
Phytoplankton					
Chlorophyll (mg/m³)	11.76	4.28	2.14	4.81	2.13
Pheophytin (mg/m³)	4.33	0.59	0.64	0.71	0.47
Population (nox10³/L)	148.0	92.8	66.4	69.6	48.8
Total Genera (No)	10	8	13	12	16
Major Genera	*Leptocylindrus Thalassiosira Pleurosigma Guinardia*	*Leptocylindrus Thalassiosira Skeletonema Cyclotella*	*Leptocylindrus Skeletonema Thalassiosira Chaetoceros*	*Leptocylindrus Thalassiosira Skeletonema Nitzschia*	*Skeletonema Nitzschia Thalassiosira Cyclotella*
Diversity Index	0.79	1.12	1.76	1.61	2.13
Zooplankton					
Population (no x 0³/100m³)	7	1	3	1	14
Total Group (No)	7	11	6	6	2
Major Groups	Copepods Medusae Decapods Marine Insects	Copepods Medusae Decapods Gastropods	Copepods Medusae Decapods Lamellibranch	Cladocera Decapods Medusae Marine Insects	Copepods Fish Eggs
Biomass (ml/100m³)	0.2	0.1	0.1	0.2	17.7
Diversity Index	0.85	1.15	0.79	0.71	0.47
Macrobenthos					
Population (no x 10²/m²)	9010	35	226	1215	34.7
Total Group (No)	3	1	2	5	1
Major Groups	Decapods Polychaete Bivalve	Polychaete	Polychaete Decapod	Polychaete Decapods Stomatopods	Polychaete

Parameter	W 6	W 7	W8	W9	W10
	S	S	S	S	S
				Isopods	
Biomass (gm/m²)	99.9	0.18	3.27	44.13	0.014
Diversity Index	0.56	0.0	0.54	1.10	0.0
Microbiology					
Coliform (MPN/100 ml)	>1600	>1600	>1600	>1600	>1600

5.6.4 Inferences - Biological Parameters during June2021

5.6.4.1 Phytoplankton

In December 2021, Chlorophyll ranged from 2.13 to 34.75 mg/m^3 and pheophytin ranged 0.16 to 7.54 mg/m^3;at surface water of all 10 stations. The **Figure 5.9** below shows graphical representation of phytopigments at different stations.

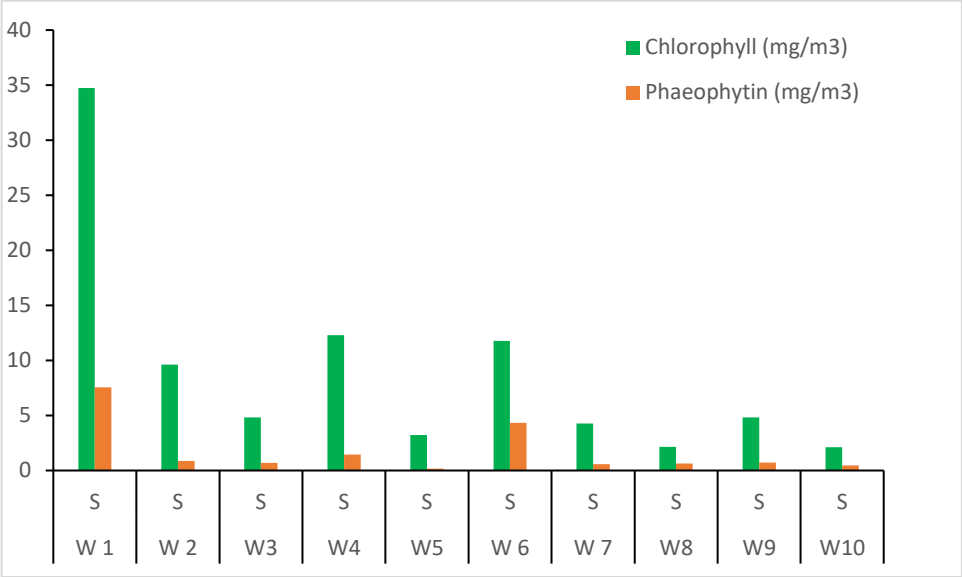


Figure 5-9: Representation of phytopigments for December 2021

The phytoplankton population ranged from 48.8 to 438.4 (no x 10^3/l) with highest population noted at Station W1 and Lowest at Station W10. Total generic groups range from 8-22 nos. at surface water of all 10 stations. Maximum generic diversity 22 no. is observed at surface water of Station W1during December 2021 (Refer Table 5.20 and 5.21).

Leptocylindrus, Thalassiosira, Navicula, Skeletonema and Pleurosigma are most common ones, followed by rest of observed genera like *Bacteriastrum*, *Cyclotella* and *Gyrosigma*. The other freshwater phytoplankton genera found are *Scenedesmus*, *Agmenellum, Oscillatoria, Cosmarium and Pediastrum* in Gadhi River (W1) and Ulwe River (W10) respectively. *Pleurosigma*, *Navicula and Thalassiosira* are common Genera noted in all stations. Graphical representations of phytoplankton population and total genera is represented in **Figure 5.10**.

The graph below represents the population of phytoplankton is more at W1; and less at station W 10, probably due discharge of sewage and domestic waste. The phytoplankton trend with respect to total number of genera is high at Station W1 and low at station W7 respectively. Some of the major genera seen were photographed and shown in **Figure 5.11**.

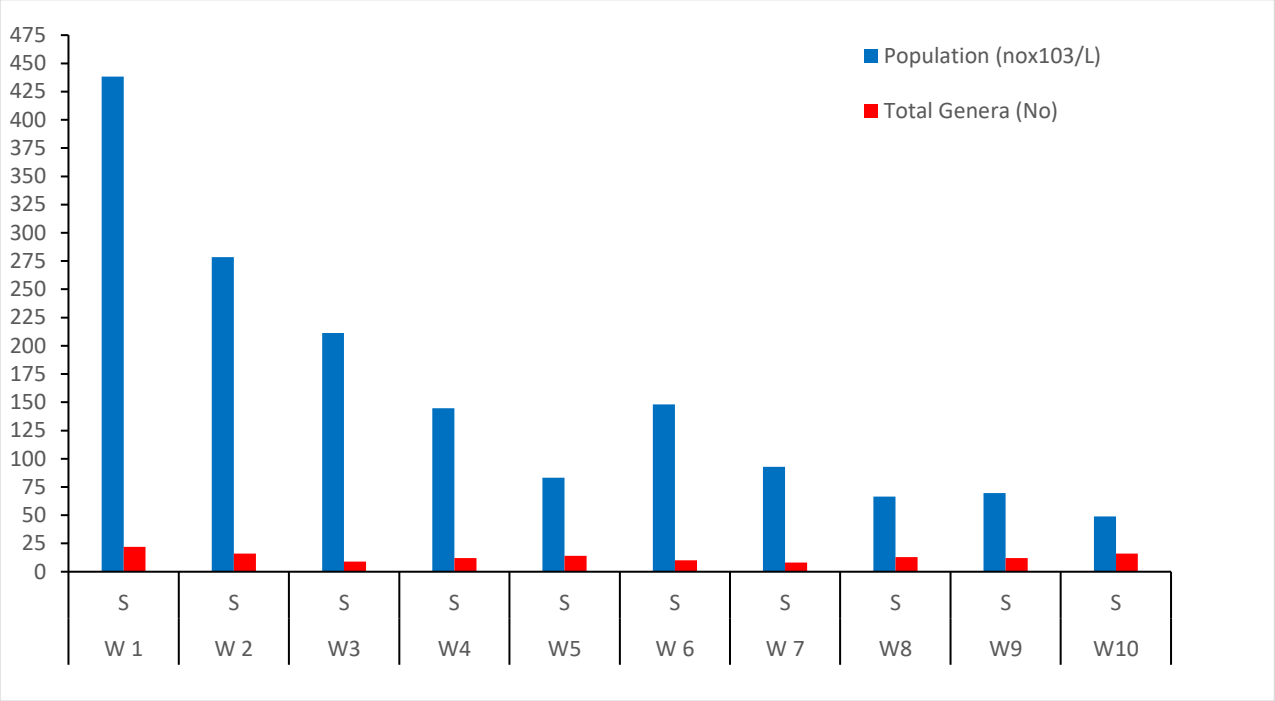


Figure 5-10: Representation of phytoplankton population & Total genera for December 2021

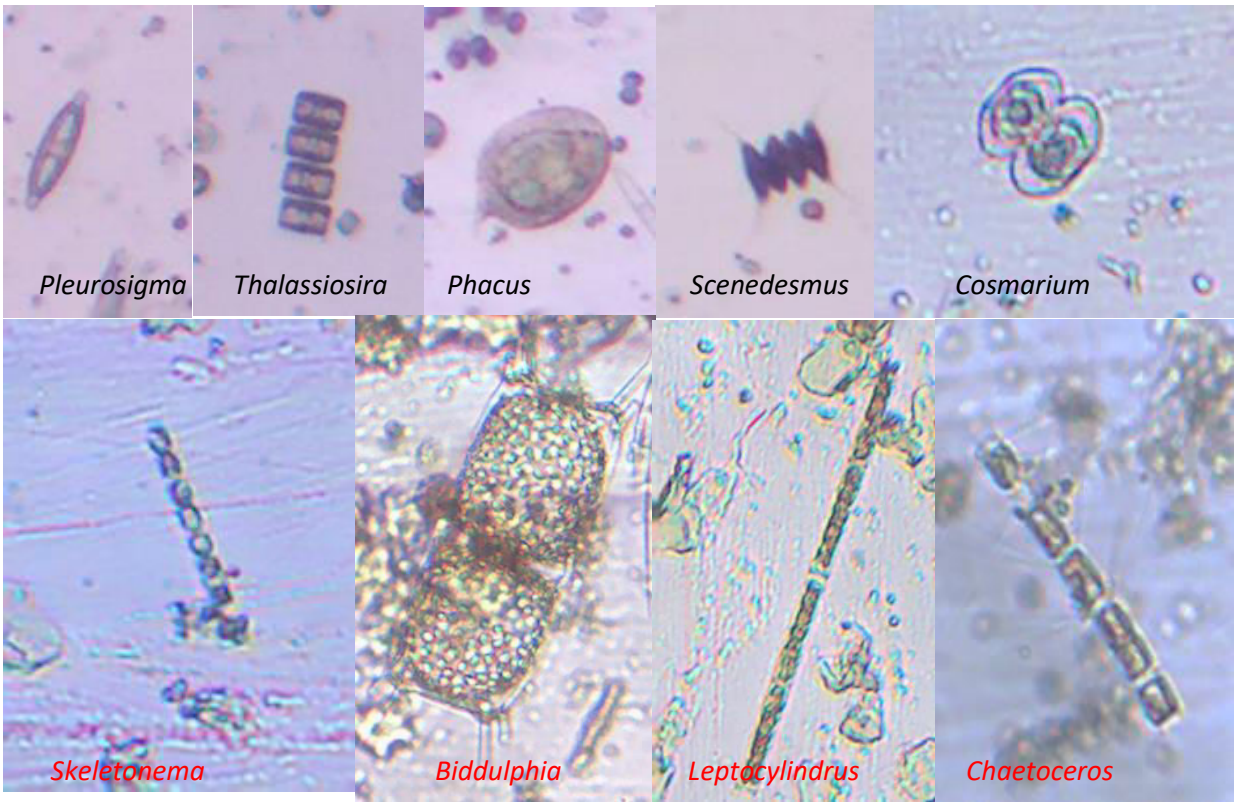


Figure 5-11: Phytoplankton found in samples for June 2021

5.6.4.2 Zooplankton

In December 2021, the zooplankton biomass ranged from 0.1 to 83.3 ml/100 m^3 with population density of 1 to 14 no x $10^3/100m^3$ while having faunal group ranging from 1-11 nos. The zooplankton was noted with good population and group diversity. Copepods, Decapods, Polychaetes & Medusae were common groups observed, **Figure 5.12** represents zooplankton standing stock graphically and **Figure 5.13** represents photos of peculiar zooplankton found in marine water body.

The graph below represents that average standing stock reported from all stations; Station 7 and 9 shows lowest population as compared to Station 10 with highest population; and Station 7 and 8 shows lowest biomass and Station 2 shows highest biomass, respectively.

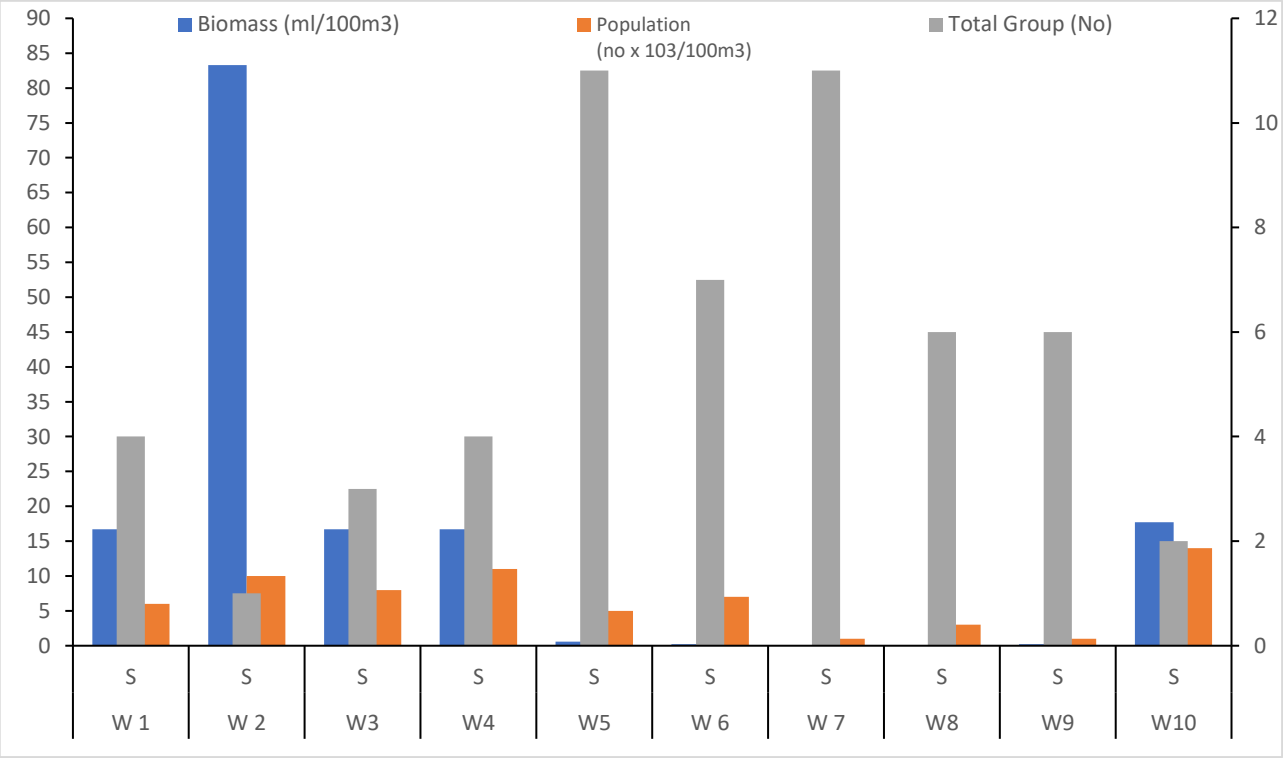


Figure 5-12: Representations of Zooplankton Biomass, Population & Total group for December 2021

Copepod Foraminifera Polychaete

Figure 5-13: Zooplankton found in samples for December 2021

5.6.4.3 Macrofauna

In December 2021, macro-benthic biomass ranged from 0.014 to 99.9 gm/ m^2 with population ranging from 34.7 to 9010 (no x $10^2/m^2$). Total group ranges from 1 to 5. Lowest biomass was noted at W10 and high biomass at W6. Similarly lowest population were noted at W10 and high population observed at W6. The faunal group found were majorly Polychaetes.

Figure 5-14: Benthic organism found in samples for December 2021

5.6.4.5 Microbiology

Coliform microbes were present at all stations in surface level. No specific trend was observed.

6. CONCLUSIONS & RECOMMENDATIONS

Based on the study of activities planned during pre-development works and on the basis of the environmental baseline monitoring results, certain issues are identified, and steps taken to mitigate the environmental impacts. These mitigation measures need to be under constant watch through continuous vigilance, auditing and monitoring of air quality:

6.1 Ambient Air Quality

6.1.1 Observations

As can be seen from analysis data, **Table 5.1 to 5.6**, the ambient air monitoring results are within NAAQS limit during sampling period of July to December 2021.

