

Your (**Half Yearly Compliance Report**) has been **Submitted** with following details

Proposal No	IA/MH/MIS/154209/2020
Compliance ID	1228450466
Compliance Number(For Tracking)	EC/M/COMPLIANCE/1228450466/2026
Reporting Year	2026
Reporting Period	01 Jun(01 Oct - 31 Mar)
Submission Date	30-05-2026
RO/SRO Name	Shri Senthil Kumar Sampath
RO/SRO Email	agmu156@ifs.nic.in
State	MAHARASHTRA
RO/SRO Office Address	Integrated Regional Offices, Nagpur

Note:- SMS and E-Mail has been sent to Shri Senthil Kumar Sampath, MAHARASHTRA with Notification to Project Proponent.

Ref: NMIAL/MOEF/GEN/01419

Date: 30 May 2026

To,
Regional Office (WCZ),
Integrated Regional Office (IRO)
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 Half Yearly Compliance Report (October 2025 - March 2026) for conditions stipulated in the Environmental and CRZ Clearance granted to Navi Mumbai International Airport (NMIA).

Reference: - Environmental and CRZ Clearance granted to NMIA for Establishment of Navi Mumbai International Airport, vide EC Identification No. EC21A029MH183036 and File No. 21-60/2021-IA-III dated, November 28th, 2021.

Respected Sir/Madam,

With reference to the above subject, it is submitted that the Ministry of Environment, Forest and Climate Change (MoEF&CC) has granted Environmental and CRZ Clearance for the establishment of the Navi Mumbai International Airport (NMIA) at Panvel Tahsil, District Raigad, Maharashtra, vide EC Identification No. EC21A029MH183036 and File No. 21-60/2021-IA-III dated 28th November, 2021.

As per the Standard Condition B (VIII) – Miscellaneous, Sr. No. (iv) of the said EC and CRZ Clearance, the Project Proponent is required to submit six-monthly compliance reports on the status of compliance of the stipulated conditions.

Accordingly, we are submitting herewith the Half-Yearly Compliance Report for the period from 1st October 2025 to 31st March 2026 for your kind perusal and record

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



Ravindra Kumar Thakur
Head – Environment & Sustainability

Encl.: Clause wise EC Compliance Report for the period of October 2025 to March 2026 with Annexures.



**Navi Mumbai
International Airport**

- 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 Zonal Officer, Central Pollution Control Board, Survey no. 110, Heerbai Dhankude hall, Baner Road, Pune 411045.
- 3) The Member Secretary, Maharashtra Coastal Zone Management Authority, Environment & Climate Change Department, 15th Floor, New Administration Building, Mantralaya, Mumbai – 400 032.
- 4) Regional Officer, Raigad, Maharashtra Pollution Control Board, Raigad Bhavan 6th Floor, Sector-11, C. B. D. Belapur, Navi Mumbai.
- 5) Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, Jor Bagh Road, New Delhi – 3.

Navi Mumbai International Airport Pvt Ltd
S17-C, New Project Office, Near Ulwe Gaothan Bus Stop
Amara Marg, Ulwe
Navi Mumbai 410 206
Maharashtra, India
CIN: UN45200MH2007P1C169174

Tel: +91 22 6851 9500

Registered Office: S17-C, New Project Office, Near Ulwe Gaothan bus stop, Amara Marg, Ulwe, Navi Mumbai 410 206, Maharashtra, India

**Half Yearly Compliance Report of
Environmental & CRZ Clearance
For Ongoing Project for Establishment of
Greenfield Airport
Navi Mumbai International Airport (NMIA)**

S17-C New Project Office, Near Ulwe Gaothan Bus
Stop, Amara Marg, Ulwe
Taluka Panvel, Dist. Raigad, Maharashtra

Submitted To:

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

Central Pollution Control Board,
Zonal Office, Pune

Maharashtra Pollution Control Board,
Regional office -Raigad

Maharashtra Coastal Zone Management Authority
(MCZMA), Mumbai

Submitted By:

Navi Mumbai International Airport Pvt. Ltd. (NMIAL)
for

Compliance Period from October 2025 to March 2026

EC COMPLIANCE REPORT
(1st October 2025 to 31st March 2026)

Introduction

Environmental Clearance (EC) and CRZ Clearance for the Navi Mumbai International Airport (NMIA) project were initially granted by the Ministry of Environment, Forest and Climate Change (MoEF&CC) on 22nd November 2010, with CIDCO as the project proponent. Subsequently, an extension of the EC validity was granted on 20th December 2017, making it valid up to November 2020. In view of the COVID-19 pandemic, MoEF&CC further extended the validity of the EC up to 21st November 2021.

NMIAL received the transfer of the EC, originally issued in CIDCO's name and valid up to 21st November 2021, in its own name on 17th August 2020, as approved by MoEF&CC. Thereafter, a fresh Environmental and CRZ Clearance for the ongoing project, with a capacity of 60 million Passengers Per Annum (MPPA) and 1.5 MTPA cargo, was granted by MoEF&CC to NMIA with NMIAL as the project proponent on 28th November 2021 and formally issued on 01st December 2021. Commercial operations for Phase I and Phase II (20 MPPA) of NMIA commenced on 25th December 2025.

Further, Environmental and CRZ Clearance for enhancement of airport passenger capacity to 90 MPPA and cargo handling capacity to 2.25 MTPA was granted by SEIAA on 12 February 2026.

MOEF&CC's Environment and CRZ Clearance identification No.EC21A029MH183036 & file no 21-60/2021-IA-III dated November 28, 2021, and issued on December 01, 2021.

Detailed pointwise compliance report pertaining to the reporting period (October 2025–March 2026) is given below.

	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.	Being Complied NMIA is complying with all applicable conditions stipulated in the Environmental and CRZ Clearance issued vide Letter No. 10-53/2009-IA.III dated 22.11.2010. Details are given in this report.
ii.	PP shall submit compliance report to IRO-MoEF&CC, Nagpur for pending compliances within 6 months.	Complied- Six-monthly compliance reports for the respective compliance periods have already been submitted to IRO-MoEF&CC and have also been uploaded on MoEF&CC Parivesh Portal.

	EC & CRZ Conditions-2021	Compliance Status
		Acknowledgment of Last submitted HYCR report is attached as Annexure- 1
iii	Where construction activity is likely to cause noise nuisance to nearby residents, restrict operation hours between 7 AM to 6 PM.	Being Complied: Noise monitoring is carried out through MoEF&CC and NABL-accredited laboratory. The monitoring data for the reporting period is enclosed as Annexure 2. Noise-generating construction activities, such as drilling and material transportation, are restricted to daytime. To minimize noise and air pollution impacts, separate entry and exit routes have been designated for passenger and construction vehicles accessing the site.
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.	Being Complied. Hazard Identification and Risk Assessment (HIRA) has been carried out for construction activities and is periodically reviewed. Safety measures are implemented through contractors under the supervision of NMIAL's HSE team. The HIRA document is enclosed as Annexure-3. NMIA Disaster Management Plan (DMP) has been submitted to Raigad District Disaster Management Authority (DDMA) and Maharashtra State Disaster Management Authority
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	Complied. CIDCO, the nodal agency for Navi Mumbai International Airport has prepared "Detailed Traffic Management and Traffic Decongestion Plan for Navi Mumbai International Airport (NMIA)" in April 2020 which ensures 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. CIDCO has submitted final

	EC & CRZ Conditions-2021	Compliance Status
	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.	report for "Detailed Traffic Management and Traffic Decongestion Plan for Navi Mumbai International Airport (NMIA)" to MOEF vide letter No. CIDCO/GM(ENV&F)/NMIA/2020 /491 dated 14th July 2020. MMRDA also published "Updation of Comprehensive Transportation Study (TRANSFORM -2) for Mumbai Metropolitan Region" in year 2020 including Traffic decongestion plans and suggestions for Navi Mumbai International Airport at Regional and local level. Development of all transportation infrastructure required for NMIA (along with obtaining clearances and compliances for 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: NMIA plans to be exploring installation solar power and is also planning to procure renewable energy through off-site sourcing under the Open Access mechanism to reduce greenhouse gas emissions.
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.	Being Complied. The surface drainage system has been designed and planned to include rainwater harvesting (RWH) ponds of requisite capacity. Accordingly, RWH ponds have been developed. Necessary pre-treatment facilities, including oil-water separators and silt ponds, have also been proposed to remove suspended solids, oil, and grease.
viii	A certificate from the competent authority/ agency handling municipal solid waste should be obtained, indicating the existing civic	Being Complied During the reporting period, operation and construction works are ongoing at

	EC & CRZ Conditions-2021	Compliance Status
	capacities of handling and their adequacy to cater to the M.S.W generated from project.	site. Provisions have been incorporated since planning and design stage to implement zero waste to landfill approach. Solid Waste is being handled by Authorised Vendor, as per 5R (Refuse, Reduce, Reuse, Repurpose, and Recycle) principle of waste management. NMIAL has received approval from CIDCO vide Letter No. CIDCO/T&C/CGM(T&A)/NMIA/2024/E-8 87 dated 18 June 2024, wherein CIDCO for disposal of NMIA MSW at CIDCO's Chahal Solid Waste Management facility.,
ix	Fresh water requirements 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.	Being Complied. Freshwater requirement for the project is being met through water supply from CIDCO, while the remaining demand has been fulfilled using recycled water generated from the on-site Sewage Treatment Plants (STPs). No groundwater abstraction is being undertaken during either the construction or operational phases of the project. The water requirement for NMIA is being sourced exclusively from CIDCO, and the water assurance letter in this regard has been received from CIDCO is attached as Annexure -4
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.	Being Complied: STPs with a combined capacity of 5.5 MLD have been commissioned for Phases I and II. The water treated from these STPs is being utilized for flushing, gardening, and HVAC purposes, with zero liquid discharge of treated water from the NMIA site.
xi	The project proponents would commission a third-party study on the implementation of conditions related to quality and quantity of	Being Complied

	EC & CRZ Conditions-2021	Compliance Status
	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.	MPCB has granted Consent to Operate (CTO) for Phases I and II (20 MPPA) of NMIA.. Sewage Treatment Plants (STP) with a cumulative capacity of 5.5 MLD, , has been installed. The treatment water quality is being regularly monitored through MoEF&CC and NABL-accredited laboratory The third-party study of treated water quality will be conducted.
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.	Being Complied Green belt development is being implemented in a phased manner in compliance with airport operational safety requirements. Green/open area equivalent to approximately 33.63% of the NMIA site area has been planned and plantation activities are being undertaken progressively.
xiii	PP shall explore the use of non-ozone depleting substances in air conditioning systems.	Being Complied: Non-ozone-depleting refrigerants have been specified for chillers and DX units in the air-conditioning systems to prevent depletion of the ozone layer.
xiv	The PP shall also provide electric charging points in the parking areas for e-vehicles.	Being Complied Electric vehicle (EV) charging stations have been provided in the parking areas. The photograph of the EV charging stations of NMIA is enclosed as Annexure-5 .
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.	Being Complied: During the construction stage, all activities are confined within the approved NMIA project boundary of 1160 ha. No areas outside the project premises have been disturbed. A 60-m-wide North Road constructed by CIDCO along the northern boundary acts as an effective buffer between