6.1.2 NMIA Pre – development/Construction Phase Activities and impacts on Air Quality:

Construction activities at NMIA during pre-development works which contribute to pollution of ambient air include:

- demolition of hill and excavation of large quantity of material like murum and rock which is being utilized within site and balance taken to fill up nearby areas.
- Controlled blasting to demolish the hill
- Rehabilitation and re-settlement of nearly 3000 households in 7 villages within NMIA site is in progress and about 96% works is completed. This activity results in generation of traffic
- Demolition of structures vacated results in dust emissions
- Plying of trucks, dumpers, ripper dozer, excavators etc. for handling of materials
- Operation of DG sets used for site offices

The air gets polluted by activities like excavation, land filling, controlled blasting, construction, material handling and transportation during construction phase due to traffic and high dust levels.

Currently, the site is levelled to + 5.5m AMSL. The hillock on the site is only partially cleared. Most of the villagers have been rehabilitated but about 89 PAP structures yet exist in Ganeshpuri village. The land for the project will be developed further by demolishing the hillock and raising the level to + 8.5m AMSL. This activity is expected to take place further for one more year, before actual construction work will start for the project. Thus, impacts during the construction phase will be similar to the ones seen above.

6.1.3 Mitigation Measures Taken and Proposed:

Contractors to be engaged by NMIAL have to take up following mitigation measures to ensure minimal impacts on ambient air quality:

- Use temporary screens of tin or fabric to create barriers against dust.
- Provision of water sprinkling at the construction site and along roads for dust suppression.
- Wheel wash system on roads leading out of site to ensure that truck tyres do not spew out dust.
- Cover Trucks carrying earth, sand or stone with tarpaulin to avoid spillage. Avoid overloading of such trucks.
- Provide workers working in high dust areas and on earth moving machineries with face masks/goggles for their protection.
- Use high tech equipment for controlled (delayed) blasting with proper blast pattern along with cover on rock surface being excavated which will generate minimal noise as well as dust.
- The blasting is being undertaken under guidance of Indian Institute of Technology (IIT) previously known as Indian School of Mines, Dhanbad) and M/s Deeptec who guide regarding appropriate operation control, blast design, quantity of explosives, blasting pattern, watering of blasting area etc.
- Maintain construction machinery and equipment in good working condition with PUC Certification for all transport vehicles used. Vehicles & construction equipment which do not meet vehicular pollution standards are not allowed within construction site.

  It is proposed to reinforce the same through continuous vigilance, auditing and monitoring of air quality.

6.2 Ambient Noise:

6.2.1 Observations from Data:

Ambient Noise levels exceed the limits prescribed under Schedule II of Environmental Protection Act 1986 for various locations including Kille Gaothan Guest House, Panchsheel Guest House, Ulwe Node, Panvel, Kombadbhuje and Owale due to heavy vehicular movement during sampling period of July to December 2021. (Refer Table 5.7).

6.2.2 NMIA Pre- Development/Construction Phase Activities and impacts on Ambient Noise Levels:

Construction activities at NMIA during pre-development works which contribute to ambient noise include:

- demolition of hill and excavation of large quantity of material like murum and rock which is being utilized within site and balance taken to fill up nearby areas.
- Controlled blasting to demolish the hill

- Rehabilitation and re-settlement of nearly 3000 households in 7 villages within NMIA site is in progress and about 96 % works is completed. This activity results in generation of traffic
- Demolition of structures vacated results in noise generation
- Plying of trucks, dumpers, ripper dozer, excavators, wheel loaders etc. for handling and re-handling of excavated material handling of materials
- Operation of DG sets used for site offices

Currently, the site is levelled to + 5.5m AMSL. The hillock on the site is only partially cleared. Most of the villagers have been rehabilitated but about 89 PAP structures yet exist in Ganeshpuri village. The land for the project will be developed further by demolishing the hillock and raising the level to + 8.5m AMSL. This activity is expected to take place further for one more year, before actual construction work will start for the project. Thus, impacts on noise levels during the construction phase will be similar to the ones seen above.

6.2.3 Mitigation Measures Proposed:

Contractors engaged by NMIAL will take up following mitigation measures to ensure minimal impacts on ambient noise levels:

- Use of temporary screens of tin to create barriers against noise propagation in active construction areas.
- Workers working in high noise areas and on earth moving machineries are provided with earmuffs/ear plugs for their protection
- Trucks and construction machinery used on site to be well maintained to ensure low noise generation. Norms of Noise levels for Construction machinery as specified under EP Act should be strictly followed.
- High tech equipments are used for controlled (delayed) blasting with proper blast pattern along with cover on rock surface being excavated which will generate minimal noise.
- The blasting is being undertaken under guidance of Indian Institute of Technology (IIT) previously known as Indian School of Mines, Dhanbad) and M/s Deeptec who guide regarding appropriate operation control, blast design, quantity of explosives, blasting pattern, watering of blasting area, prevention of fly rock etc.
- construction activities are not be carried out nighttime hours
- construction machineries and DG sets used are provided with silencers
- DG sets used should conform to EP Act norms for air pollution and noise
- Before controlled blasting the nearby populace is informed, so that they can go to a safe place away from the project site

6.3 Soil

6.3.1 Observations from Data:

Land use at NMIA site prior to pre-development works included agriculture, vacant land and inter- tidal area (partially under mangrove cover). Soil is fertile and can support vegetation on the basis of studies during September and December 2021 (Refer Table 5.8 and 5.9).

6.3.2 NMIA Pre – Development Activities and impacts anticipated on soil:

Construction activities at NMIA during pre-development works include:

- demolition of hill which will generate of material like murum and rock which will be utilized within site and balance will be taken to fill up nearby areas
- Site level is currently low and will be being increased to + 8.5 m AMSL by using excavated material.

The soil will get affected by above activities.

6.3.3 Mitigation measure proposed:

Contractors engaged by NMIAL for pre-development works have been asked to take up following mitigation measures to ensure minimal impacts on land environment:

- removal of existing topsoil within site by excavating and storing the same for future use.
- Such excavated soil should be stored separately and used as final top layer after landfilling is completed-particularly in areas of proposed green belt development

6.4 Ground Water:

6.4.1 Observations from Data:

On the basis of studies ground water quality was poor and fails to meet IS 10500:2012 norms at number of locations. In the villages near site, Ground water table is high and mostly open dug wells are seen in rural areas (Refer Table 5.10 to 5.15).

6.4.2 NMIA Pre – Development/Construction Phase Activities & likely impacts on Ground Water Quality:

Construction activities at NMIA during pre-development works include:

- demolition of hill which will generate of material like murum and rock which will be utilized within site and balance will be taken to fill up nearby areas
- Site level is currently low and will be increased to +8.5m AMSL by using excavated material.

The ground water quality will get affected by above activities.

6.4.3 Mitigation Measures for Rehabilitated Settlements:

NMIAL needs to make adequate and clean piped water supply available for people to be accommodated in Rehabilitated settlements.

6.5 Marine Water:

6.5.1 Observations from Data:

On the basis of studies marine water quality was moderate, may be due to hindrances.

6.5.2 NMIA Pre- Development/Construction Phase Activities and likely impacts on Marine Water Quality:

Construction activities at NMIA during pre-development works include:

- demolition of hill which will generate of material like murum and rock which will be utilized within site and balance will be taken to fill up nearby areas.
- Site is currently levelled by CIDCO to + 5.5m AMSL and level will be increased to +8.5m AMSL by using excavated material.
- The area of the site is adjacent to Panvel creek which shows saline influence. Hence, utmost care has to be taken to ensure that marine water quality is not affected due to land development and construction activities at airport site

6.5.3 Mitigation Measures for protection of Marine Water Quality:

Mitigation measures proposed by NMIA during land development/construction phase are as follows:

- landfilling in areas inundated during high tide, should be done taking care that there is no disposal of debris in inter tidal area, nor any water way is obstructed
- for excavated areas and freshly filled up areas, proper garland drains leading to settlement basins followed by filter bunds are provided so that rainwater does not carryover the loose excavated material into marine areas.
- polyelectrolytes are used to help settle loose suspended material in the settlement basins.

Annexure-III

Environment & CRZ Clearance

Public Notice published in English & Marathi Newspapers on 10th Dec 2021

मे. नवी मुंबई इंटरनॅशनल एअरपोर्ट प्रायव्हेट लिमिटेड
पर्यावरण आणि CRZ मंजुरीबाबत

जाहीर सूचना

संबंधितांना कळविण्यात येते की मेसर्स नवी मुंबई आंतरराष्ट्रीय विमानतळ प्रा लि., टर्मिनल १ बी, सीएसएमआईए विमानतळ, सांताक्रूझ, मुंबई ४०००९९ येथील कार्यालयाला EC ओळख क्रमांक द्वारे "नवी मुंबई आंतरराष्ट्रीय विमानतळ (NMIA) पनवेल तहसील, रायगड येथे स्थापन करण्याच्या चालू प्रकल्पासाठी" पर्यावरण आणि तटीय नियमन क्षेत्र (CRZ) मंजुरी देण्यात आली आहे. नोटीस क्रमांक EC२१A०२९MH१८३०३६, फाइल. क्रमांक २१-६०/२०२१-IA-III दिनांक १ डिसेंबर २०२१ रोजी ही मंजुरी पर्यावरण, वन आणि हवामान बदल मंत्रालय, इंदिरा पर्यावरण भवन, जोर बाग रोड, नवी दिल्ली-११०००३ येथून देण्यात आली. पर्यावरणीय परिस्थिती आणि सुरक्षा उपायांसह वर नमूद केलेल्या मंजुरी पत्राची एक प्रत येथे प्रकाशित केली आहे आणि ती महाराष्ट्र प्रदूषण नियंत्रण मंडळाकडे उपलब्ध आहे. हे पर्यावरण वने आणि हवामान बदल मंत्रालयाच्या https://parivesh.nic.in या वेबसाइटवर देखील पाहता येईल.

F. क्रमांक 21-60/2021-IA-III

भारत सरकार, पर्यावरण, वन आणि हवामान बदल मंत्रालय (IA.III विभाग), इंदिरा परिवर्तन भवन, जोर बाग रोड, नवी दिल्ली-110003

दिनांक: 28 नोव्हेंबर 2021

प्रति, श्री चारुदत्त देशमुख, संयुक्त अध्यक्ष- नियोजन आणि डिझाइन, टर्मिनल 1/B. नवी मुंबई आंतरराष्ट्रीय विमानतळ लिमिटेड (NMIAL), टर्मिनल I B, CSI विमानतळ, सांताक्रूझ, मुंबई. 400099, महाराष्ट्र

विषय: मे. नवी मुंबई इंटरनॅशनल एअरपोर्ट लिमिटेड द्वारे पनवेल तहसील, रायगड जिल्ह्यात नवी मुंबई आंतरराष्ट्रीय विमानतळ (NMIA) स्थापन करण्यासाठी चालू असलेल्या प्रकल्पासाठी पर्यावरण आणि CRZ मंजुरी संबंधित.

यामध्ये पनवेल येथे नवी मुंबई आंतरराष्ट्रीय विमानतळ (NMIA) उभारण्यासाठी चालू असलेल्या प्रकल्पासाठी पर्यावरण आणि CRZ मंजुरीसाठी परवेश पोर्टलद्वारे २५ सप्टेंबर २०२१ रोजी प्राप्त झालेल्या तुमच्या अर्ज/प्रस्ताव क्रमांक IA/MH/MIS/154209/2020 चा संदर्भ आहे. मे. नवी मुंबई इंटरनॅशनल एअरपोर्ट लिमिटेड द्वारे तहसील, रायगड जिल्हा.

2. पर्यावरण प्रभाव मूल्यांकन (EIA) अधिसूचना, 2006 च्या तरतुदीनुसार; पर्यावरण (संरक्षण) कायदा, 1986 (1986 चा 29) अंतर्गत सुधारित आणि अधिसूचित केल्यानुसार, वरील-उल्लेखित प्रकल्प/क्रियाकलाप EIA अधिसूचनेच्या अनुसूचीच्या आयटम 7(a) 'विमानतळ' च्या श्रेणी 'A' अंतर्गत समाविष्ट आहे, 2006 आणि त्यानंतरच्या सुधारणा आणि सेक्टोरल EAC द्वारे केंद्रीय स्तरावर मूल्यांकन आवश्यक आहे.

3. त्यानुसार, 08 ऑक्टोबर 2021 रोजी झालेल्या 74व्या बैठकीत तज्ज्ञ मूल्यांकन समिती (इन्फ्रा-2) द्वारे पर्यावरण आणि CRZ मंजुरीसाठी वर नमूद केलेल्या प्रस्तावाची तपासणी करण्यात आली आहे.

4. प्रकल्पाचा तपशील, प्रकल्प प्रवर्तकाने सादर केलेला अर्ज आणि कागदपत्रे, तसेच EAC (इन्फ्रा-2) च्या वर नमूद केलेल्या बैठकीदरम्यान सूचित केल्यानुसार खालीलप्रमाणे आहेत:

i हा प्रकल्प वडघर (चिंचपाडा), कोपर, पारगाव (कोहली), पारगाव-डुंगी, ओवळे (वरचा आणि खालचा ओवळे+ वाघिवली वाडा), उलवे (उलवे - गणेशपुरी), तरघर (तरघर-कोंभडबुजे), वाघिवली-खार, तालुका पनवेल, रायगड जिल्हा, महाराष्ट्र येथे प्रस्तावित आहे.

ii प्रकल्पामध्ये ग्रीनफिल्ड विमानतळाचे बांधकाम आणि विकास यांचा समावेश आहे. नवी मुंबईची प्रवासी क्षमता 60 MPPA आणि कार्गो क्षमता 1.5 MTPA 1160 हेक्टर जागेवर आहे.

iii महाराष्ट्र सरकारने अधिसूचना क्रमांक TPS 1711/2495/CR-202/11/UD-12 दिनांक 21 मार्च 2012 द्वारे नवी मुंबई विकास आराखडा (NMDP) मध्ये "आंतरराष्ट्रीय विमानतळ आणि संबंधित उपक्रम/सेवा क्षेत्र" समाविष्ट केले आहे आणि बदलले आहे. आजूबाजूच्या परिसरात जमिनीचा वापर. मंजूर NMDP नुसार, 1160 हेक्टर क्षेत्र हे विमानतळ आणि संलग्न क्रियाकलाप/सेवा क्षेत्र म्हणून नियुक्त केले आहे.

iv 250.0635 हेक्टर जमिनीसाठी स्टेज-I आणि स्टेज-इल वन मंजुरी अनुक्रमे 17.12.2013 आणि 24.04.2017 च्या MoFF&CC पत्र क्रमांक 8-95/2012-FC वरून प्राप्त झाली आहे.

v यापूर्वी, प्रकल्पाला पर्यावरण आणि CRZ मंजूरी MoEF&CC द्वारे पत्र क्रमांक 10-53/2009-IA.III दिनांक 22.11.2010 द्वारे शहर आणि औद्योगिक विकास महामंडळाच्या नावाने मंजूर करण्यात आली होती. त्यानंतर, पर्यावरण आणि CRZ क्लिअरन्सची वैधता 21.11.2020 पर्यंत वाढवण्यात आली. दिनांक 20.12.2017. त्यानंतर, उपरोक्त पर्यावरण आणि CRZ सिडको कडून मेसर्स नवी मुंबई इंटरनॅशनल एअरपोर्ट लिमिटेड (NMIAL) च्या नावाने 17.08.2020 च्या पत्र क्रमांक 10-53/2009-IA-III द्वारे हस्तांतरित करण्यात आले. S.O द्वारे जारी केलेल्या EIA अधिसूचनेतील दुरुस्तीनुसार 221(E) दिनांक 18.01.2021 (COVID-19 च्या दृष्टीने), वरील EC 21.11.2021 पर्यंत वैध आहे.

vi स्थान, व्याप्ती, क्षेत्र किंवा क्षमतेमध्ये कोणताही बदल न करता त्याच प्रकल्पासाठी ताज्या पर्यावरण मंजुरीसाठी 29.10.2020 रोजी पत्र क्रमांक 10-53/2020-LA-III द्वारे ToR जारी करण्यात आला. विकसित करायच्या सुविधांच्या कॉन्फिगरेशनमध्ये काही अंतर्गत बदल होऊ शकतात. पूर्वीची पर्यावरणीय आणि CRZ मंजुरी, बांधकाम स्थिती/कामाची भौतिक प्रगती आणि स्थान, व्याप्ती, क्षेत्र किंवा क्षमतेत कोणताही बदल न करता, प्रकल्पाला EIA/EMP अहवाल तयार करण्यासाठी सार्वजनिक सुनावणीच्या आवश्यकतेपासून सूट देण्यात आली होती.