	EC & CRZ Conditions-2021	Compliance Status
		NMIA and Panvel Creek, including mangroves and mudflats.
xvi	NMIA shall carry out the balance work without change in location, scope, area or capacity.	Being Complied NMIA shall 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.	Being Complied 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 23 rd October 2013 in PIL 87 /2006.
xviii	Work of diversion of Ulwe and Gadhi River is completed. NMIA shall carry out 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 consider 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.	Complied: The Ulwe river diversion work was completed in 2019 by CIDCO. In August 2024, CIDCO requested CWPRS to conduct detailed Mathematical Model studies to analyze the hydraulic flow conditions and understand the impact of diverted Ulwe streams on the Panvel creek coastline, its coastal ecology, and the surrounding areas, including settlements, habitats, and socio-economic patterns. Upon completion of this study, the final report will be submitted to MOEFCC. The copy of CIDCO letter addressed to CWPRS was submitted.
xix	NMIA shall regularly monitor the marine water quality of the Panvel creek during construction and post construction of the project.	Being Complied During construction and post construction as per conditions period Marine Water quality monitoring is carried out once every three months by NMIAL through MoEF&CC recognized & NABL accredited Laboratory. Monitoring has been continued during the further development/ operation phase.

	EC & CRZ Conditions-2021	Compliance Status
		Environmental monitoring reports for the reporting period are enclosed as Annexure -2
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.	Being Complied Electric vehicles (EVs) are predominantly utilized for operational activities within the project. NMIA assures compliance with this condition, subject to the availability of functionally suitable electric vehicles (EVs). s.
xxi	Mangrove Park shall be developed in consultation with Mangrove Cell, on site identified by the CIDCO.	Being Complied: The villagers (of Vaghiwali village) have not vacated the village and considering the recommendation of BNHS and as per NMDP modification by Urban Development Department, GoM vide letter G.R. No. TPS /1711/2495/C.R.202/11/UD-12 dated 21st March 2012 as of now Vaghiwali Island is being protected as No Development Zone (NDZ). CIDCO is examining an alternate location for Mangrove Park based on recommendations from the Bombay Natural History Society (BNHS). The new location/site will be identified away from the flight paths of NMIA to mitigate potential bird strike risks
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.	Being Complied: NMIA is exploring installation of onsite solar power and is also planning to procure renewable energy through off-site sourcing under the Open Access mechanism to reduce greenhouse gas emissions. Rainwater has been collected and transferred into harvesting ponds. Source segregated waste management system has been implemented for Phase 1 & 2 (20MPPA). Requisite energy conservation and water conservation measures have been adopted. Entire quantity of

	EC & CRZ Conditions-2021	Compliance Status
		treated sewage is being recycled for various purposes within the NMIA boundary thereby ensuring Zero Liquid Discharge.
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.	Being Complied: Construction stage, all activities will remain within the boundary of 1160 Ha. NMIA ensures that no area out of NMIA premises of 1160 Ha should be disturbed due to the construction activities. Along the northern boundary of the Navi Mumbai International Airport (NMIA), the City and Industrial Development Corporation (CIDCO) has constructed a 60- meter-wide North Road. This road acts as a buffer zone between the NMIA's northern boundary and the Panvel Creek, Gadhi River, including its mangroves and mudflats.
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.	Agreed to Comply: Construction activities are confined within the NMIA boundary, there is no work proposed in water or at waterfront, therefore there is no direct impact of NMIA project on fishing activity in surrounding water bodies. A detailed EIA study was conducted for the enhancement of NMIA's airport capacity to 90 MPPA, and the Environmental and CRZ Clearance was granted by SEIAA on 07 February 2026.
xxv	Green belt 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	Being Complied Green belt development is being implemented in a phased manner in compliance with airport operational safety requirements. Green/ open area equivalent to approximately 33.63% of the NMIA site area has been planned and plantation activities are being undertaken progressively.

	EC & CRZ Conditions-2021	Compliance Status
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.	Being Complied NMIA has an in-house Environment Management Cell led by the Head (Environment and Sustainability), reporting to Chief Airport Officer NMIA. Regular Ambient Air quality monitoring is being carried out through NABL & MOEFCC-recognized laboratory. Copy of Monitoring reports for the reporting period are enclosed as Annexure 2. Disaster Management Plan (DMP) for operation phase is prepared which has been submitted to the Raigad District Disaster Management Plan (DDMA) and State Disaster Management Authority.
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.	Being complied CIDCO had appointed BNHS to undertake long term Bird Monitoring program of NMIA area and its surroundings during construction and operational phases.
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: All applicable statutory approvals and clearances required under relevant Acts and Rules are being obtained and complied with for the NMIA 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.	Complied. Stage-I & Stage-II forest clearance for 250.0635 Ha land has been obtained from MoEF&CC vide letter no 8-98/212- 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

	EC & CRZ Conditions-2021	Compliance Status
		Minutes No. P.No.6-43/2007 WL-I dt. 1 st 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 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).	Being Complied Site Specific Conservation plan & wildlife management plan has been submitted to DCF (Wildlife) Thane.
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 & CTO for Phase I & II of the project for a passenger capacity of 20 MPPA and cargo capacity of 0.57 MTPA by MPCB, vide letter dated 15 June 2022 and 7 th October 2025, valid till (CTE) 5 th October 2026 and (CTO) 31 st August 2027 respectively. A copy of the CTE & CTO is enclosed as Annexure-6 .
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.	Agreed to Comply No ground water is being tapped during construction or operation phases. Potable Water is being sourced through CIDCO. Copy of the CIDCO Water Assurance letter is attached as Annexure - 4
vi	Clearance from Directorate General of Civil Aviation (DGCA) and Airports Authority of India (AAI) for safety and project facilities shall be obtained.	Being Complied Required aviation safety, security and operational approvals for exiting Phase 1& 2 (20 MPPA) have been obtained from DGCA, AAI, BCAS and other competent authorities.

	EC & CRZ Conditions-2021	Compliance Status
		NMIA shall ensure that all further required clearances shall be obtained from the concerned authorities
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.	Being Complied: The power supply requirement is 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 27 th December 2018. And SE/VC/TECH/VASHI/2023-24/02910 dt. 02 May 2024 attached as Annexure-7
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.	Being Complied Provisional Fire NOCs of Phase 1 & 2 have been received from CIDCO. Approval of PESO for DG sets diesel storage of 30KL vide letter P/WC/MH/15/2579 (P631889) dated. 23 October 2025 attached as Annexure -8
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 each), covering upwind and downwind directions.	Being Complied Ambient Air Quality Monitoring Station. Meanwhile, during construction, NMIAL has appointed MOEFCC/ NABL-recognized lab to conduct monthly air, noise, and groundwater sampling, and quarterly marine/surface water and soil sampling. Environmental monitoring reports for the reporting period are enclosed as Annexure 2.
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	Being Complied Installed DG sets are of enclosed type. As per the granted Consent to Operate (CTO), adequate stack height has been provided. The DG sets are being

	EC & CRZ Conditions-2021	Compliance Status
	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.	operated only during power failures and will utilize low sulphur diesel, ensuring compliance with applicable emission and noise standards prescribed by MPCB/CPCB. Details of the DG sets have been submitted to MPCB, based on which the CTO was granted vide letter dated 7th October 2025, valid up to 31st August 2027.
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.	Being Complied: Water sprinkling, proper storage of excavated materials, and covering of vehicles are being implemented during the construction phase to prevent fugitive dust emissions. Details are attached as Annexure-9 .
iv	The excavation working area should be sprayed with water after operation so as to maintain the entire surface wet.	Being Complied: Excavation working area is sprayed with water during construction activity.
v	Excavated materials shall be handled and transported in a manner that they do not cause any problems of air pollution.	Being Complied: Excavated material is mostly rock and has minimal soil. However, for such movement of any soil, spraying with water is being carried out. Excavation working area is being sprayed with water during construction activity.
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.	Being Complied: Water sprinkling, covered transportation of materials, proper handling of excavated material and covering of vehicles are being implemented to prevent fugitive dust emissions during construction.
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 plan shall	Being Complied Separate stormwater and sewage drainage systems have been provided. Runoff from paved areas is routed through oil-water separators. A Zero Liquid Discharge system has been

	EC & CRZ Conditions-2021	Compliance Status
	be drawn up and implemented to the satisfaction of the State Pollution Control Board.	implemented with 100% treatment and reuse of wastewater..
ii	Proper drainage systems, emergency containment in the event of a major spill during monsoon season etc. shall be provided.	Being Complied Separate stormwater and sewage drainage systems have been provided. Runoff from paved areas is routed through oil-water separators. A Zero Liquid Discharge system has been implemented with 100% treatment and reuse of wastewater.
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.	Being Complied The runoff from paved areas like runways and taxiways are routed through oil water separators at various places and further has been discharged into rainwater harvesting ponds. Attached as Annexure 10
iv	Storm water drains are to be built for discharging storm water from the airfield to avoid flooding/ water logging in project area. Domestic and industrial wastewater shall not be allowed to be discharged into storm water drains.	Being Complied Separate stormwater and sewage drainage systems have been provided to prevent waterlogging/ flooding in project area. The collected sewage is being treated through onsite STPs, and the treated water is being reused for gardening purposes. .
v	Rainwater harvesting for roof run-off and surface run-off, as plan submitted should be implemented. Rainwater 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.	Being Complied Surface runs off from apron areas passing through oil water separators before reaching to RWH pond. Silt pond has been provided prior to outfall to settle other particulate matters.
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.	Being Complied The total freshwater demand will not be exceeded as per granted Environmental Clearance. Water supply assurance has been obtained from CIDCO for Water Supply to NMIA vide CIDCO/ EE (Hetwane)/

	EC & CRZ Conditions-2021	Compliance Status
		2025/ 218 dt 19 th March 2025 as attached Annexure-4 .
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.	Being Complied: NMIA is treating and recycling 100% of the sewage/effluent generated and reusing the treated wastewater for cooling tower make-up, flushing, and gardening purposes. A Zero Liquid Discharge (ZLD) approach has been implemented to ensure that no effluent or sewage is discharged into surrounding water bodies or public sewers.
viii	A detailed drainage plan for rainwater shall be drawn up and implemented.	Being Complied: NMIA has prepared the detailed drainage master plan that was reviewed and approved by CWPRS. The same drainage master plan is being 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.	Being Complied. Ambient Noise monitoring is carried out every month & reports in this regard submitted to regional office of the Ministry as part of six- monthly compliance report regularly. Environmental monitoring reports for the reporting period are enclosed as Annexure 2 .
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.	Being complied: Electric vehicles (EVs) are predominantly utilized for operational activities within the project. DG sets are installed in enclosed structures and are operated only during emergency situations. All power machinery and equipment are regularly inspected and maintained in accordance with defined SOPs. Noise levels are consistently monitored and

	EC & CRZ Conditions-2021	Compliance Status
		are maintained within the prescribed regulatory limits The copy of NMIA site Noise Monitoring reports and DG set monitoring reports are attached as Annexure -2
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.	Being complied: Installed DG sets are of enclosed type. As per the granted Consent to Operate (CTO), adequate stack height has been provided. The DG sets shall be operated only during power failures and will utilize low sulphur diesel. Installed DG sets are with acoustic enclosures, required PPE are provided to the DG set operator.
iv	During airport operation period, noise should be controlled to ensure that it does not exceed the prescribed standards. During nighttime the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.	Being complied: Regular noise monitoring is being conducted. The copies of the Noise Monitoring Reports are attached as Annexure-2 .
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.	Being Complied: Energy efficient light fittings have been considered in the design of lighting system. Necessary energy conservation measures have been 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).	Being Complied: Opportunity to conserve the soil stockpile is limited as most of the excavated soil material is used in green belt development or back filling.

	EC & CRZ Conditions-2021	Compliance Status
ii	The project activity shall conform to the fly Ash notification issued under the E P. Act of 1986.	Being Complied: Fly ash has been considered in the concrete mix design and is being used 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 of as per Solid Waste Management Rules, 2016 and Construction and Demolition Waste Management Rules, 2016.	Being Complied: Inert material comprising of construction debris has been collected and stored at a designated place within NMIA site. Recyclable material such as glass, metal, cardboard, plastic and paper, etc. are being disposed of through the registered scrap dealer/agency. Inert material comprising of construction and demolition debris is collected and filled at a designated place within NMIA site. Other recyclable materials such as glass, metal, cardboard, paper, etc. to a registered MPCB scrap dealer.
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.	Being Complied: Construction and demolition waste generated during development phase shall be being handled as per The Construction and Demolition (C&D) Waste Management Rules, 2026. .
v	The project proponents shall implement a management plan duly approved by the State Pollution Control Board and obtain its permission for the safe handling and disposal of:	Being Complied: NMIAL has prepared and implemented Waste Management Plan for Development and Operation Phase. NMIA also obtained consent to operate (CTO) from MPCB for Handling and Management of Solid and Hazardous Waste.
	a. Trash collected in flight and disposed at the airport including segregation, collection and disposed.	Being Complied: Trash collected from flights is collected and transported to NMIA's centralized solid waste management facility for segregation and dispose of through authorized vendors/ agencies. .

	EC & CRZ Conditions-2021	Compliance Status
	b. Toilet wastes and sewage collected from aircrafts and disposed at the Airport.	Being Complied: Sewage cart trucks collect sewage from aircraft and transport it to a Triturator for primary treatment. The sewage will then pump to the sewage treatment plant for final treatment, with the treated sewage water being reused for non-potable purposes.
	c. Wastes arising out of maintenance and workshops	Being Complied: Waste arising from maintenance and workshops are being collected and stored at Hazardous Waste Management facility at dedicated areas and the same is disposed of through authorized vendors.
	D. Wastes arising out of eateries and shops situated inside the airport complex.	Being Complied: Wastes from eateries is being collected at SWM facility after segregation the to the Biodegradable waste is sent to onsite bio-gas plant and non-biodegradable Waste is dispose of through authorized vendors.
	e. Hazardous and other wastes	Being Complied Hazardous Wastes being collected and temporary stored at Hazardous Waste Management Facility and the same is disposed of through HW authorized vendor.
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	Being Complied Dedicated Solid Waste Management facilities have been provided for waste collection, segregation, safe storage and compliant management as per Solid Waste Management Rules 2025 as amended. Separate storage compartments are being provided for storage of different categories of solid waste. Photographs of NMIA solid waste management facility is attached as Annexure 11

	EC & CRZ Conditions-2021	Compliance Status
	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.	Being complied: Used CFL and TFLs are being collected and disposed of through MPCB authorized vendor.
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.	Being Complied: Green belt/ vegetation within airport is being developed complying to operational safety requirement of airport.
ii.	Topsoil shall be separately stored and used in the development of green belt.	Being Complied: Topsoil is being separately collected and stored for reuse. It will be analysed and utilized for green belt development and site backfilling.
VII.	Public hearing and Human health issues:	
i	Construction site should be adequately barricaded before the construction begins.	Complied: Metal sheet barricading is being done around the construction site, and permanent RCC peripheral wall constructed around the airport premises Photographs enclosed as Annexure -12
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.	Being Complied: Separate entry and exit points have been provided for construction vehicles and workers. Passenger vehicle access has been planned independently from Amara Marg, with dedicated connectivity to both departure and arrival areas to ensure smooth, safe, and efficient traffic movement. Within the NMIA premises, designated parking areas have been developed for

	EC & CRZ Conditions-2021	Compliance Status
		buses, private taxis, and autorickshaws to avoid congestion on surrounding roads. Additionally, dedicated internal roads have been established for offices and other establishments, facilitating seamless circulation of all vehicles within the airport area. For Phases 1 and 2, adequate parking infrastructure has been provided within the NMIA site, with a capacity of 2,500 Equivalent Car Units (ECUs). No public spaces are utilized for airport construction or passenger-related activities, ensuring that all such operations are strictly confined within the project premises.
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.	Being Complied: Disabled person toilets are being designed as per National Building Code, 2016. Children nursing/ feeding room being provided as per international best practice for airport passenger services.
iv	Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	Hazard Identification and Risk Assessment (HIRA) has been carried out and is periodically reviewed. The HIRA document is enclosed Annexure - 3. Disaster Management Plan (DMP) for operation phase is prepared which has been submitted to the Raigad District Disaster Management Plan (DDMA) and State Disaster Management Authority.
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.	Being Complied: Requisite provisions for labour camp have been made at project site. All required facilities have been provided for workers at Labor camp.

	EC & CRZ Conditions-2021	Compliance Status
vi	Occupational health surveillance of the workers shall be done on a regular basis.	Being Complied: All requisite health surveillance facilities have been provided for workers and regular health checkups of workers are also ensured. .
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 submitted with EC Compliance report July- December 2021. Copies of EC and CRZ clearance are available on NMIAL web site. https://navimumbai.adaniairports.com/en/report
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 must display the same for 30 days from the date of receipt.	Complied. Environmental clearance letters were submitted to Local Bodies, Panchayats and municipal bodies.
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.	Being Complied: All EC related compliance reports filed by NMIAL are uploaded on NMIAL website and available at the link. https://navimumbai.adaniairports.com/en/report
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.	Being Complied: Six-monthly compliance reports of stipulated environmental conditions are being regularly submitted through the Ministry of Environment, Forest and Climate Change (MoEF&CC) Environmental Clearance Portal.

	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.	Being Complied: NMIAL has Environmental, Social and Governance (ESG) Policy approved by the Chief Executive Officer (CEO) of NMIAL. Environmental management Plan for construction & operation phase has been prepared which provides standard operating procedures and a system of checks and balances through continuous inspection and monitoring of environment, health & safety standards, & records of requisite data. This EMP has been circulated to all in design and construction teams. Environment Management Framework and Institutional framework of EMP.
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.	Complied: NMIA has an in-house Environment Management Cell led by the Head (Environment and Sustainability), reporting to Chief Airport Officer NMIA.
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.	Being Complied: Environmental management plan for construction phase and operations phase has been presented in Chapter 10 of 2021-EIA report along with the budget. The expenditure incurred on EMP implementation till 31st March 2026 is approximately 130 Cr.

	EC & CRZ Conditions-2021	Compliance Status
viii	Self-environmental audit shall be conducted annually. Every three years third party environmental audit shall be carried out.	Being Complied: NMIAL's environment team conducts inspection of all activities of contractors. Independent engineer appointed conducts monthly review of compliance. A third-party environmental audit shall be conducted once every three years.
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.	Being Complied: We assure to abide by the condition. The resource consumption and waste generation figures in the Consent to Establish relate to the operations stage of Phases 1 and 2 (20 MPPA). An Environmental Statement in Form V for FY 2024-25 has been submitted to MPCB portal.
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.	Being Complied: All EC related compliance reports are being uploaded on NMIAL website. NMIA does regularly monitors pollutants like PM ₁₀ , PM _{2.5} , SO ₂ , NO _x through NABL & MOEFCC approved laboratory and displays the results near the main gate of NMIA project site. Photograph is attached as Annexure 13
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.	Complied: Financial Closure for NMIA project Phase 1 & 2 (20 MPPA) was achieved on March 29, 2022, when State Bank of India (SBI) as a lead bank agreed to underwrite full loan amount of Rs. 12,770 Cr.
xii	The project. authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	Agreed to Comply
xiii	The project proponent shall abide by all the commitments and recommendations made in the	Agreed to Comply

	EC & CRZ Conditions-2021	Compliance Status
	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).	Being Complied: Environment and CRZ Clearance for Enhancement of Airport Capacity of Navi Mumbai International Airport (NMIA) has been granted by State Level Environment Impact Assessment Authority (SEIAA), Maharashtra Vide File No. SIA/MH/INFRA2/556803/2025 dated 12 th February 2026 Copy of the EC letter is attached as Annexure-14
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.	Agreed to Comply
xvi	The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	Agreed to Comply
xvii	The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	Agreed to Comply
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.	Agreed to Comply
xix	The above conditions shall be enforced, inter-alia under the provisions of the Water (Prevention &	Agreed to Comply

	EC & CRZ Conditions-2021	Compliance Status
	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.	Agreed to Comply

**Compliance to conditions stipulated in
Environment Clearance & CRZ
Clearance No.10-53/2009-I.A. III dt.
22.11.2010 & dt 20.12.2017**

**Present Status of Compliance to Conditions stipulated in EC & CRZ Clearance
No.10-53/2009-I.A. III dt. 22nd Nov 2010 & dt 20th Dec 2017**