vii बेसलाइन डेटा 1 डिसेंबर 2019 ते 29 फेब्रुवारी 2020 (हिवाळी हंगाम) दरम्यान गोळा केला गेला आहे.

viii प्रकल्पाला पर्यावरण आणि हवामान बदल विभाग, सरकारकडून CRZ शिफारस प्राप्त झाली आहे. महाराष्ट्राचे पत्र क्रमांक CRZ 2021/CR 156/TC 4 दिनांक 27.09.2021 द्वारे.

ix MoEF&CC एकात्मिक प्रादेशिक कार्यालय, नागपूर कडून प्रमाणित अनुपालन अहवाल पत्र क्रमांक 6 22/2010(ENV)/7994 दिनांक 31.03.2021 द्वारे प्राप्त करण्यात आला आहे ज्यासाठी उपस्थित केलेल्या निरिक्षणांवर कारवाईचा अहवाल सादर केला गेला आहे.

x पॅसेंजर टर्मिनल १-३, एअरसाईड डेव्हलपमेंट (हँगर्स, एटीसी टॉवर, जीएसई मेंटेनन्स बिल्डिंग, हेलीपोर्ट टर्मिनल, एआरएफएफ इ.), कार्गो कॉम्प्लेक्स, युटिलिटी एरिया, सपोर्ट सुविधा यासह प्रकल्पाची एकूण बिल्ट-अप एरिया १४,१३,०६९.१७ चौ.मी. (CISF बॅरॅक्स, आरक्षित घरे, फ्लाइट किचन, प्रशासकीय इमारती, देखभाल इमारती, कस्टम इमारत, अलग ठेवण्याचे क्षेत्र इ.) आणि लँडसाइड डेव्हलपमेंट (टर्मिनल हॉटेल, बस/मेट्रो/टॅक्सी टर्मिनल, पार्किंग, मेट्रो स्टेशन इ.), धावपट्टीचे परिमाण: 3700 m X60 m 1580 m ने विभक्त केलेले (दोन कोड 'F' समांतर धावपट्टीचा विकास).

xi प्रकल्पाची पूर्व-विकास कामे एप्रिल 2017 मध्ये सुरू झाली ज्यामध्ये 5.5 मीटर AMSL पर्यंतच्या जागेत कटिंग आणि भरणे समाविष्ट होते आणि ते पूर्ण झाले आहे. उलवे नदीच्या वळणासाठी उलवे रिकोर्स चॅनल (URC) चे बांधकाम जून 2019 मध्ये पूर्ण झाले आहे. EHVT लाईन्सचे स्थलांतर पूर्णत्वाकडे आहे. विद्यमान EC नुसार पूर्ण / चालू असलेल्या कामांची स्थिती खालीलप्रमाणे दिली आहे:

अनुक्र	कामे	स्थिती
1	उलवे टेकडीचे कटिंग आणि विमानतळाची जागा भरणे.	पूर्ण, +5.5 मीटर एएमएसएल पर्यंत
2	उलवे रिकोर्स चॅनेलचे डिझाइन आणि बांधकाम	पूर्ण झाले
3	विद्यमान उलवे नदीचे वळण व भराव	पूर्ण झाले
4	विमानतळ जोडणीसाठी रस्त्यांचे बांधकाम आणि रुंदीकरण	पूर्ण झाले- NH 4B पूर्ण - अमरा मार्ग इंटरचेंज - प्रगतीपथावर आहे उलवे कोस्टल रोड – प्रगतीपथावर आहे
5	नॉर्दर्न चॅनल डिझाइनचे डिझाइन आणि बांधकाम	प्रगतीपथावर आहे
6	वृक्षतोड आणि प्रत्यारोपण	प्रगतीपथावर आहे एकूण 9492 झाडांपैकी 9053 झाडे तोडण्यात आली आहेत. पुनर्रोपण करायच्या एकूण 3319 झाडांपैकी 1493 झाडांचे सिडकोने पुनर्रोपण केले आहे.
7	तपशीलवार वाहतूक व्यवस्थापन आराखडा आणि विमानतळ कनेक्टिव्हिटीमध्ये सुधारणा आणि सार्वजनिक वाहतूक	प्रगतीपथावर आहे अंमलबजावणी अंतर्गत प्रकल्प, नवीन विमानतळ कनेक्टिव्हिटी प्रकल्प प्रस्तावित
8	खारफुटी उद्यानाचा विकास आणि वृक्षारोपण आणि खारफुटीचे संरक्षण	खारफुटीची लागवड 400 हेक्टर मध्ये पूर्ण. वाघिवली बेटातील सिडको + 250 हेक्टर खारफुटीची देखभाल FDCM द्वारे केली जाईल
9	EHVT लाईन्स/युटिलिटीजचे स्थलांतर	टाटा EHVT लाईन्स/युटिलिटीजचे स्थलांतर पूर्ण झाले. MSETCL EHVT लाइन्स- प्रगतीपथावर आहेत

xii उर्वरित विमानतळ विकास कामांमध्ये जागेवरील टेकडी कापण्यासाठी जमीन विकासाचा समावेश आहे आणि पुढे + 8.0 मीटर ते + 9.5 मीटर एएमएसएल पर्यंत जागा भरणे आणि समतल करणे; 1160 हेक्टर जागेत, विमानतळाच्या एअरसाइड, टर्मिनल्स, लँडसाइड, कार्गो आणि युटिलिटी इन्फ्रास्ट्रक्चरसह संपूर्ण विमानतळ पायाभूत सुविधांचे बांधकाम आणि विकास. खालीलप्रमाणे चार टप्प्यात विमानतळ विकासाची अंमलबजावणी प्रस्तावित आहे.

टर्मिनल	टप्पा	वर्षाचे कमिशनिंग	क्षमता (MPPA)	संचयी क्षमता (MPPA)
T1	टप्पा I	2024 डिसेंबर	10	20
	टप्पा II		10	
T2	टप्पा III	2028	20	40
T3	अंतिम टप्पा IV	2032	20	60

xiii अंतिम टप्प्यातील एकूण पाण्याची मागणी 21.82 MLD आहे, त्यापैकी 10.61 MLD गोड्या पाण्याची मागणी सिडकोकडून केली जाईल आणि उर्वरित 11.21 MLD हे ऑन-साइट STP मधून पाण्याचा पुनर्वापर केला जाईल. STP मधील संपूर्ण प्रक्रिया केलेले पाणी पुनर्वापर केले जाईल आणि प्रकल्पाच्या ठिकाणी फ्लशिंग, कूलिंग आणि बागकामासाठी वापरले जाईल. सीवेज ट्रीटमेंट प्लांट (STP) हे सांडपाण्याच्या भारावर आधारित मॉड्यूलर असतील आणि आवश्यकतेनुसार प्रत्येक टप्प्यात वाढवले जातील. 60 MPPA (अंतिम टप्पा) साठी, एकूण 14.25 MLD क्षमतेचे तीन STP नियोजित आहेत (11 MLD पश्चिमेला, 2.5 MLD पूर्वेला आणि 0.75 MLD उत्तरेस).

xiv फेज-1 मध्ये विमानतळासाठी घनकचरा निर्मिती फेज-2 मध्ये 17 TPD वाढून 29 TPD, फेज-III मध्ये 50 TPD आणि शेवटी टप्पा-IV मध्ये 72 TPD होईल. ऑपरेशन टप्प्यात निर्माण होणारा घनकचरा संबंधित नियमांनुसार एकात्मिक पद्धतीचा विचार करून शास्त्रीय पद्धतीने गोळा, विलगीकरण, साठवणूक, प्रक्रिया आणि विल्हेवाट लावली जाईल. बायो-डिग्रेडेबलवर जैव कंपोस्टिंग प्रक्रियेद्वारे प्रक्रिया केली जाईल आणि खताचा वापर बागायतीसाठी केला जाईल. STPs मधून निर्माण होणारा सांडपाण्याचा गाळ वाळवला जाईल आणि फळबागांसाठी खत म्हणून वापरला जाईल. पुनर्वापर करण्यायोग्य कचऱ्याची अधिकृत पुनर्वापर करणाऱ्यांमार्फत विल्हेवाट लावली जाईल. एमपीसीबीने मंजूर केलेल्या अधिकृत पुनर्वापराद्वारे ई-कचरा स्वतंत्रपणे साठवला जाईल आणि त्याची विल्हेवाट लावली जाईल. घातक कचरा पुरेशा दुय्यम कंटेनमेंट आणि लेबलिंगसह सुरक्षित ठिकाणी साठवला जाईल आणि धोकादायक कचरा व्यवस्थापन नियमांच्या आवश्यकतेनुसार त्याची विल्हेवाट लावली जाईल.

xv विमान उतरवलेल्या कचऱ्यामध्ये स्वच्छतागृहांमध्ये निर्माण होणाऱ्या स्वच्छताविषयक कचऱ्याचा समावेश होतो आणि गॅलीतील कचऱ्यामध्ये विमानातील कॅटरिंग आणि इतर सेवांमधून निर्माण होणारा कचरा समाविष्ट असतो. स्वच्छताविषयक कचरा लॅव्हेटरी ट्रकद्वारे गोळा केला जाईल आणि प्राथमिक उपचार म्हणून विमानतळावर प्रस्तावित ट्रिट्युरेटर सुविधेमध्ये उपचार केला जाईल आणि दुय्यम आणि तृतीयक उपचारांसाठी एसटीपीमध्ये पंप केला जाईल. गॅलीतील कचरा विमानातून गोळा केला जाईल आणि बायो-डिग्रेडेबल आणि नॉन-बायोडिग्रेडेबल कचरा म्हणून वेगळे केले जाईल. विलगीकरणानंतर, विमानतळावर व्यवस्थापन केलेल्या महापालिकेच्या घनकचऱ्यासह त्यावर प्रक्रिया केली जाईल.

xvi फेज-I मधील विमानतळासाठी अपेक्षित उर्जेची आवश्यकता 27 MVA फेज-II मध्ये 36 MVA, फेज-III मध्ये 69 MVA आणि फेज-IV मध्ये 96 MVA इतकी आहे. वीज पुरवठ्याची गरज महाराष्ट्र राज्य विद्युत वितरण कंपनी लिमिटेड (MSEDCL) मार्फत पूर्ण केली जाईल. अंतिम टप्प्यात एकूण अंदाजे डीजी पॉवरची आवश्यकता 35.0 MVA असेल (सर्व प्रस्तावित टर्मिनल लोड्सवर डीसी क्षमता म्हणून 60% विविधता लक्षात घेऊन). उर्जेची आवश्यकता पूर्ण करण्यासाठी एकत्रित फेज I आणि II पॉवर बॅक-अप मागणी सुमारे 12 MVA आहे. वीज बिघाड झाल्यास, जे नंतर टप्प्याटप्प्याने वाढविले जाईल.

xvii विमानतळ इमारतींच्या कनेक्टेड लोडच्या एकूण पीक पॉवरच्या मागणीपैकी 23% पेक्षा जास्त वीज सौर ऊर्जा प्रणालींमधून मिळवण्याची योजना आहे. अंतिम टप्प्यातील सौरऊर्जा निर्मिती क्षमता 22. 14 मेगावॅट प्रस्तावित आहे. सौर पॅनेल/फोटो-व्होल्टेइक सेल टर्मिनलच्या छतावर आणि जमिनीवर बसवले जातील आणि उत्तर आणि दक्षिण धावपट्टीच्या समांतर नियुक्त केलेल्या ठिकाणी बसवले जातील.

xviii एकूण ग्रीन स्पेस क्षेत्र प्रस्तावित आहे 384.90 हे. (म्हणजे, 1160 हेक्टरच्या विमानतळाच्या जागेच्या 33.18% क्षेत्रफळ), एनएमआयएच्या हवेच्या बाजूला आणि लँडसाइडवरील हिरव्या/मोकळ्या जागांसह. एकूण 9492 झाडांपैकी 9053 झाडांची छाटणी पूर्ण झाली असून 3319 पैकी 1493 झाडांचे पुनर्रोपण वृक्ष प्राधिकरणाच्या परवानगीने करण्यात आले आहे. महाराष्ट्रातील रायगड जिल्ह्यातील जिते गावाजवळ वनविभागाने दिलेल्या जमिनीवर प्रकल्पाच्या बाहेरील 50.620 हेक्टर जमिनीवर सुमारे 14,000 वृक्षांची ऑफ-साइट वृक्षारोपण प्रस्तावित आहे.

xix मुख्य नाल्याच्या संरेखन मार्गावर 11,899 चौ.मी.सह रेन वॉटर हार्वेस्टिंग तलाव प्रस्तावित आहे. क्षेत्रफळ आणि 29,747 सह क्षमता. तलावामध्ये खारे पाणी शिरण्यापासून रोखण्यासाठी तलावाच्या बाहेरील ठिकाणी विअर प्रस्तावित आहे. साठवलेल्या पाण्याचा वापर लँडस्केप सिंचनासाठी केला जाईल.

xx प्रकल्प गंभीर प्रदूषित क्षेत्रात स्थित नाही.

xx NBWL क्लिअरन्स आवश्यक नाही.

xxii 2019 ची जनहित याचिका क्रमांक 57 मुंबई येथील माननीय उच्च न्यायालयासमोर प्रकल्पासंदर्भात प्रलंबित आहे. तथापि, ते अद्याप प्रवेश करणे बाकी आहे आणि अद्याप कोणतेही आदेश पारित केलेले नाहीत.

xxiii टप्पा I आणि I एकत्र/संयुक्त (20 MPPA क्षमतेसाठी) पूर्ण होण्याची अंदाजे टाइमलाइन डिसेंबर 2024 आहे. त्यानंतर, 2028 आणि 2032 मध्ये अनुक्रमे ट्रॅफिक ट्रिगरवर आधारित फेज- इल आणि अंतिम/ फेज-IV सुरू होतील.

xxiv गुंतवणूक/खर्च. प्रकल्पाचा अंदाजे रु. 41,302 कोटी (सर्व चार टप्प्यांसाठी).

xxv रोजगार क्षमता: तात्पुरती - 15,000 (अंदाजे), कायमस्वरूपी 90,000 (अंदाजे).

xxvi प्रकल्पाचे फायदे: प्रकल्पाच्या अंमलबजावणीतून कल्पना केलेल्या सामाजिक फायद्यांमध्ये इतर गोष्टींचा समावेश असेल; नवी मुंबई आणि एमएमआर विभागातील सेवा न मिळालेल्या लोकसंख्येसाठी पर्यायी हवाई वाहतूक सुविधेची उपलब्धता; नवी मुंबई आणि एमएमआर विभागातील लोकांसाठी व्यवसाय आणि रोजगाराच्या सामाजिक-आर्थिक संधी; नवी मुंबईत विमान वाहतूक संबंधित संस्थांच्या वाढीमुळे कौशल्य विकास आणि तांत्रिक कौशल्य वाढवण्याच्या शक्यता इ. ; प्रत्यक्ष आणि अप्रत्यक्ष मुळे स्थानिक अर्थव्यवस्थेला चालना. विमान वाहतूक आणि संबंधित व्यवसायावर होणारा परिणाम, एनएमआयए विकासामुळे इतर पक्षांकडून प्रस्तावित विमानतळाभोवती मोठी गुंतवणूक. पर्यावरणीय फायद्यांमध्ये मुंबई शहरातील गर्दी कमी करणे, NMIA मध्ये आणि आसपासच्या पर्यावरणास अनुकूल आणि टिकाऊ पायाभूत सुविधांची निर्मिती जसे की मेट्रो, नवीन STP, मोठी बाग आणि उद्याने आणि CSMIA च्या सभोवतालची पर्यावरणीय स्थिती सुधारणे, नियोजित ड्रेनेज, गर्दी कमी करणे आणि पर्यावरणीय परिस्थिती वाढवणे यांचा समावेश असेल.

5. EAC (इन्फ्रा 2), प्रकल्प प्रस्तावकांनी प्रदान केलेली माहिती आणि स्पष्टीकरण आणि मुद्द्यांवर झालेल्या तपशीलवार चर्चेच्या आधारे, प्रकल्पाला पर्यावरणीय मंजुरी देण्याची शिफारस केली आहे. EAC (इन्फ्रा-2) ची उपरोक्त शिफारस काही विशिष्ट अटींच्या अधीन आहे, जी 08 ऑक्टोबर 2021 रोजी झालेल्या 74 व्या बैठकीमध्ये नमूद केली आहे.