Sr. No	Stipulated Condition-2010	Compliance status
7.	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 to Establish (CTE) has been granted to NMIA by MPCB vide letter No. Format 1.0/ CAC/UAN No. MPCB-CONSENT- 0000128221/CE-2206000673 dt. 15.06.2022 for Phase I & II (20 MPPA & Cargo Capacity 0.57 MTPA) which is valid up to 5 th October 2026. This document supersedes the previous CTE obtained for development of Navi Mumbai International Airport.
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&R package development and implementation was 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. CIDCO has handed over 100% encumbrance free RoW of the project site of 1160 Ha to NMIAL on 10 th June 2022.
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 vide Bombay High Court order dated October 29, 2013, as applicable.
iv.	The plantation and protection of mangroves over an area of 615 ha (245 hectares of good quality Mangroves Park shall be developed	Complied: The Urban Development Department, GoM has sanctioned change in Navi Mumbai Development Plan vide letter

Sr. No	Stipulated Condition-2010	Compliance status
	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.	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 has been declared as per the Forest clearance condition of compensatory mangrove plantation. Details of mangrove pockets development including compensatory mangrove plantation and development of other pockets have been submitted by CIDCO vide letter CIDCO/ GM(ENV&F)/ nmia/ 2019/038 dtd 11th September 2020.
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 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.	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 has also completed 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 Airport Master Plan, incorporating CWPRS recommendations and integrating with CIDCO drains plan and abiding by EC conditions. The storm Water from NMIA project area has been discharged in Pavel creek and Gadhi River after

Sr. No	Stipulated Condition-2010	Compliance status
	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.	settling fine particles in the silt pond proposed before outfall. 3. The Drainage Master Plan of airport is prepared for the worst conditions (highest high tide, tidal surge, maximum rainfall intensity of 148.1mm/hr and simultaneous flooding in all rivers). NMIAL had engaged CWPRS to review the internal drainage system designed for the airport area to ensure its compatibility and suitability with external Drainage Master Plan of CIDCO for surrounding areas. 4. The Master plan developed by NMIA has been ensured that there is no discharge into the Ulwe recourse channel from Airport as mandated in EC.
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 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.	Complied: Main drains designed based on 148.1mm/hr for 1 in 100-year Return Period value recommended by CWPRS. Recommendations of the CWPRS report on Comprehensive Master Plan for Surface drainage and Flood protection and its compliance has been submitted to MOEFCC as a part of EIA report of 2017 which is being complied through the planning and design process.

Sr. No	Stipulated Condition-2010	Compliance status
vii.	Systemic and periodic monitoring mechanisms 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-surface flow as well as impact on aquifers.	Complied: NMIAL has appointed NABL & MOEFCC recognized laboratory, for the monitoring for Air & noise and Ground water sampling on monthly basis. Marine/ Surface water, & sampling soil on quarterly basis. Environmental Monitoring report for the reporting period are attached as Annexure 2 Since entire project is being constructed on land filled with broken rocks to an average level of 8.5 m AMSL and since ground water is not being mined for any project activity, sub-surface flow or the aquifer is not likely to be impacted.
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: Drainage Master 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 low and obstructions due to such factors are considered while designing Master Drainage layout. During construction phase run off will be passed through silt traps before letting it out to Panvel Creek and Gadhi River. The Storm Water drains are designed incorporating in-line features like silting chamber and oil water separator (for surface runoff from aprons) to remove suspended matter and oils.
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 channel along the northern	Complied: It may be noted, as per CIDCO report vide Letter CIDCO/GM(ENV&F)/NMIA/2019/938 dated 11th September 2020 available at URL:

Sr. No	Stipulated Condition-2010	Compliance status
	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.	https://cidco.maharashtra.gov.in/pdf/E_C_Compliance/160043466783295_N_MIAECCComplianceStatusFinal-.pdf as submitted to MOEFCC, that: 1. The proposed North connecting channel is designed in accordance with the Model studies carried out at CWPRS, Pune as submitted by CIDCO. 2. As per CWPRS recommendations Northern Channel is planned with 75 m width. Further, studies carried out with 75 m Northern channel having bed levels of -2 m and -1 m revealed that there are no significant changes in maxima flood levels predicted with earlier studies as reported in CWPRS report. CIDCO has also submitted to MOEFCC that at present 60% of the area of the channel is covered by Mangroves and hence is being retained as it is. However, sufficient care is ensured that flow is not obstructed. Construction of new Channel for Gadhi River, north of NMIA Site shall be completed by CIDCO. NMIAL has requested an update from CIDCO in this regard.
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: It may be noted, as per CIDCO report vide Letter CIDCO/GM(ENV&F)/NMIA/2019/938 dated 11th September 2020 available at URL: https://cidco.maharashtra.gov.in/pdf/E_C_Compliance/160043466783295_N_MIAECCComplianceStatusFinal-.pdf, as submitted to MOEFCC, that all the flow channels in No Development Zone (615 Ha.) are kept undisturbed. CWPRS studies show that siltation rates in Gadhi River and Panvel creek are low.

Sr. No	Stipulated Condition-2010	Compliance status
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 development in all the areas not protected by adequate mangrove buffer along the Panvel creek and Gadhi river may be considered through studies.	Complied: It may be noted, as per CIDCO report vide Letter CIDCO/GM(ENV&F)/NMIA/2019/938 dated 11th September 2020 as submitted to MOEFCC, that: 1. Mumbai University has quantified the affected mangroves using Satellite Imagery for years 1995, 2000, 2005 and 2010. and qualitative analysis is done by field study to ascertain Density & Dominance of affected mangrove area. 2. The same was incorporated in the Updated EIA Report of 2011 and Comprehensive EIA Report 2017. 3. CIDCO has developed compensatory mangrove plantation over 108.67 Ha at S. No. 27, village Kolhekhar in between Jui creek and Taloja creek through the Mangrove Cell of State Forest Dept. Further, CIDCO has modified Navi Mumbai Development Plan (NMDP) to provide mangrove cover in four NDZ pockets over 616.2 Ha which was approved by GoM vide G.R. dt 12.03.12. 4. The scheme for regeneration of Mangroves is prepared through a consultant M/s. Lewis Environment Services USA. The regeneration of mangroves was done in a phased manner, in consultation with the Mangrove Cell of State Forest Dept. through FDCM in the 310 Ha of NDZ to the Northeast of airport, 60 Ha in Moha Creek and 20 Ha on North of Airport. A certificate from Mangrove Cell, Forest department showing completion of Mangrove regeneration over 390 Ha and photographs have been submitted. CIDCO's position regarding development of Mangrove biodiversity

Sr. No	Stipulated Condition-2010	Compliance status
		park is replied to in item sr. no. (iv) above.
xii.	Whatever EIA data was submitted and presented was related to a situation for "no airport condition". The project proposal has undergone 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.	Being Complied: Updated EIA report was submitted to MoEF, MPCB and MCZMA on 21st April 2011 by CIDCO. Further, a Comprehensive EIA report incorporating the various studies / activities carried out by CIDCO post Environmental Clearance, has been prepared and submitted to MoEF, MPCB and MCZMA vide letter dtd 29th August 2017. 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://www.nmiaairport.co.in/circulars) Environmental Audit will be conducted after fully commissioning of phase 1 & 2 (20MPPA) which is under implementation.
xiii.	The water quality of the River Gadhi, Ulwe, the Panvel Creek 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	Complied: Marine Surface Water quality monitoring is being carried out on quarterly basis and ground water monitoring on monthly basis by NMIAL through MoEF&CC recognized Lab.

Sr. No		Stipulated Condition-2010	Compliance status
		the construction work and the quarterly reports to be submitted to Ministry of Environment and Forests Govt. of India and MPCB.	Environmental analytical reports for the reporting period are attached as Annexure 2
	xiv.	The wastewater generated from the aircraft maintenance hangars 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.	Being compiled: We assure compliance with the stipulated condition. The aircraft maintenance hangars are currently under construction. Primary treatment will be provided at the hangars to remove heavy metals, after which the sewage will be conveyed to STP for further treatment, followed by UF and RO.
	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.	Being compiled: It may be noted that runway pavement has been designed taking into consideration subsoil condition, and the subgrade below pavement is not a source of noise/ vibration. Any noise on landing is sourced from the aircraft undercarriage and therefore subject to aircraft attributes and undercarriage improvements by aircraft manufacturers. On take off the dominant noise is from the engines. Engine noise is being reduced progressively due to development of high-bypass engines and development of engine nacelles.
	xvi.	Standard instrument arrival and departure procedure shall be designed to minimize the noise levels within the permissible limits for the area falling in the funnel near the airport on either side.	Being complied- Standard instrument arrival and departure procedures are designed by Airport Authority of India (AAI) considering International Civil Aviation Organization (ICAO) standards and recommended practices.

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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.	Being Complied: Energy efficient light fittings have been installed in phase 1& 2 buildings.
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.	Being Complied: It may be noted, as per CIDCO report, as submitted to MOEFCC, that a detailed Connectivity Study "Regional and Local Transport Connectivity Plan for Navi Mumbai International Airport" has been carried out through international consultant M/s. Lea Associates South Asia Pvt Ltd. Based on the findings of study, CIDCO and various state Government agencies have taken up various projects for improving the connectivity through various modes, by giving emphasis to public transport.
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.	Being Complied: It may be noted, as per CIDCO report, vide Letter CIDCO/GM(ENV&F)/NMIA/2019/938 dated 11 th September 2020 as submitted to MOEFCC, the National and State Highway surrounding the airport are being upgraded for increased traffic by Mumbai JNPT Port Road Company Ltd (MJPRCL) and PWD. The proposal was to widen the existing National and State Highways in the airport vicinity to 8 Lane with service roads and further to 6 Lane with service roads has been completed by MJPRCL. Widening of Sion – Panvel highway up to 10 lanes is also completed. Further,

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		additional bridges are being constructed at the Thane Creek bridge on Sion- Panvel Highway. The Seawoods-Uran Rail link has been commissioned as part of this work. These connectivity development projects include Mumbai Trans Harbour Link (MTHL) (connecting Sewri and Navi Mumbai) is commissioned by MMRDA, expansion of Amra Marg (NH 348A -west of NMIA site) and NH4B bypass (NH 548 east of NMIA site) by MJPRCL is completed construction of North Road is completed and road to the south of the NMIA project by CIDCO is under implementation.
xx.	The measures should be taken to improve public transportation including dedicated road / MRTS 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.	Being Complied: It may be noted, as per CIDCO report vide Letter CIDCO/GM(ENV&F)/NMIA/2019/938 dated 11th September 2020 as submitted to MOEFCC, that CIDCO has initiated discussions with Mumbai Railway Vikas Corporation Ltd (MRVC) as well as MMRDA for planning a direct metro rail link to the airport. The Master Plan of airport envisages metro connectivity from Mumbai and Navi Mumbai to western and eastern part of airport. CIDCO appointed an agency for "Preparation of Detailed Project Report (DPR) for proposed Metro Line from CSMIA- Mankhurd NMIA & (Extension of CSMIA- Mankhurd Metro Line-8)," in November 2022. CIDCO is also planning to integrate Metro Line from Mankhurd to NMIA with Belapur-NMIA Line-IA (Extension of Navi Mumbai Metro Line-I Belapur-Pendhar) at Sagarsangam station. Detailed Project Report for the same is being prepared.

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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).	Being Complied: Construction phase traffic management plan has been prepared with entry/ exit scheme and queue length for NMIA construction vehicles. Also, necessary parking space has been created within the NMIA site so that public space is not occupied for parking of construction vehicles. During the construction phase, vehicles associated with NMIA construction activities are scheduled to operate on external roads during non-peak hours. This approach will help reduce traffic congestion and maintain the desired Level of Service on these roads. Furthermore, construction vehicles will be restricted to service roads along external routes, ensuring that through traffic remains undisturbed. Additionally, the airport boundary wall constructed will serve as an effective noise barrier for external roads.
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.	Being compiled: A Risk Assessment and Disaster Management Plan has been prepared to prevent accidental damage to the adjacent ecologically fragile areas, including mangroves. The Operational Phase Disaster Management Plan has been prepared and submitted to the District Disaster Management Authority (DDMA) Raigad and Maharashtra State Disaster Management Authority. For the construction phase, EPC contractors have prepared Risk Assessment and Disaster Management Plans in accordance with the provisions of the EPC contract. The implementation of these plans is supervised by the NMIA safety team.

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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 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.	Being compiled: We assure to abide by the condition. However, we assure you that action will be taken as per condition (xxii) cited above.
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.	Being compiled: The NMIA project is periodically monitored by Hon. Chief Minister, Government of Maharashtra. Periodic review meetings and site visits are conducted by the Hon. CM and the Hon. Union Minister, Ministry of Civil Aviation, Government of India. Additionally, the Secretary, MoCA, DGCA and Chairman AAI are also regularly monitoring the NMIA project. In view of these multiple periodic project reviews, this condition may be considered as complied. Also, the environmental compliance along with the monitoring data are being uploaded to the company website.
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.	Being compiled Detailed Construction and Operation phase EMP and monitoring plan with budgetary allocation have been dealt with in EIA report 2021 & 2025 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	Agreed to Comply This condition is not relevant in current context, as NMIAL has included all

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	property development shall be undertaken within the proposed aeronautical Airport Zone area (1160 ha).	future airport expansions in the Final Phase Master Plan of NMIA considering all future aeronautical requirements, up to ultimate airport capacity of 90 MPPA. CIDCO has approved NMIA Master Plan Layout Plan for this eventual capacity of NMIA.
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: It may be noted, as per CIDCO report vide Letter CIDCO/GM(ENV&F)/NMIA/2019/938 dated 11th September 2020, as submitted to MOEFCC, that: 1.The Navi Mumbai Development Plan has been revised vide Govt. Order No. TPS-1711/2495/C.R. 202/11/UD-12 vide dtd. 21st March 2012 & copy was submitted. 2., GoM has issued notification dated 10th January 2013, declaring the area around proposed International Airport as "Navi Mumbai Airport Influence Notified Area" (NAINA) and appointed CIDCO as the Special Planning Authority to avoid haphazard development around the airport. Copy of NAINA Notification was also submitted to R.O. MOEFCC, Nagpur. 3. BNHS is conducting decadal avifauna study in NMIA region. BNHS submitted Mid Term Report 2018-2023 for Long-term bird monitoring programme of Navi Mumbai International Airport (NMIA) Area and its Surroundings during Construction and Operational Phases. Copy of this Report has been submitted as Annexure-3 of NMIA Half yearly compliance report of Apr-Sept 2025.
xxviii.	All other nearby villages, if not required to be relocated should be provided with best possible infrastructure so that they compare	Complied: It may be noted, as per CIDCO report vide Letter CIDCO/GM(ENV&F)/NMIA/2019/938

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	well with the adjoining ultra-modern airport infrastructure.	dated 11 th September 2020, as submitted to MOEFCC, that all the nearby villages are being provided physical and social infrastructure under Gaothan expansion scheme & Grant in Aid scheme is implemented to develop social infrastructure in nearby villages for improvement of social infrastructure like water supply, sanitation, providing sewerage system, roads etc.
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.	Being compiled: CRZ clearance has been obtained by NMIAL along with EC-2021 wherein, NMIA boundary has been clearly demarcated. All developmental activities of the project are within this boundary. CIDCO has obtained requisite CRZ clearance for off-site infrastructure such as north boundary road, bridges of eastern side, etc. wherever road component touches tidal influence area of the rivers. Master Plan was prepared for NMIA development is in strict compliance with the applicable CRZ provisions and requirement for compliance in this regard has been incorporated appropriately into the Concessionaire Agreement with NMIAL.
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 quarterly environmental monitoring at pre-defined locations in surface waters around the airport. The quarterly monitoring of turbidity is being carried out. Environmental

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		analytical reports for the reporting period are attached as Annexure 2
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.	Being Complied: BNHS was appointed by CIDCO to do the Base Line Survey of Avian Fauna between 2012 to 2016. Quarterly reports of BNHS are available on CIDCO website in public domain. CIDCO has also signed a long-term MOU (ten-year period ending 2028) with BNHS. Aim of this decadal study is long term monitoring, conservation, and supervision of the terrestrial and water birds with reference to NMIA and associated regions and implementation of Bird Threat Mitigation Plan. BNHS submitted Mid Term Report 2018-2023 for Long-term bird monitoring programme of Navi Mumbai International Airport (NMIA) Area and its Surroundings during Construction and Operational Phases. Copy of this Report has been submitted as Annexure-3 of NMIA Half yearly compliance report of Apr-Sept 2025.
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 locations and details as may be required under the EIA Notification 2006 and the CRZ Notification.	Complied: CIDCO has sought separate approvals for associated infrastructure of airport. The status of various clearances is as below: • The CRZ clearance for off-site physical infrastructure of roads, bridges and interchanges has been granted by MCZMA vide letter dated 15th February 2016 which was due for expiry in Feb 2023. Extension of 3 years up to 12 Feb 2026 has been obtained by CIDCO. • CRZ clearance for Shifting of EHV lines has been granted by MOEF vide letter no. F.No.11-38/2016-Ia.III dated

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		28th August 2017. The work shifting of EHVT lines has been completed. • Forest Clearance Stage I & II for shifting of EHVT Lines was received vide letter dt. 02.08.18; and 31.03.2022 respectively The Bombay High Court permitted CIDCO to clear Mangroves for the rerouting of EHVT lines for development of NMIA vide its Order dt. 19th December 2013 in WP no 22362 OF 2019. The work of shifting EHVT lines has been completed.
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	Being compiled: The Bureau of Civil Aviation Security (Ministry of Civil Aviation) guidelines will be followed. Further, regular coordination with Navi Mumbai Police for Coastal security and internal risks. NMIAL has received BCAS approval for NMIA Master Plan and all projects of Phase I & II.
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 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.	Being Compiled: The NMIA project is periodically monitored by Hon. Chief Minister, Government of Maharashtra. Periodic review meetings and site visits are conducted by the Hon. CM and the Hon. Union Minister, Ministry of Civil Aviation, Government of India. Additionally, the Secretary, MoCA, DGCA and Chairman AAI are also regularly monitoring the NMIA project. CIDCO has engaged international consultant "AECOM Asia Company Ltd." as an Independent Engineer (IE) for monitoring and supervision of NMIA development. NMIAL has also engaged various international experts for planning, design, supervision, and operation of NMIA.

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			Thus, conditions 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: Regular monitoring of ambient air and noise levels is being carried out by NABL & MoEFCC lab and monitoring reports are being submitted along with six monthly compliance reports. The Monitoring reports of compliance period are attached as Annexure 2
	xxxvi.	The solid waste shall be properly collected, segregated and disposed as per the provision of Solid Waste (Management and Handling) Rules, 2000.	Being Complied: During the operational phase, solid waste is being handled inline to 5R principle (Refuse, Reduce, Reuse, Repurpose, and Recycle) and segregated at the Solid Waste Management Facility. All organic waste is treated at the biogas plant, while recyclable waste is sent to MPCB-authorized recyclers. At present, during the construction phase, solid waste management compliance is assigned as a responsibility of the EPC contractors. The NMIAL Environment Team regularly monitors compliance.
	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.	Being complied: EPC Contractor has provided labour housing facilities as per BoCW Act and corresponding Rules.
	xxviii.	A First Aid Room will be provided in the project both during construction and operation of the project.	Being Complied: First aid facilities have been provided at site offices of various contractors as also in labour colony. In addition, EPC contract mandates contractor to

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			maintain an ambulance and have tie up with local Hospitals to ensure that in case of emergency necessary medical facilities will be available. Safety team of NMIAL regularly monitors safety compliance of the contractor.
	xix.	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.	Being Complied: C&D waste is being disposed of as a filler material at a designated place within the NMIA site. No muck is taken out of NMIA site during the ongoing Phase I & II (20 MPPA) construction for disposal.
	xi.	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 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 and Ground water sampling on monthly basis. Marine/ Surface water & sampling soil on quarterly basis. Environmental analytical reports for the reporting period are enclosed as Annexure 2
	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.	Being Complied: Inert construction spoils are collected and deposited at a designated area within the site as a filler material. Bituminous waste is collected given to Hot Mix Plant for recycling. No material is allowed to contaminate surface water or ground water.
	xlii.	Installation and operation of DG set shall comply with the guidelines of CPCB.	Being complied: DG installed on site as per complying with the CPCB guidelines.

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	xlili.	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.	Being Complied: Installed DG sets are enclosed type, and being operated only during power failures, using low-sulphur diesel is being used and complying with applicable emission and noise standards as per MPCB/ CPCB.
	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.	Being Complied: The diesel required for DG sets is being stored in underground tanks located near the DDS area. PESO approval for the underground storage tanks has been obtained as attached Annexure 8 .
	xliv.	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.	Being Complied: We assure MOEFCC that this condition is being complied. PUC certificate of each vehicle and its condition is checked by respective contractors while entering the NMIA project site for validity and emission standards.
	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.	Being Complied: Ambient air quality & noise monitoring is carried out through a MoEF&CC & NABL recognized laboratory at designated locations within and outside the project area. Monitoring reports for the reporting period are enclosed as Annexure-2
	xlvi.	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 27 th August, 2003.	Being Complied: Fly ash has been considered in the concrete mix design and is being used during construction. All contractors have been asked to maintain record for use of fly ash.