6. AC (इन्फ्रा-2) आणि CRZ च्या शिफारशींवर आधारित, पर्यावरण आणि हवामान बदल विभाग, सरकार. महाराष्ट्राचे पत्र क्रमांक CRZ 2021/CR 156/TC4 दिनांक 27.09.2021 द्वारे, पर्यावरण, वन आणि हवामान बदल मंत्रालयाने येथे नवी मुंबई आंतरराष्ट्रीय विमानतळ (NMIA) स्थापन करण्यासाठी चालू असलेल्या प्रकल्पाला पर्यावरण आणि CRZ मंजुरी दिली आहे. पनवेल तहसील, रायगड जिल्हा' मेसर्स नवी मुंबई इंटरनॅशनल एअरपोर्ट लिमिटेड द्वारे, EIA अधिसूचना, 2006 आणि त्यानंतरच्या सुधारणा आणि कोस्टल रेग्युलेशन झोन अधिसूचना, 2011 आणि त्यानंतरच्या सुधारणांच्या तरतुदींनुसार आणि खालील विशिष्ट आणि मानक अटींच्या अधीन राहून:

अ. विशिष्ट अटी:

i दिनांक 22.11.2010 रोजीच्या पत्र क्रमांक 10-53/2009-IA.III द्वारे जारी केलेल्या पर्यावरण आणि CRZ क्लिअरन्समध्ये निर्दिष्ट केलेल्या अटींचे काटेकोरपणे पालन केले जाईल.

ii पीपी यांनी 6 महिन्यांच्या आत प्रलंबित अनुपालनासाठी IRO-MOEF & CC, नागपूर यांना अनुपालन अहवाल सादर करावा.

iii जेथे बांधकाम क्रियाकलापांमुळे जवळपासच्या रहिवाशांना आवाजाचा उपद्रव होण्याची शक्यता आहे, तेथे सकाळी 7 ते संध्याकाळी 6 दरम्यान कामकाजाचे तास मर्यादित करणे.

iv प्रकल्पासाठी धोक्याची ओळख आणि जोखीम मूल्यांकन केले जाईल आणि सुरक्षिततेच्या सर्व समस्यांचे निराकरण केले जाईल याची खात्री करण्यासाठी पुरेसे शमन उपाय अवलंबले जातील. कागदपत्रांचे वेळोवेळी पुनरावलोकन केले जाईल आणि सहा-मासिक अनुपालन अहवालासह प्रादेशिक कार्यालयास सादर केले जाईल.

v प्रकल्पाच्या 05किलोमीटरच्या परिघात असलेल्या रस्त्यांच्या सेवेची सध्याची पातळी राखली जाईल आणि प्रकल्पाच्या अंमलबजावणीनंतर त्यात सुधारणा होईल याची खात्री करण्यासाठी तपशीलवार वाहतूक व्यवस्थापन आणि वाहतूक कोंडी कमी करण्याचा आराखडा तयार केला जाईल. हा आराखडा सर्व विकास आणि वाढीव वस्तीच्या एकत्रित परिणामांवर आधारित असावा किंवा प्रकल्प किंवा इतर एजन्सीद्वारे या जागेच्या 05 किमी त्रिज्येमध्ये जागा आणि वेळेच्या वेगवेगळ्या परिस्थितींमध्ये प्रस्तावित केले जावे आणि वाहतूक व्यवस्थापन योजना राज्याच्या नागरी विकास विभाग आणि बांधकाम विभाग/सक्षम प्राधिकाऱ्यांकडून रस्ते संवर्धनासाठी रीतसर वैध आणि प्रमाणित केले जातील आणि या विभागांचा सहभाग असलेल्या योजनेतील घटकांच्या अंमलबजावणीसाठी त्यांची संमती देखील असेल.

vi 22.14 मेगावॅटची सौर ऊर्जा निर्मिती क्षमता प्रस्तावित केल्याप्रमाणे स्थापित केली जाईल.

vii 29,747 कम क्षमतेचे रेन वॉटर हार्वेस्टिंग तलाव प्रस्तावित केला जाईल. रेन वॉटर हार्वेस्टिंग स्ट्रक्चर्स CGWA डिझाइन्सला अनुरूप असतील. पृष्ठभाग रन ऑफ रिचार्ज करण्यापूर्वी, निलंबित पदार्थ, तेल आणि वंगण काढून टाकण्यासाठी पूर्व-उपचार करणे आवश्यक आहे.

viii महानगरपालिका घनकचरा हाताळणाऱ्या सक्षम प्राधिकारी/एजन्सीकडून प्रमाणपत्र प्राप्त केले पाहिजे, ज्यामध्ये हाताळणीची विद्यमान नागरी क्षमता आणि प्रकल्पातून निर्माण होणाऱ्या एमएसडब्ल्यूची पूर्तता करण्यासाठी त्यांची पर्याप्तता दर्शविली पाहिजे.

ix अंतिम ऑपरेशनल टप्प्यात स्थानिक प्राधिकरणाकडून ताज्या पाण्याची आवश्यकता 10.61 MLD पेक्षा जास्त नसावी. वचनबद्धतेनुसार, प्रकल्पाच्या बांधकामादरम्यान तसेच ऑपरेशनच्या टप्प्यात भूजलाचे कोणतेही संक्षेपण केले जाणार नाही.

x प्रस्तावित केल्याप्रमाणे, एकूण 14.25 एमएलडी क्षमतेच्या (अंतिम टप्प्यात) सांडपाण्यावर ऑनसाइट एसटीपीएसमध्ये प्रक्रिया केली जाईल. एसटीपी मधून प्रक्रिया केलेले पाणी पुनर्वापर केले जाईल आणि बागकाम, फ्लशिंग इत्यादीसाठी पुन्हा वापरले जाईल. प्रस्तावित केल्यानुसार प्रकल्पातून प्रक्रिया केलेले पाणी सोडले जाणार नाही.

xi प्रक्रिया केलेल्या पाण्याची गुणवत्ता आणि प्रमाण आणि पुनर्वापर, उपचार प्रणालीची कार्यक्षमता, फ्लशिंगसाठी पुरवल्या जाणाऱ्या उपचारित पाण्याची गुणवत्ता (विशेषतः जिवाणूंची संख्या), तुलनात्मक बॅक्टेरियोलॉजिकल यासंबंधीच्या अटींच्या अंमलबजावणीवर पुनर्नवीनीकरण केलेले प्रक्रिया केलेले पाणी आणि ताजे पाणी फ्लशिंगसाठी वापरून टॉयलेट सीट आणि टॉयलेट सीलला जोडलेल्या फवारणी नळ्यांद्वारे पुरवल्या जाणाऱ्या पाण्याच्या गुणवत्तेचा अभ्यास करणारे तृतीय-पक्ष प्रकल्पाचे समर्थक नियुक्त करतील.

xii प्रकल्प दस्तऐवजात प्रदान केलेल्या तपशिलानुसार हिरवळीचे क्षेत्रफळ प्रदान केले जाईल म्हणजे सुमारे 384.90 हेक्टर हरित क्षेत्र म्हणून विकसित केले जाईल.

xiii पीपी हे देखील एअर कंडिशनिंग सिस्टममध्ये नॉन-ओझोन कमी करणाऱ्या पदार्थांच्या वापराचा शोध घेतील.

xiv पीपी ई-वाहनांसाठी पार्किंग भागात इलेक्ट्रिक चार्जिंग पॉइंट देखील प्रदान करतील.

xv नवी मुंबई आंतरराष्ट्रीय विमानतळाचे प्रस्तावित चालू असलेले काम सीआरझेड अधिसूचना, 2011 मधील तरतुदींनुसार वेळोवेळी सुधारणा केल्यानुसार आणि किनारी पर्यावरणाचे संरक्षण आणि संवर्धन करण्याच्या वचनबद्धतेनुसार काटेकोरपणे पार पाडले जावे.

xvi एनएमआयए (NMIA) स्थळ, व्याप्ती, क्षेत्र किंवा क्षमता बदलल्याशिवाय शिल्लक काम करेल.

xvii प्रकल्पाचे चालू काम करण्यासाठी कोणत्याही खारफुटीचा नाश करण्याची परवानगी नाही. जनहित याचिका 87/2006 मधील 23 ऑक्टोबर 2013 रोजी माननीय उच्च न्यायालयाच्या आदेशाचे उल्लंघन होणार नाही.

xviii उलवे व गढी नदीच्या वळणाचे काम पूर्ण झाले आहे. पनवेल खाडी किनाऱ्यावरील उलवे आणि गढी प्रवाहांच्या वळवण्याचा परिणाम, तेथील किनारी पर्यावरण आणि आजूबाजूचा परिसर/वस्ती/वस्ती/सामाजिक आर्थिक नमुना समजून घेण्यासाठी एनएमआयए (NMIA) हायड्रॉलिक प्रवाह परिस्थितीशी संबंधित अभ्यास करेल. हायड्रॉलिक अभ्यासात प्रस्तावित विमानतळाच्या जागेवर आणि आजूबाजूच्या परिसरावर हवामान बदल आणि समुद्र पातळी वाढीचे अपेक्षित परिणाम विचारात घेतले जातील. सखल भागात संभाव्य पूर परिस्थितीचा अंदाज लावण्यासाठी आणि त्यानुसार संभाव्य शमन उपायांची अंमलबजावणी करण्याच्या उद्देशाने हायड्रॉलिक अभ्यास करणे आवश्यक आहे.

xix NMIA प्रकल्पाच्या बांधकामादरम्यान आणि बांधकामानंतर पनवेल खाडीच्या सागरी पाण्याच्या गुणवत्तेचे नियमितपणे निरीक्षण करेल.

xx NMAI खात्री करेल की सर्व ग्राउंड सर्व्हिस वाहने इलेक्ट्रिक किंवा सीएनजी वर चालवली जातील. विमानतळ परिसरात पेट्रोल/डिझेल वाहनांना परवानगी दिली जाणार नाही.

xxi सिडकोने ओळखलेल्या जागेवर खारफुटी पार्क खारफुटी कक्षाशी सल्लामसलत करून विकसित केले जाईल.

xxii एनएमआयए पर्यावरण उपाययोजना जसे की रेनवॉटर हार्वेस्टींग, सौर प्रकाश, कार्यक्षम घन आणि घातक कचरा व्यवस्थापन लागू करेल. NMIA प्रकल्पाचे बांधकाम आणि ऑपरेशन दरम्यान शून्य द्रव डिस्चार्ज सुनिश्चित करेल.

xxiii NMIA बांधकाम दरम्यान, प्रकल्प साइटच्या उत्तर सीमेबाहेर उपस्थित असलेल्या पनवेल खाडीलगत असलेल्या खारफुटी/ मडफ्लॅट्सचा समावेश असलेल्या किनारपट्टीच्या पर्यावरणाला बाधा आणणार नाही.

xxiv NMIA ने स्थानिक मासेमारीवर अवलंबून असलेल्या लोकांच्या मासेमारी आणि उपजीविकेवर होणाऱ्या परिणामांचा तपशीलवार अभ्यास केला पाहिजे आणि प्रकल्पामुळे प्रत्यक्ष किंवा अप्रत्यक्षरित्या प्रभावित होणाऱ्या पारंपारिक मच्छीमार लोकांचे जीवनमान टिकवून ठेवण्यासाठी प्रयत्न करावे लागतील.

xxv पुरेशी रुंदी आणि घनता प्रकल्प साइटच्या परिघासह स्थानिक प्रजाती चा हरित पट्टा क्षेत्र (एकूण प्रकल्प क्षेत्राच्या 33%) विकसित केली जाईल जेणेकरून धुळीकण आणि आवाजापासून संरक्षण मिळू शकेल.

xxvi एनएमआयए पर्यावरण व्यवस्थापन योजनेच्या प्रभावी अंमलबजावणीसाठी संबंधित तज्ञांचा समावेश असलेला पूर्ण-स्तरीय इनहाउस एनव्हायर्नमेंट मॅनेजमेंट सेल स्थापन करेल. EM सेल सागरी पाण्याच्या गुणवत्तेचे निरीक्षण, पनवेल खाडीसह किनाऱ्याची धूप/वृद्धि स्थिती, उलवे आणि गढी प्रवाह वळवल्यामुळे भरती-ओहोटीच्या नमुन्यांचे निरीक्षण, खारफुटी उद्यानाचा विकास इ. आणि सामाजिक-आर्थिक अभ्यास तसेच आपत्ती व्यवस्थापन योजना यांच्या शिफारशींची अंमलबजावणी करेल.

xxvii NMAI/CIDCO यांनी विमानतळाच्या आसपासच्या जैवविविधतेच्या संरक्षण/संवर्धनासंदर्भात BNHS वरील अहवालाच्या शिफारशींची अंमलबजावणी करणे.

xxviii प्रकल्पातील पर्यावरणीय आणि सीआरझेड मंजुरी प्रामुख्याने ईआयए अधिसूचना, 2006 आणि सीआरझे अधिसूचना, 2011 च्या तरतुदींखाली आहे. प्रकल्प प्रस्तावक प्रकल्पाला लागू असलेल्या इतर कोणत्याही अधिनियम/नियम किंवा कायद्यांतर्गत मंजूरी/निपटारा मिळवण्यासाठी बांधील आहे.

ब. मानक अटी:

I. वैधानिक अनुपालन:

i प्रकल्प प्रस्तावकांना वन (संवर्धन) अधिनियम, 1980 च्या तरतुदींनुसार, प्रकल्पात समाविष्ट असलेल्या गैर-वने हेतूसाठी वनजमीन वळवण्याच्या बाबतीत वन मंजुरी मिळेल.

ii प्रकल्प प्रस्तावक लागू असल्यास, राष्ट्रीय वन्यजीव मंडळाकडून मंजुरी प्राप्त करेल.

iii प्रकल्प प्रस्तावक स्थळ विशिष्ट संवर्धन आराखडा आणि वन्यजीव व्यवस्थापन आराखडा तयार करेल आणि मुख्य वन्यजीव वॉर्डन कडून मंजूर करुन घेईल. मंजूर स्थळ-विशिष्ट संरक्षण योजना/वन्यजीव व्यवस्थापन योजनेच्या शिफारशी राज्य वन विभागाशी सल्लामसलत करून अंमलात आणल्या जातील. अंमलबजावणी अहवाल सहा मासिक अनुपालन अहवालासह सादर केला जाईल (अभ्यास क्षेत्रात अनुसूची-I प्रजातींची उपस्थिती असल्यास).

iv प्रकल्प प्रस्तावकाने संबंधित राज्य प्रदूषण नियंत्रण मंडळ/समितीकडून हवा (प्रतिबंध आणि प्रदूषण नियंत्रण) अधिनियम, 1981 आणि जल (प्रदूषण प्रतिबंध आणि नियंत्रण) अधिनियम, 1974 च्या तरतुदींनुसार स्थापन/संचालन करणेसाठी संमती प्राप्त केली पाहिजे.

v प्रकल्प प्रस्तावक पृष्ठभागातील पाणी उपसण्याच्या बाबतीत केंद्रीय भूजल प्राधिकरणाकडून प्रकल्पासाठी आवश्यक भूजल उपसा झाल्यास सक्षम प्राधिकरणाकडून आवश्यक परवानगी घेईल.

vi सुरक्षितता आणि प्रकल्प सुविधांसाठी नागरी विमान वाहतूक महासंचालनालय (DGCA) आणि भारतीय विमानतळ प्राधिकरण (AAI) कडून मंजुरी मिळवली जाईल.

vii प्रकल्पाला वीज पुरवठा करणाऱ्या एजन्सीकडून उपलब्ध विजेच्या पुरेशातेचे प्रमाणपत्र आणि प्रकल्पासाठी अनुमती असलेल्या लोडसह प्राप्त करणे आवश्यक आहे.

viii इतर सर्व वैधानिक मंजुऱ्या जसे की मुख्य स्फोटक नियंत्रक, अग्निशमन विभाग, नागरी विमान वाहतूक विभाग यांच्याकडून डिझेलच्या साठवणुकीसाठी मंजूरी, संबंधित सक्षम प्राधिकरणांकडून प्रकल्प प्रवर्तकांद्वारे लागू असेल त्याप्रमाणे प्राप्त केल्या जातील.