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xlvi.	Ready mixed concrete must be used in building construction.	Being complied: Onsite Ready Mixed Concrete (RMC) plant has been installed within project site. Ready mixed concrete is being used in building construction.
xlix.	Storm water control and its re-use as per CGWB and BIS standards for various applications.	Being Complied: Storm water drains are provided with the silt pond before discharge. At construction stage, storm water is not being reused. During operations phase, water from Rainwater Harvesting Pond will be used for landscape development.
I	Water demand during construction should be reduced by use of pre-mixed concrete, curing agents other best practices referred.	Being complied: We assure MOEFCC to abide by the condition during construction phase. Curing agents have been included in the tender specifications for all grades of concrete.
li	Use of glass may be reduced by upto 40% to reduce the electricity consumption and load on air-conditioning. If necessary, use high quality double glass with special reflective coating in windows.	Being Complied: Passenger terminal buildings are being designed as per ASHARE standards and other airport buildings have been designed in accordance with ECBC standards to make them more energy efficient.
lii	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 lightning etc.	Being Complied: Requisite provision fire NoC and structural stability certification/ approval have been obtained for all buildings constructed in the Airport.
liii	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.	Being Complied: Various functional teams of NMIAL including Environment team continuously supervise EPC

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		contractor's work for quality as well as compliance.
II.	Operation Phase: - Project is under construction, the condition pertaining to operation phase will be implemented.	
	i Diesel power generating sets proposed as source of backup power for elevators and common area illumination during operation phase 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 Maharashtra Pollution Control Board.	Being compiled: Installed DG sets are enclosed types and being operated only during power failures, using low-sulphur diesel is being used and complying with applicable emission and noise standards as per MPCB/ CPCB.
	ii 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.	Being compiled : Electric vehicles (EVs) are predominantly utilized for operational activities within the project. DG sets are installed in enclosed structures and are operated only during emergency situations. All power machinery and equipment are regularly inspected and maintained in accordance with defined SOPs. Noise levels are consistently monitored and are maintained within the prescribed regulatory limits.
	iii The green belt of the adequate width and density preferably with local species along the periphery of the plot shall be raised so as to provide protection against particulates and noise.	Being compiled: Green belt/ vegetation has been developed within airports which are complying to operational safety requirement of airport.
	iv Weep holes in the compound walls shall be provided to ensure natural drainage of rainwater in the	Being complied: Drainage plan of the site is such that the rainwater has been accumulated in

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	catchment area during the monsoon period.	the drains and not along compound wall.
v	Rainwater harvesting for roof run-off and surface run-off, should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease. The borewell for rainwater recharging should be kept at least 5 mts. above the highest ground water table.	Being Complied: This condition will be complied during construction stage – it is proposed to have rainwater harvesting ponds to the Northwest, southwest (Kund) and airside (total capacity 1,14,979 cum) and the harvested rainwater will be used for landscaping purpose. In addition, shallow water bodies are also planned along main airport access road which shall be as water retention tanks and landscape water bodies.
vi	The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.	Complied: No ground water to be tapped during construction or operation phases. Monitoring of ground water level and its quality around the project site have been carried out and reports were submitted along with Six monthly compliance report to MOEFCC. Environmental analytical reports for the reporting period are enclosed herewith as Annexure 2
vii	Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.	Being compiled: Separate entry and exit points have been provided for construction vehicles and workers. Passenger vehicle access has been planned independently from Amara Marg, with dedicated connectivity to both departure and arrival areas to ensure smooth, safe, and efficient traffic movement. Within the NMIA premises, designated parking areas have been developed for buses, private taxis, and autorickshaws to avoid congestion on surrounding roads. Additionally, dedicated internal roads have been established for offices and other establishments, facilitating

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			seamless circulation of all vehicles within the airport area. During Operation of Phases 1 and 2 (20 MPPA), 2,500 Equivalent Car Units (ECUs) parking infrastructure has been provided within the NMIA site,. No public spaces will be utilized for parking of NMIA construction or operational vehicles .
	viii	Energy conservation measures like installation of CFLs/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. Use CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/ rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.	Being compiled: Energy efficient light fittings have been provided. Necessary energy conservation measures have been adopted.
	ix	Efforts should be made to use solar energy to the maximum extent possible.	Being compiled: NMIA will be explore installing solar power and is also planning to procure renewable energy through off-site sourcing under the Open Access mechanism to reduce greenhouse gas emissions
III. 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:

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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:
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 Environment 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:
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 I.R.O, MOEFCC, Nagpur.

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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 th Nov 2010 and Lokmat (Marathi) on 30 th Nov 2010 and copies of Newspaper cutting were submitted to MOEFCC.
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:
12	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parishad / Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	Complied: CIDCO had submitted status as "Complied" in the earlier compliance report.
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	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:

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	MoEF, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO ₂ , NO _x (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.	https://cidco.maharashtra.gov.in/navi_mumbai_airport# under pre-development tab as submitted by CIDCO. MoEF&CC approved Transfer of Environment & CRZ Clearance from CIDCO to NMIAL in 2020. Since then, NMIAL has uploaded all documents pertaining to EC compliance on NMIA website at the following link. https://navimumbai.adaniairports.com/en/report
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 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.	Being compiled: Construction phase Environmental statement (FORM-V) financial year 2024-25 is uploaded to MPCB on 17th September 2025.

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- Extension Validity for EC -2017	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: CIDCO has submitted water adequacy Report as a part of Compliance report for the period of Jan- June 2018 vide letter no. CIDCO/ GM (ENV & F)/NMIA/2018/184 dated 21st Sept. 2018. No ground water to be tapped during construction or operation phases. Water supply assurance has been obtained from Water Supply Dept. CIDCO for permanent commercial Water Supply connection to NMIA vide CIDCO/ EE (Hetwane)/ 2025/ 218 dt 19th March 2025.
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: CIDCO, the nodal agency for Navi Mumbai International Airport has prepared "Detailed Traffic Management and Traffic Decongestion Plan for Navi Mumbai International Airport (NMIA)" in April 2020 which ensures 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. CIDCO has submitted final report for "Detailed Traffic Management and Traffic Decongestion Plan for Navi Mumbai International Airport (NMIA)" to MOEF vide letter No. CIDCO/GM(ENV&F)/NMIA/2020 /491 dated 14th July 2020. As per the report, various connectivity requirements are under implementation by CIDCO along with various Authorities.

No.	Stipulated Condition- Extension Validity for EC -2017	Compliance status
iii	Treated effluents shall also be used for irrigation and Roadside plantation after taking due permissions from the concerned authorities/Forest department.	Being compiled: NMIA is treating and recycling 100% of the sewage/effluent generated and reusing the treated wastewater for cooling tower make-up, flushing, and gardening purposes. A Zero Liquid Discharge (ZLD) approach has been implemented to ensure that no effluent or sewage is discharged into surrounding water bodies or public sewers
iv	Project proponent shall satisfactorily address all the complaints that have been received against the project and submit a compliance report to the Ministry.	Being compiled: Complaint was submitted to MOEF vide letter No. CIDCO/ GM (ENV & F)/NMIA/2017/1017 dated 2nd November 2017. We assure to abide by the condition.
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 in the project nature, structure and configuration and limit themselves to activities for which the Environmental and CRZ Clearance has been given earlier.	Being compiled.: 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. EC and CRZ Clearance for on-going project was granted on 28.11.2021 (No. 21-60/2021-IA-III) and issued on 1 st Dec 2021.

ANNEXURE 1 –

ACKNOWLEDGEMENT COPY OF
HALF YEARLY ENVIRONMENT &
CRZ COMPLIANCE REPORT
(APRIL- SEPTEMBER 2025)
UPLOADED PARIVESH

Your (**Half Yearly Compliance Report**) has been **Submitted** with following details

Proposal No	IA/MH/MIS/154209/2020
Compliance ID	129102033
Compliance Number(For Tracking)	EC/M/COMPLIANCE/129102033/2025
Reporting Year	2025
Reporting Period	01 Dec(01 Apr - 30 Sep)
Submission Date	20-11-2025
RO/SRO Name	Shri Senthil Kumar Sampath
RO/SRO Email	agmu156@ifs.nic.in
State	MAHARASHTRA
RO/SRO Office Address	Integrated Regional Offices, Nagpur

Note:- SMS and E-Mail has been sent to Shri Senthil Kumar Sampath, MAHARASHTRA with Notification to Project Proponent.

**ANNEXURE 2 –
ENVIRONMENT MONITORING REPORT
(OCTOBER 2025- MARCH 2026)**

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



Sponsor:

Navi Mumbai International Airport Pvt. Ltd. (NMIAL)

Period:

October 2025 to March 2026

PREPARED BY



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

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(October 2025 - March 2026)

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.

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 25th October 2017 to Mumbai International Airport Pvt Ltd (MIAL) for development of the project.

The objective of the monitoring is to understand the Ambient Air quality, Ambient Noise quality, Ground water quality, soil and marine water quality at Navi Mumbai International Airport site and nearby villages.

The focus of compliance monitoring is to assess the reporting period 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/Drinking water
- Marine Water for Biological and Physicochemical Parameters
- DG Stack Monitoring



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2. SCOPE OF MONITORING WORK

2.1 Scope of Monitoring Work as per Work Order:

The scope of monitoring work as per the Work Order are as given below:

Table 2-1 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 & Night time separately as per CPCB norms.	10	10 Stations per Month	120
3.	Ground Water Quality: As per IS 10500:2012 Revised (RA 2018)	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
6.	DG Set Stack Monitoring	1	1 station (Quarterly)	4

2.2 Locations of Monitoring:

Details of monitoring stations for Ambient Air Quality, Ambient Noise, Soil, Ground Water, drinking water, STP, Marine Water- physicochemical & biological showing station d are as given below:

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(October 2025 -March 2026)

Table 2-2 Details of Ambient Air Quality Monitoring Stations

Station Code	Station	Remarks
A1	Owale	Residential Village
A2	Pargaon	Receptor oriented – 400 m from proposed runway
A3	Ulwe Node	Area near highway
A4	NMIA Project Site	Within project site
A5	Kille Gaothan	Receptor oriented – on main access road
A6	L&T Site Office	Within Project site
A7	Diwale Koliwada	Receptor oriented – on main access road
A8	Jui	Eastern end of NMIA, outside project site
A9	Panvel	Residential zone
A10	PT-1 - Multi Level Car Parking MLCP	Industrial Zone
A11	Passenger Departure (L2)- Entry Up-ramp	Industrial Zone
A12	Solid Waste Facility East	Industrial Zone



Figure 2-1 Ambient Air Monitoring Locations

* Ambient Air Monitoring stations can be changed on the basis of access to villages situated within NMIA project site and other locations.

[Signature]



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Table 2-3 Ambient Noise Level Monitoring Stations

Sr. No.	Station Name	Category of area
N1	Owale	Residential Area
N2	Pargaon	Sensitive area (Mixed category)
N3	Ulwe Node	Sensitive Area
N4	Karanjade	Residential Area
N5	NMIA Project site	Within Airport site
N6	Kille Gaothan	Receptor oriented – on main access road
N7	L&T Site Office	Within Airport site
N8	Diwale Koliwada	Receptor oriented – on main access road
N9	Jui	Eastern end, outside project site
N10	Panvel	Residential Area (Mixed category)
N11	PT-1 - Multi Level Car Parking MLCP	Industrial Zone
N12	Passenger Departure (L2)- Entry Up-ramp	Industrial Zone
N13	Solid Waste Facility	Industrial Zone



Figure 2-2 Noise Level Monitoring Locations

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(October 2025 -March 2026)

Table 2-4 Soil Quality Monitoring Stations

Station Code	Stations Name
S1	Chinchpada
S2	Koli
S3	Kopar
S4	Ulwe
S5	NMIA project Site
S6	Kombadbhuje
S7	Pargaon
S8	Owale



Figure 2-3 Soil Sampling Locations

* Soil Sampling locations can be changed on the basis of access to villages situated within NMIA project site and other locations.

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(October 2025 - March 2026)

Table 2-5 Details of Ground Water Quality Monitoring Stations

Station Code	Month	Station Code	Month
	October, December, February		November, January, March
GW1	Open well at Kille Gaothan	GW II	Dugwell at Owale
GW2	Dugwell at Ulwe	GW III	Open well at Dapoli
GW3	Dugwell at Pargaon		
GW4	Open well at Jui		
GW5	Open well at Panvel		

Table 2-6 Details of Drinking Water and STP Quality Monitoring Stations

Station Code	December 2025	January 2026	February 2026	March 2026
DW1	NMIA Project Office	NMIA New Project office	NMIA Old Project Office	Aircraft water filling station (U11A)
DW 2		Staff Facility Centre	AMB 1st Floor	AMB 1st Floor
DW 3		AOSF Canteen	ARFF Canteen ground floor	ATC Tower
DW 4		Fuel Farm office	PT-1 Passenger Arrival -Near bus Gate Area	Terminal Canteen
DW 5		Cargo Terminal Canteen	PT-1 Passenger Arrival - Forecourt near Lift	PT-1 Passenger Arrival - 009
DW 6		PT-1 Passenger Arrival -Near Belt no. 9	PT-1 Passenger Departure -Near Retail Shop 9	PT-1 Passenger Arrival - 004
DW 7		PT-1 Passenger Arrival - Near Forecourt	PT-1 Passenger Departure -Near Gate no.14 Forecourt	PT-1 Passenger Departure - L2 Retail Shop
DW 8		PT-1 Passenger Departures near Zone A	Aircraft Water Filling Station (U11A)	PT-1 Passenger Departure - Gate No.15
DW 9		PT-1 Passenger Departure near Zone C	Water Plant (U1A)	NMIA Old Project Office
DW 10		Aircraft Water Filling Station (U11A)		New NMIA Project Office II Floor
DW 11		Water Plant (U1A)		Staff Facility
DW 12				AOSF
DW 13				Water Plant (U1A)
STP 1	STP UF Outlet			

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Figure 2-4 Ground Water and Drinking Sampling Locations

*Ground water sampling locations can be changed on the basis of access to villages situated within NMIA project site and other locations.

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(October 2025 - March 2026)

Table 2-7 Details of Marine Water Quality Monitoring Stations

Station Code	Station details / Location
MW1	Extreme end of Gadhi River (upstream side)
MW2	Near Chinchpada village (2 km from MW1) in Gadhi River
MW3	Near Jui Village (1.8 from MW2) in Gadhi River
MW4	At Junction of Ulwe and Gadhi Rivers in Panvel Creek
MW5	Near Vaghivali village (2 km from MW4) in Gadhi River
MW6	Near CBD Belapur (1.5 km from MW5) in Panvel Creek
MW7	Near Vaghivali Creek Junction (800 m from MW6) in Gadhi River
MW8	Near Rathi bander in Panvel Creek
MW9	Mouth of Panvel Creek
MW10	Ulwe River near Owle Village



Figure 2-5 Marine Water Sampling Locations

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(October 2025 -March 2026)

Table 2-8 Details Stack Monitoring Stations

Station Code	November 2025	January 2026	February 2026
DG 1	NMIA Project site	AOSF	DSS 1, 3000 KVA
DG 2		NMIA New Project office	DSS 2, 3000 KVA
DG 3		ASR No. 2	DSS 3, 3000 KVA
DG 4		ASR No.1	RSS, 500 KVA
DG 5		Data Centre No.1	AMB, 400 KVA
DG 6		Data Centre No.2	CCR (W), 750 KVA
DG 7			CCR (E), 750KVA
DG 8			ARFF & ATC, 500 KVA
DG 9			ARFF & ATC, 250 KVA



Figure 2-6 DG Stack monitoring Locations

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(October 2025 - March 2026)

2.3 Period/Time of Sampling (October 2025 to march2026):

The sampling survey was planned to be carried out as per the schedule mentioned in Table below.

Table 2-9 Period/Time of Sampling for this Survey

Month	Parameter	Sampling Stations	Dates of Sampling	Time Period
October 2025	AAQ	A1,A2,A3	14.10.2026	24 hours
		A7, A8, A9	15.10.2026	
		A4, A5, A6	16.10.2026	
	Noise Level	N1, N2, N3, N4	14.10.2026	24 hours starting from 06:00am
		N8, N9, N10	15.10.2026	
		N5, N6, N7	16.10.2026	
	Ground water	GW1, GW2, GW3, GW4, GW5	14.10.2026	Grab Sample
November 2025	AAQ	A1, A2, A3	10.11.2026	24 hours
		A4, A5, A6	11.11.2026	
		A7, A8, A9	12.11.2026	
	Noise Level	N1, N2, N3, N4	10.11.2026	24 hours starting from 10:00am
		N5, N7, N7	11.11.2026	
		N8, N9, N10	12.11.2026	
	Ground water	GW II, GW III	10.11.2026	Grab Sample
	DG Set	DG 1	12.11.2026	Grab Sample
December 2025	AAQ	A1, A2, A3	15.12.2026	24 hours
		A4, A6, A9	16.12.2026	
		A5, A7, A8	17.12.2026	
	Noise Level	N1, N2, N3, N4	15.12.2026	24 hours starting from 10:00am
		N5, N7, N10	16.12.2026	
		N6, N8, N9	17.12.2026	
	Ground water	GW1, GW2, GW3	15.12.2026	Grab Sample
		GW5	16.12.2026	
	Drinking Water	GW4, DW1	17.12.2026	
	Soil	S1, S2, S3, S8	16.12.2026	Grab Sample
		S4, S5, S6, S7	17.12.2026	
	Marine Water	MW4, MW5, MW6, MW7, MW8, MW9	19.12.2026	Grab Sample
		MW1, MW2, MW3, MW10	20.12.2026	
January 2026	AAQ	A1, A2, A3	01.01.2026	24 hours
		A4, A5, A6	02.01.2026	
		A7, A8, A9	03.01.2026	
	Noise Level	N1, N2, N3, N4	01.01.2026	24 hours starting from 06:00am
		N5, N6, N7	02.01.2026	
		N8, N9, N10	03.01.2026	
	Ground Water	GWII, GWIII	01.01.2026	Grab Sample
	Drinking water	DW 1, DW2, DW3, DW4, DW5, DW6, DW7, DW8, DW10	02.01.2026	

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Month	Parameter	Sampling Stations	Dates of Sampling	Time Period
		DW9, DW11	03.01.2026	
	DG Set	DG1, DG2, DG3, DG4, DG5, DG6	02.01.2026	
	STP water	STP 1	09.01.2026	
February 2026	AAQ	A1, A2, A3	09.02.2026	24 hours
		A5, A7, A9	10.02.2026	
		A4, A6, A8	11.02.2026	
		A10, A11	13.02.2026	
	Noise Level	N1, N2, N3, N4	09.02.2026	24 hours starting from 06:00am
		N5, N6, N7	10.02.2026	
		N8, N9, N10	11.02.2026	
		N11, N12	13.02.2026	
	DG Set	DG 1, DG2, DG3, DG4, DG5, DG6, DG7, DG8, DG9	11.02.2026	
	Ground Water	GW2, GW3, GW4	10.02.2026	Grab Sample
		GW1, GW5	12.02.2026	
	Drinking Water	DW 1, DW2, DW3, DW4, DW5, DW6, DW7, DW8, DW9	13.02.2026	Grab Sample
march 2026	STP Water	STP 1	13.02.2026	Grab Sample
	AAQ	A5, A7, A8	16.03.2026	24 hours
		A4, A17	17.03.2026	
		A1, A2	18.03.2026	
	Noise Level	N4, N6, N8, N10	16.03.2026	24 hours starting from 06:00am
		N5, N13	17.03.2026	
		N1, N2	18.03.2026	
	Ground Water	GWII, GWIII	16.03.2025	
	Drinking water	DW1, DW2, DW3, DW4, DW5, DW6, DW7, DW8, DW9, DW10, DW11, DW12, DW13	17-18.03.2026	Grab Sample
	Soil	S1, S2 S3, S4, S5, S6, S7, S8	19.03.2026	Grabe Sample
	Marine Water	MW4, MW5, MW6, MW7, MW8, MW9	20.03.2026	Grab sample
		MW1, MW2, MW3, MW10	21.03.2026	

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3. METHODOLOGY ADOPTED FOR ENVIRONMENTAL MONITORING

3.1 AMBIENT AIR QUALITY

3.1.1 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 work
- Heavy traffic along Amara Marg, NH4/4B and Uran / JNPT Road
- Construction activity in Ulwe node and nearby areas
- Industries in Panvel (private), MIDC Taloja (6 km NE of site) & MIDC TTC (4 km N of site)
- Burning of poor-quality fuels in villages to the south of proposed site (Airport)

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 the Environment (Protection) Act, 1986. The National Ambient Air Quality Standards (NAAQS) have been published by CPCB in November 2009 giving methods for measurement.