I. हवेच्या गुणवत्तेचे निरीक्षण आणि संरक्षण:

i प्रकल्प प्रस्तावक अपवाइंड आणि डाउन वाइंड दिशांना आच्छादित करणाऱ्या विमानतळ क्षेत्राच्या आत आणि बाहेर किमान चार ठिकाणी (प्रत्येकी 120 च्या कोनात एक वनस्पती क्षेत्राच्या आत आणि तीन बाहेर) सोडलेल्या मुख्य प्रदूषक (उदा, PM_{10} आणि PM उत्सर्जन संदर्भात $PM_{2.5}$ आणि SO_2 आणि SO_2 आणि NO_x उत्सर्जन संदर्भांत SO_2 आणि NO_x) संबंधित सामान्य/निकष प्रमापकांसाठी वातावरणीय हवेच्या गुणवत्तेचे निरीक्षण करण्यासाठी प्रणाली स्थापित करेल.

ii बॅकअप पॉवरचा स्रोत म्हणून प्रस्तावित असलेले डिझेल पॉवर जनरेटिंग सेट्स संलग्न प्रकारचे असावेत आणि पर्यावरण (संरक्षण) कायदा १९८६ च्या अंतर्गत बनवलेल्या नियमांचे पालन करावे. डीजी संचांच्या ढीगाची उंची सर्व प्रस्तावित डीजी संचांच्या एकत्रित क्षमतेसाठी आवश्यक असलेल्या उंचीइतकी असावी. कमी सल्फर डिझेलचा वापर. राज्य प्रदूषण नियंत्रण मंडळाशी सल्लामसलत करून डीजी संचांची जागा निश्चित केली जाऊ शकते.

iii माती आणि इतर बांधकाम साहित्य कोणत्याही लोडिंग, अनलोडिंग किंवा ट्रान्सफर कामापूर्वी पाण्याने फवारले पाहिजे जेणेकरुन धूळयुक्त सामग्री ओली राहील.

iv उत्खनन कार्य क्षेत्रकामानंतर पाण्याने फवारणी करावी जेणेकरून संपूर्ण पृष्ठभाग ओला राहावा.

v उत्खनन केलेले साहित्य वायू प्रदूषणाची समस्या उद्भवणार नाही अशा पद्धतीने हाताळले आणि वाहून नेले पाहिजे.

v वाहनाने वाहून नेले जाणारे माती/बांधकाम साहित्य वाहनातून धुळीची गळती होणार नाही याची खात्री करण्यासाठी अभेद्य चादरीने झाकलेले असावे.

II. पाण्याच्या गुणवत्तेचे निरीक्षण आणि संरक्षण:

i विमानाच्या देखभालीतील रसायने आणि इतर दूषित पदार्थांपासून दूर राहणे आणि विमानतळाच्या अंतर्गत इतर भागांमध्ये विल्हेवाट लावण्यापूर्वी योग्यरित्या समाविष्ट आणि उपचार केले जावेत. राज्य प्रदूषण नियंत्रण मंडळाच्या समाधानासाठी गळती आणि दूषित प्रतिबंधक योजना तयार केली जाईल आणि त्याची अंमलबजावणी केली जाईल.

ii योग्य ड्रेनेज सिस्टीम, पावसाळ्यात मोठी गळती झाल्यास आपत्कालीन प्रतिबंध इत्यादी पुरविल्या जातील.

iii रनवे, टॅक्सीवे यांसारख्या पक्क्या संरचनामधून वाहून जाणारे पाणी पावसाचे पाणी साठवण्याच्या संरचनेमध्ये सोडण्यापूर्वी ऑइल सेपरेशन टाक्या आणि सेडिमेंटेशन बेसिनच्या नाल्यांमधून सोडले जाऊ शकते.

Continued on next page

या अभिनेत्रींचीसुध्दा कमाई आहे पतीपेक्षा जास्त

बॉलिवूडमध्ये अशा अनेक अभिनेत्री आहेत ज्या एखाद्या अभिनेत्याइतकं मानधन घेतात. इतकंच नव्हे तर या अभिनेत्रींची कमाई आपल्या पतींपेक्षाही जास्त आहे.

कतरिना कैफ

- बॉलिवूड अभिनेत्री कतरिना कैफ विकी कौशलसोबत लग्न-बंधनात अडकली आहे.
- कतरिना कैफची एकूण नेटवर्थ २२० कोटी इतकी आहे.

दीपिका पादुकोण

- दीपिका पादुकोण आणि रणवीर बेस्ट कपल म्हणून ओळखले जाते. दीपिका वर्षाकाठी ३१६ कोटी रुपये कमावते तर पती रणवीर सिंह याची ३०७ कोटींची कमाई होते.

बिपाशा बसू

- बिपाशा वर्षाला ११३ कोटी मिळवते
- तर करण सिंह ग्रोव्हर १३ कोटी कमावतो.

ऐश्वर्या रॉय

- अभिनेता अभिषेक बच्चनची नेटवर्थ २०३ कोटी आहे.
- दुसरीकडे पत्नी ऐश्वर्या रॉय २२७ कोटी रुपये कमावते.

प्रियांका चोप्रा

- बॉलिवूडची देशी गर्ल प्रियांका चोप्राची नेटवर्थ तब्बल ७० मिलियन आहे
- तर पती निक जोनसची नेटवर्थ ३० मिलियनच्या जवळपास आहे.

हेमा मालिनी

- ज्येष्ठ अभिनेत्री हेमा मालिनी यांचं नेट वर्थ ४४० कोटी इतकं आहे
- तर पती आणि ज्येष्ठ अभिनेते धर्मेंद्र यांचं ३३५ कोटी रुपये आहे.

...आता ही अभिनेत्री अडकणार लग्नाच्या बेडीत ?

बॉलिवूडमध्ये आता श्रद्धा कपूरच्या लग्नाचीदेखील चर्चा रंगली आहे. श्रद्धा कपूर फोटोग्राफर रोहन श्रेष्ठसोबत बऱ्याच दिवसांपासून रिलेशनशिपमध्ये आहे. आतापर्यंत श्रद्धा आणि रोहनच्या लग्नाबाबत अनेक बातम्या येत होत्या. मात्र, आता श्रद्धा कपूरची मावशी पद्मिनी कोल्हापुरे यांनीच आपल्या भाचीच्या लग्नाबाबत संकेत दिले आहेत. पद्मिनी कोल्हापुरे यानी अलीकडेच स्वतःचे गाणं 'ये गलियां ये चौबारा'चं रिक्रिएटेड व्हर्जन लॉन्च केलं होतं आणि स्वतःच गायलंसुद्धा आहे. श्रद्धा कपूरने हे गाणं आपल्या इन्स्टाग्राम अकाउंटवर शेअर केलं आणि पद्मिनी यांनी तिच्या पोस्टवर 'मी तुझ्या लग्नात आणि वेदिकाच्या लग्नात हे गाणार आहे', अशी कमेंट करत याबाबतची हिंट दिली आहे. यावरून लवकरच श्रद्धाचे हातदेखील पिवळे होणार आहेत, असा अंदाज बांधला जात आहे.

चुकीच्या वेळी बोल्ड फोटोची पोस्ट

पश्चिम बंगालमधील तृणमूल काँग्रेसच्या खासदार नुसरत जहाँ यांनी बुधवारी (८ डिसेंबर २१) सायंकाळी बोल्ड फोटो पोस्ट केले होते. मात्र, यावेळी त्यांना बोल्ड फोटोंमुळे नव्हे, तर असे फोटो पोस्ट करण्याच्या टायमिंगमुळे ट्रोल करण्यात आलं. बुधवारी देशाचे सीडीएस जनरल बिपिन रावत यांचे तामिळनाडूमधील हेलिकॉप्टर दुर्घटनेत निधन झाले. यामुळे संपूर्ण देश मोठ्या धक्क्यात होता. मात्र, याचदरम्यान नुसरत जहाँ यांनी आपले बोल्ड फोटो पोस्ट केल्यामुळे काही लोकांनी नाराजी व्यक्त केली. 'संपूर्ण देश शोकसागरात बुडालेला असताना असे फोटो पोस्ट करायची गरज काय?',

'पांडू'ची वारी, हिंदीवर भारी

वीकेंडला जमवला १.९१ कोटींचा गल्ला, हिंदी चित्रपटांचे शोज कमी करून 'पांडू'ला प्राधान्य

लॉकडाऊननंतर सिनेमागृहे खुली झाल्यानंतर मराठी चित्रपटांचं भवितव्य काय असेल, मोठ्या बॅनर्सच्या हिंदी चित्रपटांपुढे यांचा टिकाव लागेल का, हिंदीमुळे मराठीला हव्या तशा स्क्रीन्स आणि शोज मिळतील का, असे एक ना अनेक प्रश्न उपस्थित झाले होते. पण या सर्वच प्रश्नांना अतिशय सकारात्मक आणि सणसणीत उत्तर दिलं आहे झी स्टुडिओजच्या 'पांडू' चित्रपटाने.

पहिल्या तीन दिवसांतच तब्बल १.९१ कोटींची कमाई 'पांडू'ने केलीय. याशिवाय अनेक मल्टिप्लेक्समध्ये चालू असलेल्या हिंदी सिनेमाचे प्राईम टाइमचे शोज् कमी करून ते शोज् 'पांडू'ला देण्यात आले आहेत. यामुळे मराठी सिनेइंडस्ट्रीमध्ये एक आश्वासक चित्र निर्माण झालं असून अनेक निर्मात्यांचा आपला मराठी चित्रपट प्रदर्शित करण्याबाबतचा आत्मविश्वास दुणावला आहे.

मराठी सिनेमासाठी मल्टिप्लेक्सच्या स्क्रीन्सचा, प्राईम टाइमच्या शोजचा वाद काही नवा नाही. पूर्वी मराठी निर्मात्यांना सिनेमा प्रदर्शित करताना या अडचणींना सामोरं जावंच लागायचं. पण, मागच्या काही वर्षांत झी स्टुडिओजच्या चित्रपटांनी हे चित्र बदललं. मराठी सिनेमांनाही हव्या तेवढ्या स्क्रीन्स आणि प्राईम टाइम शोज् मिळू शकतात, हे दाखवून दिलं.

गेले दीड वर्ष कोरोना आणि लॉकडाऊनमुळे मात्र सगळीच परिस्थिती बदलली. चित्रपट

प्रदर्शनासाठी अनेक नियम आणि निर्बंध आले. या सगळ्यांचा सामना मराठी चित्रपट कसा करेल, असा प्रश्न अनेकांच्या मनात निर्माण झाला होता. याच वातावरणात झी स्टुडिओजने आपला 'पांडू' हा सिनेमा प्रदर्शित केला आणि या चित्रपटाला प्रेक्षकांनी पहिल्या दिवसापासूनच भरभरून प्रतिसाद द्यायला सुरुवात केली.

महाराष्ट्रातील प्रमुख शहरांपासून गावागावांतही अनेक ठिकाणी 'पांडू'ने हाउसफुल्लचे बोर्ड झळकवले. अवधूत गुप्तेच्या संगीताने सजलेल्या'बुरुम बुरुम' आणि केळेवाली या गाण्यांनी सर्वांना ठेका धरायला लावला. ट्रेलरमुळे ही उत्सुकता अजूनच शिगेला पोहोचली आणि या सर्वांचा परिणाम आता तिकीटबारीवर बघायला मिळत आहे.

कोविडमुळे असलेली बंधने, आणि नियमांचं पालन करून प्रेक्षकांनी चित्रपटाला गर्दी केली आहे. विविध माध्यमांशी बोलताना प्रेक्षकांनी चित्रपट आवडल्याची आणि पुन्हा बघणार असल्याची प्रतिक्रियाही दिली आहे.

भाऊ कदम आणि कुशल बद्रिके या जोडगोळीचा अफलातून अभिनय सोबतीला सोनाली कुलकर्णी, प्राजक्ता माळीसारख्या गुणी अभिनेत्रींच्या कसदार भूमिका... प्रवीण तरडे, आनंद इंगळेसारखे कसलेले सहकलाकार, थिरकायला लावणारं संगीत आणि विजू माने यांचं कौशल्यपूर्ण दिग्दर्शन. या सगळ्या दिग्गजांच्या योगदानामुळे 'पांडू'सारखी दर्जेदार कलाकृती तयार झाली.

समीक्षकांनीही 'पांडू'चं कौतुक केलं आणि प्रेक्षकांनीही आपल्या पसंतीची ठसठशीत मोहोर उमटवली. या सगळ्याचा परिपाक म्हणजेच पहिल्या तीन दिवसांतच 'पांडू'ने कोटी-कोटी उड्डाणे घेत दोन कोटींच्या जवळ कमाई केली.

यासोबतच मुंबई, पुणे, पिंपरी-चिंचवड, नाशिक, डोंबिवली, सांगली, कऱ्हाड, कोल्हापूर, सोलापूर, चंद्रपूर, औरंगाबाद याठिकाणी हिंदी सिनेमाचे शोज काढून 'पांडू'चे शोज् वाढवण्यात आले आहेत. येणाऱ्या दिवसांतही 'पांडू'ची ही घोडदौड अशीच कायम राहील आणि तो अजून जास्त कमाई करेल, असा अंदाज या क्षेत्रातील तज्ज्ञ व्यक्त करीत आहेत.

गर्दीतील 'त्या' प्रकारामुळे गोंधळली मौनी रॉय

'नागिन' आणि 'देवों के देव महादेव' या दोन सिरियल्समुळं घराघरात जाऊन पोहोचलेली अभिनेत्री मौनी रॉय सध्या बॉलिवूडमध्ये जम बसवण्याचा प्रयत्न करत आहे. मौनीचा एक व्हिडिओ इंटरनेटवर मोठ्या प्रमाणात व्हायरल होत आहे. या व्हिडिओमध्ये एक चाहता तिच्यासोबत सेल्फी काढण्यासाठी तिला मागून स्पर्श करताना दिसत आहे. काही दिवसांपूर्वी मौनी रॉय जुहूतील रेकॉर्डिंग स्टुडिओतून बाहेर पडत असताना तिला चाहत्यांनी घेरलं होतं. त्यावेळी अचानक मागून एक इसम आला आणि त्यानं मौनीशी लगट करून सेल्फी काढण्याचा प्रयत्न केला. त्याचा असा पवित्रा पाहून मौनी काही काळासाठी गोंधळून गेली होती. तिनं त्याला थांबवण्याचा प्रयत्नही केला. अचानक असा प्रकार झाल्यानं मौनी घाबरलीदेखील होती.

आयुष्यमानने उघड्या अंगाने वाहिली कॅमेरारिंग

एक अभिनेता म्हणून, आयुष्मान खुराना प्रत्येक शॉटसाठी सर्वोत्तम प्रयत्न करण्यासाठी ओळखला जातो. 'चंदीगड करे आशिकी'मधील 'खिंच ते नच' या 'पेप्पी होली' या गाण्यासाठी त्याने हेच केले. गाण्याच्या शॉटसाठी आयुष्मानने त्याच्या उघड्या अंगावर एक जड कॅमेरारिंग घेतली होता. मेकिंग व्हिडिओमध्ये, आयुष्मानने त्याच्या उघड्या शरीराला जोडलेल्या रिंगमुळे होणाऱ्या वेदनांबद्दल सांगितले. 'रिंग खूप जड होती आणि ती माझ्या पोटाच्या हाडांना चिकटली होती. ती खरोखरच जड होते आणि माझं शरीर उघडं होतं, त्यामुळं हे सर्व अधिक कठीण होतं. शॉट खरोखर चांगला दिसतो,' असे आयुष्मान म्हणाला. या अभिनेत्याने चित्रपटातील त्याच्या व्यक्तिरेखेसाठी शरीर कमावले आहे. त्यासाठी भरपूर मेहनत घेतली.

विश्वचषक जिंकला तेव्हा क्रिकेट बघता आले नाही : पंकज त्रिपाठी

१९८३ मध्ये जेव्हा भारताने विश्वचषक जिंकला तेव्हाचे क्रिकेट बघू किंवा ऐकू शकलो नाही, अशी प्रांजळ कबुली अभिनेता पंकज त्रिपाठी यांनी दिली. ते म्हणाले की, 'पहिला रेडिओ सेट १९८९ मध्ये आला होता. तेव्हा आम्ही क्रिकेटचे वर्णन रेडिओवर येत होते; पण मी ते कधीही पाहिले किंवा ऐकले नव्हते. त्याआधीही कोणतीही क्रिकेट कॉमेंट्री मी ऐकलेली नव्हती.' मिमी आणि बंटी और बबली २ सारख्या चित्रपटांमध्ये दिसलेला पंकज त्रिपाठी त्याच्या आगामी '८३' या सिनेमाच्या रिलीजची प्रतीक्षा करत आहे. कबीर खान दिग्दर्शित आणि रणवीर सिंग मुख्य भूमिकेत असलेल्या या चित्रपटात पंकज पीआर मॅनच्या भूमिकेत दिसणार आहे. '८३' चित्रपटाबद्दल पंकज म्हणाला, 'मला वाटले की हा चित्रपट आधी बनायला हवा होता.'

M/s Navi Mumbai International Airport Pvt Ltd.
Regarding Environment and CRZ Clearance

PUBLIC NOTICE

This is to bring to the public notice that **M/s Navi Mumbai International Airport Pvt. Ltd** Regd. office at Terminal I/B, CSMI Airport, Santacruz, Mumbai 400099 Maharashtra has been accorded Environment & CRZ Clearance for "On-going Project for establishment of Navi Mumbai International Airport (NMIA) at Panvel Tahsil, Raigad District" vide EC identification No – EC21A029MH183036, File. No. 21-60/2021-IA-III dated December 1, 2021 by the Ministry of Environment, Forest and Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003. A copy of the above mentioned clearance letter along with the environmental conditions and safeguards is published here and is available with Maharashtra Pollution Control Board. This may also be seen on the website of Ministry of Environment Forest & Climate Change at https://parivesh.nic.in

F. No. 21-60/2021-IA-III
Government of India, Ministry of Environment, Forest and Climate Change (IA.III Section), Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi-110003
Dated: November 28th, 2021
To, Shri Charudatta Deshmukh, Joint President- Planning & Design, Terminal 1/ B. Navi Mumbai International Airport Limited (NMIAL), Terminal I B, CSI Airport, Santacruz, Mumbai - 400099, Maharashtra

Subject : Environmental and CRZ Clearance for on-going project for establishment of Navi Mumbai International Airport (NMIA) at Panvel Tehsil, Raigad District by M/s Navi Mumbai International Airport Limited - regarding.

This has reference to your Application/ Proposal No. IA/MH/MIS/154209/2020 received on 25th September, 2021 through Parivesh Portal for Environmental and CRZ Clearance for On-going project for establishment of Navi Mumbai International Airport (NMIA) at Panvel Tehsil, Raigad District by M/s Navi Mumbai International Airport Limited.

2. As per the provisions of the Environment Impact Assessment (EIA) Notification, 2006; as amended and notified under the Environment (Protection) Act, 1986 (29 of 1986), the above-mentioned project/ activity is covered under category 'A' of item 7(a) 'Airports' of the Schedule to the EIA Notification, 2006 and its subsequent amendments, and requires appraisal at Central level by sectoral EAC.
3. Accordingly, the above mentioned proposal for Environmental and CRZ Clearance has been examined by the Expert Appraisal Committee (Infra-2) in its 74th meeting held on 08th October 2021.
4. The details of the project, as per the application and documents submitted by the project proponent, and also as informed during the above- mentioned meeting of EAC (Infra-2) are as under:
   i. The project is proposed on the land located at Villages Vadghar (Chinchpada), Kopar, Pargaon (Kohli), Pargaon-Dungi, Owale (Upper and Lower Owale+ Waghivali Wada), Ulwe (Ulwe - Ganeshpuri), Targhar (Targhar-Kombhadbuje), Waghivali-Khar, Taluka Panvel, Raigad District, Maharashtra.
   ii. The project involves Construction and Development of Greenfield airport at. Navi Mumbai having passenger capacity 60 MPPA and Cargo capacity 1.5 MTPA over site area of 1160 Ha.
   iii. The Government of Maharashtra vide Notification No. TPS 1711/2495/CR-202/11/UD-12 dated 21st March 2012 has incorporated "International Airport & Allied Activities/ Service Zone" in the Navi Mumbai Development Plan (NMDP) and changed the land use in surrounding area. As per approved NMDP, the site area of 1160 Ha is designated as Airport and Allied Activities/Services Zone.
   iv. Stage-I and Stage-II Forest clearance for 250.0635 Ha land has been obtained from MoEF&CC vide letter No. 8-95/2012-FC dated 17.12.2013 and 24.04.2017 respectively.
   v. Earlier, the project was granted Environmental and CRZ Clearance by MoEF&CC vide letter No. 10-53/2009-IA.III dated 22.11.2010 in the name of City & Industrial Development Corporation of Maharashtra Limited (CIDCO). Subsequently, the validity of the Environmental and CRZ Clearance was extended up to 21.11.2020 vide letter of even no. dated 20.12.2017. Thereafter, the aforesaid Environmental and CRZ was transferred in the name of M/s Navi Mumbai International Airport Limited (NMIAL) from CIDCO vide Letter No.10-53/2009-IA-III dated 17.08.2020. As per amendment in EIA Notification issued vide S.O. 221(E) dated 18.01.2021 (in view of COVID-19), the aforesaid EC is valid up to 21.11.2021.
   vi. ToR was issued vide letter No. 10-53/2020-IA-III dated 29.10.2020 for Fresh Environmental Clearance for the same project without any change in location, scope, area or capacity. There may be some internal changes in the configuration of facilities to be developed. Considering the earlier Environmental and CRZ Clearance, construction status/physical progress of the work and no change in location, scope, area or capacity, the project was exempted from requirement of Public Hearing for preparation of EIA/EMP report.
   vii. Baseline data has been collected during 1st December 2019 to 29th February 2020 (Winter Season).
   viii. Project has obtained CRZ recommendation from Environment & Climate Change Department, Govt. of Maharashtra vide letter No. CRZ 2021/CR 156/TC 4 dated 27.09.2021.
   ix. Certified compliance report from MoEF&CC Integrated Regional Office, Nagpur has been obtained vide letter No. 6 22/2010(ENV)/7994 dated 31.03.2021 for which action taken report has been submitted against the observations raised.
   x. Total Built-Up area of the project is 14,13,069.17 sqm., including Passenger Terminals 1-3, Airside development (Hangars, ATC Tower, GSE Maintenance Building, Heliport Terminal, ARFF etc.), Cargo complex, Utility area, Support facilities (CISF Barracks, Reserved housing, Flight kitchens, Admin buildings, Maintenance buildings, Customs building, Quarantine area etc.) and Landside development (Terminal Hotel, Bus/ Metro/ Taxi Terminal, Parking, Metro station etc.), Runway Dimension: 3700 m X60 m separated by 1580 m (Development of Two Code 'F' Parallel Runway).
   xi. Pre-Development Works for the project started in April 2017 which included cutting and filling in the site up to 5.5 m AMSL and has been completed. Construction of Ulwe Recourse Channel (URC) for diversion of Ulve River has been completed in June 2019. Shifting of EHVT lines is nearing completion. Status of completed / on-going works as per existing EC are given as follows:

Sl. No	Work	Status
1.	Cutting of Ulwe Hill & Filling of Airport Site.	Completed, Up to +5.5 m AMSL
2.	Design & Construction of Ulwe Recourse Channel	Completed
3.	Diversion & Filling of Existing Ulwe River	Completed
4.	Construction & Widening of Roads for Airport Connectivity	Completed- NH 4B Completed - Amara Marg Interchanges - In Progress Ulwe Coastal Road – In Progress
5.	Design & Construction of Northern Channel	Design in Progress
6.	Tree Cutting & Transplantation	In Progress Out of total 9492 trees, 9053 have been cut. Out of total 3319 trees to be transplanted, 1493 trees have been transplanted by CIDCO.
7.	Detailed Traffic Management Plan & Improvement of Airport Connectivity and Mass Public Transportation	In Progress Projects under Implementation, New Airport Connectivity projects proposed.
8.	Development of Mangrove Park and Plantation & protection of Mangroves	Plantation of Mangroves completed in 400 ha. Thru FDCM by CIDCO + 250 Ha Mangroves in Vaghivali island will be maintained
9.	Shifting of EHVT Lines/Utilities from Airport Site	Tata EHVT Lines - Completed. MSETCL EHVT Lines- In Progress

   xii. Remaining Airport Development Works includes land development to cut hillock on site and further fill and level the site up to + 8.0 m to + 9.5 m AMSL; construction and development of entire airport infrastructure inclusive of airside, terminals, landside, cargo and utility infrastructure of airport, within site area of 1160 ha. Airport development is proposed to be implemented in four phases as follows:

Terminal	Phase	Year Of Commissioning	Capacity (MPPA)	Cumulative Capacity (MPPA)
T1	Phase-I	2024 (December)	10	20
	Phase-II		10	
T2	Phase-III	2028	20	40
T3	Final Phase (Phase-IV)	2032	20	60

   xiii. The total water demand in Final Phase is 21.82 MLD, of which, Freshwater demand of 10.61 MLD will be sourced from CIDCO and balance 11.21 MLD shall be recycled water from on-site STP. Entire treated water from STP will be recycled and reused for flushing, cooling and gardening purposes within the project site. Sewage treatment plants will be modular, based on the sewage load and shall be augmented in each phase as per requirement. For 60 MPPA (final phase), three STPs of total 14.25 MLD capacity are planned (11 MLD at. West, 2.5 MLD at East & 0.75 MLD at North).
   xiv. The solid waste generation for the airport in the Phase-I will be 17 TPD increasing to 29 TPD in Phase-II, 50 TPD in Phase-III and finally 72 TPD in Phase-IV. The solid waste generated during operation phase will be collected, segregated, stored, treated and disposed in a scientific manner, considering the integrated approach as per the relevant rules. The bio-degradable will be treated by bio composting process and the manure will be used for horticulture. Sewage sludge generated from the STPs will be dried and used as manure for horticulture purpose. Recyclable wastes will be disposed through authorized recyclers. E- waste will be stored separately and disposed through authorized recycler approved by MPCB. Hazardous wastes will be stored in secured place with adequate secondary containment and labelling and disposed as per the requirements of Hazardous Wastes Management Rules.
   xv. The de-plane wastes include sanitary wastes generated in the toilets and the galley wastes includes waste generated from in-flight catering and other services. The sanitary wastes will be collected by lavatory trucks and treated in the Triturator facility proposed at the airport, as a primary treatment & will be pumped to STP for secondary & Tertiary Treatment. The galley waste will be collected from the aircrafts and segregated as bio-degradable and non-biodegradable waste. After segregation, it will be treated along with municipal solid waste managed at the airport.
   xvi. The expected power requirement for the airport in the Phase-I is 27 MVA increasing to 36 MVA in Phase-II, 69 MVA in Phase-III and finally 96 MVA in Phase-IV. The power supply requirement will be met through Maharashtra State Electricity Distribution Company Limited (MSEDCL). The total estimated DG power requirement will be 35.0 MVA in the final phase (considering 60% diversity as DC capacity on over all proposed terminal loads). The combined Phase I&II power back-up demand is about 12 MVA to meet the power requirement. in the event of power failure, which will be subsequently augmented in phased manner.
   xvii. More than 23% of the total peak power demand of connected load of the airport buildings is planned to be sourced from solar power systems. Final phase solar generation capacity of 22. 14 MW is proposed. The solar panels/photo-voltaic cells will be set-up at the terminal roof-top and ground mounted at designated areas parallel to north and south runway.
   xviii. The total green space area proposed is 384.90 Ha. (i.e., 33.18% of airport site area of 1160 ha.), including green/open spaces on airside and landside of NMIA. Cutting of 9053 trees has been completed out of total 9492 trees and 1493 trees were transplanted out of 3319 with due permission by tree authority. Off-site plantation of about 14,000 trees on 50.620 ha of land outside the project site is proposed on land provided by Forest Department near Jite Village in Raigad District of Maharashtra.
   xix. A rainwater harvesting pond is proposed along the main drain alignment path with 11,899 sqm. area and 29,747 cum capacity. Weir is proposed at the pond outfall location to avert salt water intrusion into the pond. Stored water shall be used for landscape irrigation purposes.
   xx. Project is not located in Critically Polluted Area.
   xxi. NBWL Clearance is not required.
   xxii. PIL No. 57 of 2019 is pending in respect of the project before the Hon'ble High Court of Judicature at Bombay. However, the same is yet to be admitted and there have been no orders passed yet.
   xxiii. Estimated timeline for completion is December 2024 for the Phase I & II together/combined (for Capacity of 20 MPPA). Subsequently, Phase- III and Final/Phase-IV will commence based on traffic triggers, indicatively in 2028 & 2032 respectively.
   xxiv. Investment/Cost. of the project is estimated to be Rs. 41,302 Crores (for all four phases).
   xxv. Employment potential: Temporary - 15,000 (Approx.), Permanent 90,000 (Approx.).
   xxvi. Benefits of the project- The social benefits envisioned from the implementation of the project will involve, inter-alia; availability of alternate air transport facility to unserved population in Navi Mumbai and MMR Region; socio-economic opportunities for business and employment for people in Navi Mumbai and MMR Region; skill development and technical expertise enhancement possibilities due to influx of aviation related institutions in Navi Mumbai, etc. The financial benefits envisioned from the project are- over 50,000 direct and indirect employments due to aviation business leading to stimulation of economic growth in MMR outside Mumbai city; stimulation of local economy due to direct and indirect. impact of aviation and related business, large investment around proposed airport by other parties due to NMIA development. The environmental benefits will include reducing congestion in Mumbai city, creation of environmentally friendly and sustainable infrastructure in and around NMIA like metro, new STPs, large garden and parks and well-planned drainage, decongestion and enhancement of environmental conditions around CSMIA.
5. The EAC (Infra 2), based on information and clarifications provided by the project proponent and detailed discussions held on the issues, has recommended granting environmental clearance to the project. The aforesaid recommendation of EAC (Infra-2) is subject to certain specific conditions, as stipulated during its 74th meeting held on 08th October, 2021.
6. Based on recommendations of AC (Infra-2) and CRZ recommendation from Environment & Climate Change Department, Govt. of Maharashtra vide letter No. CRZ 2021/CR 156/TC4 dated 27.09.2021, the Ministry of Environment, Forest and Climate Change hereby accords Environmental and CRZ Clearance to the On-going project for establishment of Navi Mumbai International Airport (NMIA) at Panvel Tehsil, Raigad District' by M/s Navi Mumbai International Airport Limited, under the provisions of the EIA Notification, 2006 and its subsequent amendments and Coastal Regulation Zone Notification, 2011 and its subsequent amendments, and subject to the following specific and standard conditions:

A. Specific Conditions:

   i. Conditions specified in Environmental & CRZ Clearance issued vide letter No. 10-53/2009-IA.III dated 22.11.2010 shall be strictly complied.
   ii. PP shall submit compliance report to IRO-MoEF&CC, Nagpur for pending compliances within 6 months.
   iii. Where construction activity is likely to cause noise nuisance to nearby residents, restrict operation hours between 7 AM to 6 PM.
   iv. Hazard Identification and Risk Assessment for the project shall be carried out and adequate mitigation measures shall be adopted to ensure that all safety issues are addressed. The documentation shall be reviewed periodically and shall be submitted to the regional office along with six-monthly compliance report.
   v. A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 05 km radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 05 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development Department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.
   vi. Solar power generation capacity of 22.14 MW shall be established as proposed.
   vii. Rainwater harvesting pond of 29,747 cum capacity shall be provided as proposed. Rain water harvesting structures shall conform of CGWA designs. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.
   viii. A certificate from the competent authority/ agency handling municipal solid wastes should be obtained, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W generated from project.
   ix. Fresh water requirement from local authority shall not exceed 10.61 MLD during final operational phase. As committed, no groundwater abstraction shall be done during construction as well as operation phase of the project.
   x. As proposed, waste water shall be treated in onsite STPs of total 14.25 MLD capacity (during final phase). Treated water from the STP shall be recycled and reused for gardening, flushing etc. There shall be no discharge of treated water from the project as proposed.
   xi. The project proponents would commission a third-party study on the implementation of conditions related to quality and quantity of recycle and reuse of treated water, efficiency of treatment systems, quality of treated water being supplied for flushing (specially the bacterial counts), comparative bacteriological studies from toilet seats using recycled treated waters and fresh waters for flushing, and quality of water being supplied through spray faucets attached to toilet seats.
   xii. Area for greenery shall be provided as per the details provided in the project document i.e., about 384.90 ha. will be developed as green area.
   xiii. PP shall explore the use of non-ozone depleting substances in air conditioning systems.
   xiv. The PP shall also provide electric charging points in the parking areas for e-vehicles.
   xv. The proposed ongoing work of Navi Mumbai International Airport should be carried out strictly as per the provisions of CRZ Notification, 2011 as amended from time to time and with a commitment of protection and conservation of coastal environment.
   xvi. NMIA shall carry out the balance work without change in location, scope, area or capacity.
   xvii. No mangrove destruction is allowed to carry out balance ongoing work of the project. There shall not be violation of the Hon'ble High Court order dated 23rd October, 2013 in PIL 87/2006.
   xviii. Work of diversion of Ulwe and Gadhi River is completed. NMIA shall carry out the studies pertaining hydraulic flow conditions, to understand the impact of diversion of Ulwe and Gadhi streams on Panvel Creek coastline, its coastal ecology and surrounding area/ settlements/habitat/ social economic pattern. The hydraulic study shall also take into account the anticipated impacts of climate change and sea level rise on proposed airport site and surrounding area. Hydraulic studies need to be carried out with an objective to anticipate the probable flooding situations in low lying areas and accordingly implement the possible mitigation measures.
   xix. NMIA shall regularly monitor the marine water quality of the Panvel creek during construction and post construction of the project.
   xx. NMIA shall ensure that all ground service vehicles will be operated on Electric or CNG. No petrol/diesel vehicles would be allowed in the Airport Premises.
   xxi. Mangrove park shall be developed in consultation with Mangrove Cell, on site identified by the CIDCO.
   xxii. NMIA to implement environment measures such as rainwater harvesting, solar lighting, efficient solid and hazardous waste management practices. NMIA shall ensure the zero liquid discharge during construction and operation of the project.
   xxiii. NMIA during construction shall not disturb the coastal ecology comprising mangroves/mudflats present along the Panvel creek, present outside the northern boundary of the project site.
   xxiv. NMIA should carry out detailed study on the impact of fishing and livelihood of people depending on local fishing and take efforts to maintain the livelihood of traditional fisher folks supposed to be affected by the project directly or indirectly.
   xxv. Green bell area (33% of total project area) of adequate width and density with local species along the periphery of the project site shall be developed so as to provide protection against particulate matter and noise
   xxvi. NMIA shall set up a full-fledged in house Environment Management Cell comprising concern experts for effective implementation of Environment Management Plan. The EM Cell shall carry out marine water quality monitoring, erosion/accretion status of the coastline along Panvel Creek, monitoring of tidal flow patterns due to diversion of Ulwe & Gadhi streams, development of mangrove park etc. and implement recommendations of the Socio-economic study as well as Disaster Management Plan.
   xxvii. NMIA/CIDCO to implement. the recommendations of the report on the BNHS with respect to protection/ conservation of the biodiversity around the Airport site.
   xxviii. The Environmental and CRZ Clearance to the project is primarily under provisions of EIA Notification, 2006 and CRZ Notification, 2011. The Project Proponent is under obligation to obtain approvals/clearances under any other Acts/ Regulations or Statutes as applicable to the project.

B. Standard Conditions:

I. Statutory compliance:

   i. The project proponent shall obtain forest clearance under the provisions of Forest (Conservation) Act, 1980, in case of the diversion of forest land for non-forest purpose involved in the project.
   ii. The project proponent shall obtain clearance from the National Board for Wildlife, if applicable.
   iii. The project proponent shall prepare a Site-Specific Conservation Plan & Wildlife Management Plan and approved by the Chief Wildlife Warden. The recommendations of the approved Site-Specific Conservation Plan/ Wildlife Management Plan shall be implemented in consultation with the State Forest Department. The implementation report shall be furnished along with the six-monthly compliance report (in case of the presence of Schedule-I species in the study area).
   iv. The project proponent shall obtain Consent to Establish/Operate under the provisions of Air (Prevention & Control of Pollution) Act, 1981 and the Water (Prevention & Control of Pollution) Act, 1974 from the concerned State Pollution Control Board/ Committee,
   v. The project proponent shall obtain the necessary permission from the Central Ground Water Authority, in case of drawl of ground water/ from the competent authority concerned in case of drawl of surface water required for the project.
   vi. Clearance from Directorate General of Civil Aviation (DGCA) and Airports Authority of India (AAI) for safety and project facilities shall be obtained.
   vii. A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project should be obtained.
   viii. All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department shall be obtained, as applicable by project proponents from the respective competent authorities.

I. Air quality monitoring and preservation:

   i. The project proponent shall install system to carryout Ambient Air Quality monitoring for common/criterion parameters relevant to the main pollutants released (e.g., PM_{10} and $PM_{2.5}$ in reference to PM emission, and SO_2 and NO_x in reference to SO_2 and NO_x emissions) within and outside the airport area at least at four locations (one within and three outside the plant area at an angle of 120^0each), covering upwind and downwind directions.
   ii. Diesel power generating sets proposed as source of backup power should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets. Use of low Sulphur diesel. The location of the DG sets may be decided with in consultation with State Pollution Control Board.
   iii. Soil and other construction materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet.
   iv. The excavation working area should be sprayed with water after operation so as to maintain the entire surface wet.
   v. Excavated materials shall be handled and transported in a manner that they do not cause any problems of air pollution.
   vi. The soil/construction materials carried by the vehicle should be covered by impervious sheeting to ensure that the dusty materials do not leak from the vehicle.

II. Water quality monitoring and preservation:

   i. Run off from chemicals and other contaminants from aircraft maintenance and other areas within the airport shall be suitably contained and treated before disposal. A spillage and contaminant containment plan shall be drawn up and implemented to the satisfaction of the State Pollution Control Board.
   ii. Proper drainage systems, emergency containment in the event of a major spill during monsoon season etc. shall be provided.
   iii. The runoff from paved structures like Runways, Taxiways, can be routed through drains to oil separation tanks and sedimentation basins before being discharged into rainwater harvesting structures.
   iv. Storm water drains are to be built for discharging storm water from the air-field to avoid flooding/water logging in project area. Domestic and industrial waste water shall not be allowed to be discharged into storm water drains.
   v. Rain water harvesting for roof run-off and surface run-off, as plan submitted should be implemented. Rain water harvesting structures shall conform to CGWA designs. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease.
   vi. Total freshwater use shall not exceed the proposed requirement as provided in the project details. Prior permission from competent authority shall be obtained for use of fresh water.
   vii. A certificate from the competent authority for discharging treated effluent/untreated effluents into the Public sewer/ disposal / drainage systems along with the final disposal point should be obtained.
   viii. A detailed drainage plan for rain water shall be drawn up and implemented.

III. Noise monitoring and prevention:

   i. Noise level survey shall be carried as per the prescribed guidelines and report in this regard shall be submitted to Regional Officer of the Ministry as a part of six monthly compliance report.
   ii. Noise from vehicles, power machinery and equipment on-site should not exceed the prescribed limit. Equipment should be regularly serviced. Attention should also be given to muffler maintenance and enclosure of noisy equipment's.
   iii. Acoustic enclosures for DG sets, noise barriers for ground-run bays, ear plugs for operating personnel shall be implemented as mitigation measures for noise impact due to ground sources.
   iv. During airport operation period, noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.

IV. Energy Conservation measures:

   i. Energy conservation measures like installation of LED/CFL.s/TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning.

V. Waste management:

   i. Soil stockpile shall be managed in such a manner that dust emission and sediment runoff are minimized. Ensure that soil stockpiles are designed with no slope greater than 2:1 (horizontal/ vertical).
   ii. The project activity shall conform to the fly Ash notification issued under the E P. Act of 1986.

Continued on next page

M/s Navi Mumbai International Airport Pvt Ltd.
Regarding Environment and CRZ Clearance

PUBLIC NOTICE

iii. Solid inert waste found on construction sites consists of building rubble, demolition material, concrete; bricks, timber, plastic, glass, metals, bitumen etc. shall be reused/ recycled or disposed off as per Solid Waste Management Rules, 2016 and Construction and Demolition Waste Management Rules, 2016.
iv. Any wastes from construction and demolition activities related thereto shall be managed so as to strictly conform to the Construction and Demolition Waste Management Rules, 2016.
v. The project proponents shall implement a management plan duly approved by the State Pollution Control Board and obtain its permissions for the safe handling and disposal of:
   a. Trash collected in flight and disposed at the airport including segregation, collection and disposed.
   b. Toilet wastes and sewage collected from aircrafts and disposed at the Airport.
   c. Wastes arising out of maintenance and workshops
   d. Wastes arising out of eateries and shops situated inside the airport complex.
   e. Hazardous and other wastes
vi. The solid wastes shall be segregated as per the norms of the Solid Waste Management Rules, 2016. Recycling of wastes such as paper, glass (produced from terminals and aircraft caterers), metal (at aircraft maintenance site), plastics (from aircrafts, terminals and offices), wood, waste oil and solvents (from maintenance and engineering operations), kitchen wastes and vegetable oils (from caterers) shall be carried out. Solid wastes shall be disposed in accordance to the Solid Waste Management Rules, 2016 as amended.
vii. Used CFLs and TELs should be properly collected and disposed off/ sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.

VI. Green Belt:

i. Green belt shall be developed in area as provided in project details, with native tree species in accordance with Forest Department. The greenbelt shall inter alia cover the entire periphery of the Air Port.
ii. Top soil shall be separately stored and used in the development of green belt.

VII. Public hearing and Human health issues:

i. Construction site should be adequately barricaded before the construction begins.
ii. Traffic congestion near the entry and exit points from the roads adjoining the airport shall be avoided. Parking should be fully internalized and no public space should be utilized.
iii. Provision of Electro-mechanical doors for toilets meant for disabled passengers. Children nursing/feeding room to be located conveniently near arrival and departure gates.
iv. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.
v. Provision shall be made for the housing of construction labor within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
vi. Occupational health surveillance of the workers shall be done on a regular basis.

VIII. Miscellaneous:

i. The project proponent shall make public the environmental clearance granted for their project along with the environmental conditions and Safeguards at their cost by prominently advertising it at least in two local newspapers of the District or State, of which one shall be in the vernacular language within seven days and in addition this shall also be displayed in the project proponent's website permanently.
ii. The copies of the environmental clearance shall be submitted by the project proponent to the Heads of local bodies, Panchayats and Municipal Bodies in addition to the relevant offices of the Government who in turn has to display the same for 30 days from the date of receipt.
iii. The project proponent shall upload the status of compliance of the stipulated environment clearance conditions, including results of monitored data on their website and update the same on half-yearly basis.
iv. The project proponent shall submit six-monthly reports on the status of the compliance of the stipulated environmental conditions on the website of the Ministry of Environment, Forest and Climate Change at environment clearance portal.
v. The company shall have a well laid down environmental policy duly approved by the Board of Directors. The environmental policy should prescribe for standard operating procedures to have proper checks and balances and to bring into focus any infringements/ deviation/ violation of the environmental /forest/ wildlife norms/conditions. The company shall have defined system of reporting infringements/deviation/violation of the environmental/forest/wildlife norms/conditions and/or shareholder's/ stake holders. The copy of the board resolution in this regard shall be submitted to the MoEF&CC as a part of six-monthly report.
vi. A separate Environmental Cell both at the project and company head quarter level, with qualified personnel shall be set up under the control of senior Executive, who will directly report to the head of the organization.
vii. Action plan for implementing EMP and environmental conditions along with responsibility matrix of the company shall be prepared and shall be duly approved by competent authority. The year wise funds earmarked for environmental protection measures shall be kept in separate account and not to be diverted or any other purpose. Year wise progress of implementation of action plan shall be reported to the Ministry/Regional Office along with the Six Monthly Compliance Report.
viii. Self environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.
ix. The project proponent shall submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company.
x. The criteria pollutant levels namely; PM_{10}, $PM_{2.5}$, SO_2, NO_x (ambient levels) shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
xi. The project proponent shall inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities, commencing the land development work and start of production operation by the project.
xii. The project. authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.
xiii. The project proponent shall abide by all the commitments and recommendations made in the EIA/EMP report, commitment made during Public Hearing and also that during their presentation to the Export Appraisal Committee.
xiv. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).
xv. Concealing factual data or submission of false/fabricated data may result in revocation of this environmental clearance and attract action under the provisions of Environment (Protection) Act, 1986.
xvi. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.
xvii. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.
xviii. The Regional Office of this Ministry shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data/information/ monitoring reports.
xix. The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement| Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and Rules and any other orders passed by the Hon'ble Supreme Court of India/ High Courts/NGT and any other Court of Law relating to the subject matter.
xx. Any appeal against this EC shall lie with the National Green Tribunal. if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

7. The Environmental Clearance is being granted to M/s Navi Mumbai International Airport Limited for On-going project for establishment of Navi Mumbai International Airport (NMIA) at Panvel Tehsil, Raigad district:
8. This issues with the approval of the Competent Authority.

(Dr. Dharmendra Kumar Gupta)
Director (S)

Copy to:

1. The Principal Secretary, Environment & Climate Change Department, Govt, of Maharashtra, Room No. 217, Annex Building, Mantralaya, Mumbai 400032
2. The Chairman, Maharashtra Coastal Zone Management Authority, Room No. 217, Annex Building, Mantralaya, Mumbai - 400032
3. Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Ground Floor, East Wing, New Secretariat Building, Civil Lines, Nagpur-440 001
4. The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD cum-Office Complex, East Arjun Nagar, New Delhi - 110 032
5. The Member Secretary, Maharashtra Pollution Control Board, Kalpataru Point, 3rd and 4th floor, Opp. Cine Planet, Sion Circle, Mumbai - 400 022
6. Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
7. Guard File/ Record File/ Notice Board/ MoEF&CC website.

PUBLIC NOTICE

Please take Notice that F995 – VARSHA DEVENDRA THANVI was registered Authorised Person of Nirmal Bang Securities Pvt. Ltd. situated at 402, RAJ CHAMBERS, MANCHUBHAI ROAD, NEAR MALAD RAILWAY STATION, MALAD (EAST), MUMBAI – 400 097 having PAN APAPV8182P and Authorised Registration No. for NSE_FNO: AP1105142001, NSE_COM: AP1105142001, NSE_CDX AP1105142001, NSE_CASH AP1105142001, NCDEX_FNO 123860, MCX_FNO: MCX/AP/142463, BSE_CASH: AP01049801119239. We have received information from National Stock Exchange of India Ltd. that Ms. Varsha Devendra Thanvi is involved with her husband Mr. Devendra Omprakash Thanvi in running illegal securities trading activities outside the mechanism provided by a recognized stock exchange. Accordingly, please take Notice that we have terminated the operations of the said F995 - VARSHA DEVENDRA THANVI with immediate effect.

People are forewarned not to deal with F995 - VARSHA DEVENDRA THANVI on our behalf and to take notice that we shall not be responsible for whatsoever transactions undertaken with the said person.

For **Nirmal Bang Securities Pvt. Ltd.**
Sd/-
Authorised Signatory
Date: 10/12/2021

SPECIAL RECOVERY OFFICER

MAHARASHTRA CO-OPRATIVES SOCIETIES ACT1960,Act 156,Rule1961,Rule 107

Attached : THE SHIVKRUPA SAHAKARI PATPEDHI LTD. Mumbai. 219 / 3111 Tagornagar Group No 01, Dr. Ambedkar Chowk Vikhroli (East) Mumbai 400 083. PH : 022 25746035.

FORM "Z"
(See sub-rule [(11)(d-1)] of rule 107)

POSSESSION NOTICE FOR IMMOVABLE PROPERTY

Whereas the undersigned being the Special Recovery officer of the **Mr. Govind Manikrao** Pol under the Maharashtra Co-operative Societies Rules,1961 issue a demand notice date **12.08.2021** calling upon the judgment debtor.

SMT. INDIRA ARVIND SAKHARE ,MR. DHANANJAY ARVIND SAKHARE and MRS. TEJESHRI DHANANJAY SAKHARE (454/413) to repay the amount mentioned in the notice being **RS.8,84,785/- in words (Rs. EIGHT LAKH EIGHTY FOUR THOUSAND SEVEN HUNDRED EIGHTY FIVE ONLY)** with date of receipt of the said notice and the judgment debtor having failed to repay amount, the undersigned has issue a notice for attachment date **06.09.2021** And attached the property describe herein below.

The judgment debtor having failed to repay the amount, notice is hereby given to the judgment debtor and the public in general that the undersigned has taken possession of the property described herein below in exercise of powers conferred on him/her under rule 107 [11 (d-1)] of the Maharashtra Co-operative Societies Rules, 1961 on this **14TH** Day of **OCTOBER** of the year **2021**.

The judgment debtor in particulars and the public in general is hereby cautioned not to deal with the property and any dealings with the property will be subject to the charge of the **Mr. Govind Manikrao Pol** for an amount **RS. 9,21,882/- (in words Rs.NINE LAKH TWENTY ONE THOUSAND EIGHT HUNDRED EIGHTY TWO ONLY)** and interest thereon.

DESCRIPTION OF THE IMMOVABLE PROPERTY

SHOP NO.- 5, GROUND FLOOR, YASHODA COMPLEX, BUILDGING NO-A, SURVEY NO- 46/1 AT POST - CHOWK MANIVALI, TAL - KHALAPUR, DIST - RAIGAD. 410206. AREA – 166 SQ.FT. BUILT UP

Date: 08/12/2021
Place: Panvel

SEAL

Sd/- MR. Govind Manikrao Pol
Special Recovery Officer, Rule 107 of Maharashtra Co.Op Soc. Act 1960 Rule 1961

SPECIAL RECOVERY OFFICER

MAHARASHTRA CO-OPRATIVES SOCIETIES ACT1960,Act 156,Rule1961,Rule 107

Attached : THE SHIVKRUPA SAHAKARI PATPEDHI LTD. Mumbai. 219 / 3111 Tagornagar Group No 01, Dr. Ambedkar Chowk Vikhroli (East) Mumbai 400 083. PH : 022 25746035.

FORM "Z"
(See sub-rule [(11)(d-1)] of rule 107)

POSSESSION NOTICE FOR IMMOVABLE PROPERTY

Whereas the undersigned being the Recovery officer of the **Mr. Ashok L. Phadtare** under the Maharashtra Co-operative Societies Rules, 1961 issue a demand notice date **26.05.2017** calling upon the judgment debtor. MR. MOHAMMED JUNED MOHAMMED IMTIYAZ SAYED & MR. MOHAMED IMTIYAZ BASHIR SAYED & MRS. SALEHA BANO MHOD IMTIYAZ SAYED to repay the amount mentioned in the notice being **RS. 4,96,281/- in words (Rs. Four lakh Ninty Six Thousand Two Hundred Eighty One only)** with date of receipt of the said notice and the judgment debtor having failed to repay amount, the undersigned has issue a notice for attachment date **28.06.2017** And attached the property describe herein below.

The judgment debtor having failed to repay the amount, notice is hereby given to the judgment debtor and the public in general that the undersigned has taken possession of the property described herein below in exercise of powers conferred on him/her under rule 107 [11 (d-1)] of the Maharashtra Co-operative Societies Rules, 1961 on this **25th** Day of, **Nov** of the year **2021**

The judgment debtor in particulars and the public in general is hereby cautioned not to deal with the property and any dealings with the property will be subject to the charge of the Recovery officer Shivkrupa Sahakari Patpedhi Ltd Mumbai for an amount **RS. 8,02,555/- in words (Rs. Eight Lakh Two Thousand Five Hundred Fifty Five only)** and interest thereon.

DESCRIPTION OF THE IMMOVABLE PROPERTY

Room No. 26/J/15, Gr.Floor, J Line, Plot No.26, Road No.02, Near Madina Masjid, Shivaji Nagar, Govandi Mumbai. 400 043 . (Survey Receipt No – 0071109, Area – 255 Sq.ft)

Date: 08/12/2021
Place: Govandi

SEAL

Sd/- MR. Ashok L. Phadtare
Recovery Officer, Attached Shivkrupa Sahakari Patpedhi Ltd Mumbai

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THE MUSLIM CO-OPERATIVE BANK LTD., PUNE

647, Bhawani Peth, Golden Jubilee Building, 4th Floor, Pune - 411 042.

APPENDIX IV [Rule 8 (1)]

POSSESSION NOTICE
(For immovable property)

Under section 13(2) of the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 you all have been served with notices regarding the following Loan accounts.

1. **Mr. Zakir Gulam Mustafa Attar** (Borrower And Mortgagor)
   (Loan A/c No.Cash Credit-28 at Nashik Wadala Road Branch)
   Add.- Flat No.13, Sanjari Nagar Society, Behind Igatpuri chwal, Poona Road, Nashik-422001
2. **Mrs. Saleha Khalid Attar** (Co-Borrower and Mortgagor)
   Add.- Flat No.13, Sanjari Nagar Society, Behind Igatpuri chwal, Poona Road, Nashik-422001
3. **Mr. Yusuf Abdul Raheman Sayyed** (Surety)
   Add.- Yusuf Baba Motor Garage Works, Bodhale Nagar, Poona Road, Nashik- 422006.
4. **Mr. Maksood Mohammed Saheb Attar** (Surety)
   Add.- H.No. 2726, Kazipura, Nashik-422001.

Whereas,

The undersigned being the authorized officer of the Nashik Wadala Road Branch of The Muslim Co-operative Bank Ltd., Pune, under Section 13(12) of the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002, read with rule 9 of the Security Interest (Enforcement) Rules, 2002 has been served upon you demand notices dated 01st September 2021 calling upon the borrower, Co-borrower, Sureties and Mortgagors 1**) Mr. Zakir Gulam Mustafa Attar 2) Mrs. Saleha Khalid Attar 3) Mr. Yusuf Abdul Raheman Sayyed and 4) Mr. Maksood Mohammed Saheb Attar** to repay the amount mentioned in the said notices. The said Notices have been received by each one of you on 24th September 2021. However each of you have failed to comply i.e. you have failed to repay within sixty days. As per demand notice dated the amount required to be paid is **Rs. 26,96,261/- (Rupees Twenty Six Lakhs Ninety Six Thousand Two Hundred Sixty One Only)** and along with interest, penal interest, expenses and charges thereon till today Loan Account No. Cash Credit (CC)-28 at Nashik Wadala Road Branch and the above mentioned account is in NPA since dated 31/07/2021 and NPA status category is in Sub-Standard.

As the Borrower, Co-Borrower, Sureties and Mortgagors all of you failed to repay the amount as demanded. Now notice is hereby given to the borrower, Co-borrower, sureties and mortgagors and the public in general that the undersigned has taken possession of the property/s described herein below in exercise of powers conferred on him under section 13(4) of the said Act, read with rule 9 of the said rules, on this 07th day of December of the year 2021.

The Borrower, Co-borrower, sureties and mortgagors in particular and the public in general is hereby cautioned not to deal with the properties and that any dealings with the properties will be subject to a charge of The Muslim Co-operative Bank Ltd., Pune, Nashik Wadala Road Branch for an amount of **Rs. 26,96,261/- (Rupees Twenty Six Lakhs Ninety Six Thousand Two Hundred Sixty One Only)** and along with interest, penal interest, expenses and charges thereon till today.

The borrowers, Co-borrower, sureties and mortgagors are hereby informed that if the above mentioned amount of **Rs. 26,96,261/- (Rupees Twenty Six Lakhs Ninety Six Thousand Two Hundred Sixty One Only)** and along with interest, penal interest, expenses and charges thereon till today within a period of thirty days from the date of publication of this notice, the undersigned shall sell the below mentioned immovable properties by private treaty or by Public Auction or by calling tenders under The Securitisation and Reconstruction of Financial Assets and enforcement of Security Interest Act, 2002.

Description of The Immovable Property

All that piece and parcel of Flat No.13 and 14 each admeasuring area 53.53 Sq.mtrs. on First Floor, of Sanjari Apartment Condominium, of S. No. 528/A/2/1/2, Final Plot No.294/P, Situated at Village-Nashik, Taluka and District Nashik within the limits of Nashik Municipal corporation, Nashik and bounded as under:- Flat No.13 - On or East : Colony Road, On or West : Staircase, On or South : Flat No.14, On or North : Open Space. Flat No.14 - On or East : Staircase, On or West : Khatib Farm, On or South : Flat No.13, On or North : Flat No.15.

The said propertiues together with all rights of easements, road,and open spaces, etc.

Sd/-
Dr. Haroon Sattar Sayyed
(Authorized Officer)
THE MUSLIM CO-OPERATIVE BANK LTD; PUNE.
(Nashik Wadala Road Branch)

Date: 10/12/2021
Place : Nashik

SBI भारतीय स्टेट बैंक State Bank of India

BRANCH -SARB THANE (11697) - 1st Floor, KEROM Building ,Plot No.112, Wagle Industrial Estate, Circle No.22, Thane (West) 400 604. Landline No.(Office)- 022-25806861, e-mail ID of Branch : sbi.11697@sbi.co.in

SALE NOTICE FOR SALE OF IMMOVABLE PROPERTY

E-auction Sale Notice for Sale of Immovable Assets under the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 read with provison to Rule 8 (6) of the Security Interest (Enforcement) Rules, 2002.
Notice is hereby given to the public in general and in particular to the Borrower(s) and Guarantor(s) that the below described immovable property mortgaged/charged to the Secured Creditor, the constructive/Physical possession of which has been taken by the Authorised Officer of State Bank of India, the Secured Creditor, will be sold on **"AS IS WHERE IS** and **AS IS WHAT IS "** and Whatever there is basis on **27.12.2021**
Authorised Officer's Details:- Name:- Mr. Narsing Suryawanshi, Mobile No: - 9004118770, Land-line No. (Office):-022-25806861

Name Of Borrower(s)	Outstanding Dues for Recovery of Which Property/ies is/are being Sold
Mrs.Sphurti Dashrath Malshikare & Pravin Prakash Gadhave	Rs. 27,27,611/- (Rupees Twenty Seven Lakhs Twenty Seven Thousand Six Hundred Eleven only) + future interest at the contractual rate on the aforesaid amount and incidental ex-penses, costs, charges etc. Demand Notice :- Date 18.11.2019

Names of Title Deed Holders	Description of Property	Date of e-Auction: 27.12.2021	Date and time for submission of request letter of participation / KYC Docu-ments/ Proof of EMD etc. on or before 24.12.2021upto 5.00 p.m	Earnest Money Deposit (EMD): on or before 24.12.2021, up to 5.00 p.m.
Mrs. Sphurti Dashrath Malshikare & Pravin Prakash Gadhave	Flat No.203, (Carpet approx 679 sq.ft as per Deed) Om Prathmesh Residency, Second Floor, A-Wing, Pen Borgaon Road, Datar Ali Talika Pen, District Raigad	Time of e-Auction: From 12.00 noon. to 2.00 p.m with unlim-ited extensions of 10 Minutes each	Reserve Price (Rs.)	29,15,000/-
			Earnest Money	10% of the Reserve Price i.e.
			Deposit (EMD)	Rs. 2,91,500
			Bid Increment Amount	Rs.10,000/-

Date & Time of inspection of the properties: 20.12.2021 from 1.00 pm to 3.00 pm (Contact Officer-Sapna Keswani 7888097790)
EE-Auction is being held on "**AS IS WHERE IS"** and **"AS IS WHAT IS BASIS"** and will be conducted "On Line". For detailed terms and conditions of the sale, please refer to the link provided in State Bank of India, the Secured Creditor's website : 1. https://www.mstcecommerce.com/auctionhome/ibapi/index.jsp 2. http://www.sbi.co.in

Date : 09.12.2021
Place: THANE

Authorized Officer
State Bank of India

Director General of Police
Maharashtra Police Headquarter
Shahid Bhagat Singh Marg, Colaba, Mumbai - 400001

TENDER PUBLICATION NOTICE

Maharashtra Police, invites proposal from reputed and experienced companies to participated in the competitive bidding process of following e-Tenders :

Sr. No.	Tender ID	Item Description	Pre-Bid Meeting Date	Deadline
01	2021_DGPMU_ 44931_1	Bullet Proof Jacket	14.12.2021 at 11.00 am	29.12.2021

2. Tender submission will be made online. For detailed Tender documents, interested bidders may kindly visit **https://mahatenders.gov.in**

Sd/-
(R.S.Changan)
Desk Officer
For Director General of Police
Maharashtra State, Mumbai

Dated : 09.12.2021
Place : Mumbai

Annexure-IV

Acknowledgement copies EC copy submitted local bodies, panchayats & municipal bodies

o/c

adani

No. NMIAL/Collector/GEN/0081 14th December 2021

The District Collector, Raigad
Near Heera Court Lake, Police Line,
Alibag-402 201
Maharashtra, India.

Subject: Environment & CRZ Clearance Granted to Navi Mumbai International Airport Pvt. Ltd. for "Ongoing project for establishment of Navi Mumbai International Airport (NMIA)"- reg.

Sir,

Navi Mumbai International Airport Private Limited (NMIAL) has been granted Environment & CRZ Clearance for "On-going Project for establishment of Navi Mumbai International Airport (NMIA) at Panvel Tahsil, Raigad District" vide EC identification No – EC21A029MH183036, File. No. 21-60/2021-IA-III dated December 1st, 2021 by the Ministry of Environment, Forest, and Climate Change, (MOEF&CC). A copy of the above-mentioned clearance letter attached herewith for your reference. This may also be seen on the website of Ministry of Environment Forest & Climate Change at https://parivesh.nic.in.

मेसर्स नवी मुंबई आंतरराष्ट्रीय विमानतळ लिमिटेड द्वारा "नवी मुंबई आंतरराष्ट्रीय विमानतळ (NMIA) – पनवेल तहसील, रायगड जिल्हा, महाराष्ट्र" येथे सुरू असलेल्या प्रकल्पास पर्यावरण, वन मंत्रालय व पर्यावरण बदल यांनी ओळख पत्र क्रमांक EC21A029MH183036, फाइल क्रमांक 21-60/2021-IA-III दिनांक १ डिसेंबर २०२१ रोजी द्वारे पर्यावरणीय व CRZ मंजुरी दिली आहे. सदर पर्यावरणीय समंती पत्राची प्रत यासोबत जोडली आहे, तसेच पर्यावरण, वन आणि हवामान बदल मंत्रालयाच्या https://parivesh.nic.in वेबसाइटवर उपलब्ध आहे.

Thanking you,

Yours faithfully,
For **Navi Mumbai International Airport Pvt. Ltd.**

Charudatta Deshmukh
Joint President
Head – Planning & Design

स्वीय सहाय्यक,
जिल्हाधिकारी, रायगड
अलिबाग
16/12/2021

Enclosures:

1. NMIA Environment & CRZ Clearance Letter dated December 1st, 2021.

Navi Mumbai International Airport Pvt Ltd
11th Floor, V Times Square, Plot no 3,
Sector 15, CBD Belapur,
Navi Mumbai – 400 614
Maharashtra, India

Tel +91 22 6851 9500

CIN - U45200MH2007PTC169174

Registered office: CSMI Airport, 1st Floor, Terminal 1B, Santacruz (E), Mumbai 400 099, India. T +91 22 6685 0900 / 6685 0901

adani

Copy to:

1. The Commissioner, Panvel Municipal Corporation. Swami Nityanand Rd, Opp. GOKHALE Marriage Hall, Tal-Panvel, Dist-Raigad, Pin-410206.
2. Ulwe Gram Panchayat, Tal Panvel, Dist-Raigad
3. Targhar Gram Panchayat, Tal Panvel, Dist-Raigad
4. Owle Gram Panchayat, Tal Panvel, Dist-Raigad
5. Pargaon Gram Panchayat, Tal Panvel, Dist-Raigad
6. Kopar Gram Panchayat, Tal Panvel, Dist-Raigad
7. Vadghar Gram Panchayat, Tal Panvel, Dist-Raigad
8. Waghavali Khar Gram Panchayat, Tal Panvel, Dist-Raigad
9. Pargaon Dungi Gram Panchayat, Tal Panvel, Dist-Raigad

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adani

No. NMIAL/CIDCO/GEN/0519 14th December 2021

Ms. Geetha Pillai,
Chief General Manager (T&A)
City and Industrial Development Corporation of Maharashtra Limited (CIDCO),
CIDCO Bhavan, CBD Belapur,
Navi Mumbai – 400 614.
Maharashtra, India

Subject: Environment & CRZ Clearance Granted to Navi Mumbai International Airport Pvt. Ltd. for "Ongoing project for establishment of Navi Mumbai International Airport (NMIA)"- reg.

Madam,

Navi Mumbai International Airport Private Limited (NMIAL) has been granted Environment & CRZ Clearance for "On-going Project for establishment of Navi Mumbai International Airport (NMIA) at Panvel Tahsil, Raigad District" vide EC identification No – EC21A029MH183036, File. No. 21-60/2021-IA-III dated December 1, 2021 by the Ministry of Environment, Forest, and Climate Change, (MOEF&CC). A copy of the above-mentioned clearance letter enclosed herewith for your reference. This may also be seen on the website of Ministry of Environment Forest & Climate Change at https://parivesh.nic.in

In an effort to comply with the conditions laid in the EC letter-2021, public has been informed about the grant of Environment & CRZ Clearance by Public Notice in newspaper Business Standard, Mumbai on 10.12.2021 and Lokmat (Marathi) on 10.12.2021 and copies of both Newspaper advertisement are enclosed herewith ready reference.

Thanking you,

Yours faithfully,
For **Navi Mumbai International Airport Pvt. Ltd.**

Charudatta Deshmukh
Joint President
Head – Planning & Design

CIDCO/CGM (T & A)
Received by
Date 15/12/2021

Enclosures:

1. NMIA Environment& CRZ Clearance letter dated December 1st, 2021.
2. Public Notice- English Newspaper Business Standard, Mumbai on 10th Dec. 2021
3. Public Notice – Marathi Newspaper Lokmat, Mumbai on 10th Dec 2021.

Navi Mumbai International Airport Pvt Ltd
11th Floor, V Times Square, Plot no 3,
Sector 15, CBD Belapur,
Navi Mumbai – 400 614
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