3.1.2 Methodology for Ambient Air Quality Monitoring:

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

Table 3-1 Technique and Methods Adopted for Analysis of AAQ Parameters

S N	Parameter	Technique	Method of Analysis
1.	PM ₁₀	Respirable Dust Sampler (Gravimetric Method)	IS 5182 (Part 23) RA2022
2.	PM _{2.5}	Fine Respirable Dust (Gravimetric Method)	IS 5182 (Part 24) RA2024
3.	SO ₂	Modified West and Gaeke Method	IS 5182 (Part 2/Sec 1) 2023
4.	NO _x	Jacob & Hochheiser Method	IS 5182 (Part 6) RA2022
5.	NH ₃	Indophenol Blue method	IS 5182 (part 25) RA 2023
6.	CO	Gas Chromatography Method	IS 5182 (part 10) RA2019
7.	Ozone	Spectrophotometric method	IS 5182 (part 09) RA2019
8.	Benzene [C ₆ H ₆]	Gas Chromatography	IS 5182 (part 11) RA2022
9.	Benzopyrene	Solvent extraction followed by GC	IS 5182 (part 12) 2019
10.	Lead	ICPOES after sampling EPM filter Paper	CPCB Manual Volume I: 2013
11.	Arsenic [As]		APHA Air method 822-3rdEd
12.	Nickel [Ni]		CPCB Manual Volume I: 2013

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Figure 3-1 Ambient Air Quality Monitoring

3.1.3 Selection of air sampling location

Selection of representative location is very important. The 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 (3 m) 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 them to laboratory

3.2 AMBIENT NOISE LEVEL

3.2.1 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, NH4/4B and Uran / JNPT Road
- Construction activity in Ulwe node and nearby areas
- Industries in Panvel (private), MIDC Taloja (6km NE of site) & MIDC TTC (4 km N of 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 are 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.

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3.2.2 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 the laboratory where the data collected is downloaded onto PC using specialized software. 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.



Center C-390 Sound level Meter with data logger



Figure 3-2 Ambient Noise level Monitoring

3.3 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.

3.3.1 Reconnaissance Survey:

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

3.3.2 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

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so collected is then made representative by coning- quartering and then stored in plastic bags, sealed and then sent to laboratory for analysis.



Figure 3-3 Soil Sample Collection

3.4 GROUND WATER SAMPLING

3.4.1 Reconnaissance Survey:

Villages to the south of the 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 near the open wells.

3.4.2 Methodology of Sampling:

Ground water samples are collected by using containers and the sampling container is rinsed before using them 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 further analysis.



Figure 3-4 Ground Water Sampling

3.5 MARINE WATER, SEDIMENTS & PLANKTON SAMPLING EQUIPMENTS

3.5.1 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 systems. The Ulwe river

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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.

3.5.2 Methodology of Sampling:

3.5.2.1 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.



3.5.2.2 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)



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3.5.2.3 Grab Sampler - For Marine Sediments

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



Grab Sampler

3.5.2.4 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 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 was done only for surface water. The samples were preserved and taken to the laboratory using a vehicle on the same day.

3.6 Laboratory Credentials

Sampling and analysis were done by the 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.

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- 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.

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4. COMPILATION OF DATA & INFERENCE

4.1 Ambient air quality monitoring report

4.1.1 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 4-1 Ambient Air Quality monitoring at various stations during October 2025

Sampling Locations	Owale Village	Pargaon	Ulwe Node	NMIA Project Site	Kille Gavthan	L&T Office	Diwale Koliwada	Panvel	Jui Village	Limit #	Unit
Sampling Date	14.10.2025			15.10.2025			16.10.2025				
SO ₂	26.4	23.4	24.4	25.3	23.5	26.4	21.4	25.3	22.4	80*	µg/m ³
NO _x	37.6	34.6	36.8	35.5	36.0	38.2	31.6	32.4	30.9	80*	µg/m ³
PM ₁₀	77.6	73.3	75.2	71.6	66.2	76.1	69.5	72.3	74.0	100*	µg/m ³
PM _{2.5}	25.4	24.6	28.3	23.3	22.5	25.0	21.6	23.7	24.1	60*	µg/m ³
Ozone (O ₃)	15.3	14.4	17.0	15.5	15.8	16.7	14.6	16.1	13.4	180**	µg/m ³
Lead (Pb)	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)	1***	µg/m ³
CO	0.63	0.59	0.56	0.58	0.52	0.60	0.52	0.55	0.57	4**	mg/m ³
Benzene (C ₆ H 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)	8***	µg/m ³
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/m ³
Arsenic (As)	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)	8***	ng/m ³
Nickel (Ni)	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)	20***	ng/m ³
NH ₃	28.8	26.8	24.8	27.2	27.7	29.7	23.3	25.8	22.4	400*	µg/m ³

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

[*] 24 hour monitoring value; [**] 1 hour monitoring value; [***] Annual monitoring value



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Results

Particulate Matter (PM₁₀): Maximum value of PM₁₀ is observed at Owale (AAQ-1) as 77.6 µg /m³ with minimum value observed at Kille Gavthan (AAQ-5) as 66.2 µg /m³ in October 2025.

Particulate Matter (PM_{2.5}): Maximum value of PM_{2.5} is observed at Ulwe node (AAQ-3) as 28.3 µg /m³ with minimum value observed at Diwale Koliwada (AAQ-7) as 21.6 µg /m³ in October 2025.

Sulphur Dioxide (SO₂): Maximum value of SO₂ is observed at Owale (AAQ-1) & L&T Site Office (AAQ-6) as 26.4 µg /m³ with minimum value observed at Diwale Koliwada (AAQ-7) as 21.4 µg /m³ in October 2025.

Oxides of Nitrogen (NOX): Maximum value of NO₂ is observed at L&T Site Office (AAQ-6) as 38.2 µg /m³ with minimum value observed at Jui (AAQ-9) as 30.9 µg /m³ in October 2025.

Carbon Monoxide (CO): Maximum value for CO is observed at Owale (AAQ-1) as 0.63 mg/m³ with minimum value observed at Kille Gavthan (AAQ-5) & Diwale Koliwada (AAQ-7) as 0.52 mg/m³ in October 2025.

Ozone (O₃): Maximum value for O₃ is observed at Ulwe node (AAQ-3) as 17.0 µg /m³ with minimum value observed at Jui (AAQ-9) as 13.4 µg /m³ in October 2025.

Ammonia (NH₃): Maximum value for NH₃ is observed at L&T Site Office (AAQ-6) as 29.7 µg /m³ with minimum value observed at Jui (AAQ-9) as 22.4 µg /m³ in October 2025.

All above parameters are observed to be following permissible limits as per NAAQ Standards in October 2025. Also, parameters such as Lead (Pb), Arsenic (As), Nickel (Ni), Benzo(a)Pyrene (BaP) and Benzene (C₆H₆) were found to be within the prescribed limits in October 2025.

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Table 4-2 Ambient Air Quality monitoring at various stations during November 2025

Sampling Locations	Owale	Parganah High School	Ulwe Node	NMIA Project site	Kill Gavthan	L & T Site Office	Diwale Koliwada	Panvel	Jai Village	Limit #	Unit
Sampling Date	10.11.2025			11.11.2025			12.11.2025				
SO ₂	25.9	22.4	24.5	27.3	21.4	26.9	23.4	24.4	26.3	80*	µg/m ³
NO _x	37.2	32.7	35.4	38.7	33.4	36.7	34.1	36.1	37.4	80*	µg/m ³
PM ₁₀	72.5	69.7	70.4	82.1	65.3	80	73.5	78.4	75.3	100*	µg/m ³
PM _{2.5}	24.5	21.2	23.7	27.5	19.1	26.2	25.4	26.6	24.1	60*	µg/m ³
Ozone (O ₃)	15.5	13.7	13.2	18.7	16.7	17.8	15.5	14.6	17.3	180***	µg/m ³
Lead (Pb)	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)	1***	µg/m ³
CO	0.62	0.6	0.58	0.75	0.56	0.7	0.59	0.64	0.61	4**	mg/m ³
Benzene (C ₆ H 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)	8***	µg/m ³
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/m ³
Arsenic (As)	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)	8***	ng/m ³
Nickel (Ni)	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)	20***	ng/m ³
NH ₃	25.2	23.5	23.9	30.7	28.6	28.2	22.6	25.6	27.7	400*	µg/m ³

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

[*] 24 hour monitoring value; [**] 1 hour monitoring value; [***] Annual monitoring value



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Results:

Particulate Matter (PM₁₀): Maximum value of PM₁₀ is observed at NMIA Project Site (AAQ-4) as 82.10 µg /m³ with minimum value observed at Kille Gavthan (AAQ-5) as 65.30 µg /m³ in November 2025

Particulate Matter (PM_{2.5}): Maximum value of PM_{2.5} is observed at NMIA Project Site (AAQ-4) as 27.50 µg /m³ with minimum value observed at Kille Gavthan (AAQ-5) as 19.10 µg /m³ in November 2025

Sulphur Dioxide (SO₂): Maximum value of SO₂ is observed at NMIA Project Site (AAQ-4) as 27.30 µg /m³ with minimum value observed at Kille Gavthan (AAQ-5) as 21.40 µg /m³ in November 2025

Oxides of Nitrogen (NOx): Maximum value of NOx is observed at NMIA Project Site (AAQ-4) as 38.70 µg /m³ with minimum value observed at Pargaon (AAQ-2) as 32.70 µg /m³ in November 2025

Carbon Monoxide (CO): Maximum value for CO is observed at NMIA Project Site (AAQ-4) as 0.75 mg/m³ with minimum value observed at Kille Gavthan (AAQ-5) as 0.56 mg/m³ in November 2025

Ozone (O₃): Maximum value for O₃ is observed at NMIA Project Site (AAQ-4) as 18.70 µg /m³ with minimum value observed at Ulwe Node (AAQ-3) as 13.20 µg /m³ in November 2025

Ammonia (NH₃): Maximum value for NH₃ is observed at NMIA Project Site (AAQ-4) as 30.70 µg /m³ with minimum value observed at Diwale Koliwada (AAQ-7) as 22.60 µg /m³ in November 2025

All above parameters are observed to be following permissible limits as per NAAQ Standards in November 2025

Also, parameters such as Lead (Pb), Arsenic (As), Nickel (Ni), Benzo(a)Pyrene (BaP) and Benzene (C6H6) were found to be within the prescribed limits in November 2025.



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Table 4-3 Ambient Air Quality monitoring at various stations during December 2025

Sampling Locations	Owale Village	Pargaon	Ulwe Node	NMIA Project site	Kille Gaothan	L & T Site Office	Diwale Koliwada	Panvel	Jui	Limit #	Unit
Sampling Date	16.12.2025		17.12.2025		18.12.2025						
SO ₂	24.2	21.3	22.2	28.1	24.2	26.1	25.1	27.1	25.1	80*	µg/m ³
NO _x	36.7	34.5	35.2	39.5	36.0	37.4	37.4	39.5	35.2	80*	µg/m ³
PM ₁₀	79.8	76.3	82.2	85.6	69.0	89.0	75.8	78.5	80	100*	µg/m ³
PM _{2.5}	30.8	29.1	34.1	30.8	23.7	32.5	30	32.5	27.5	60*	µg/m ³
Ozone (O ₃)	15.8	14.6	16.3	19.1	17.2	18.0	16.3	18	16.3	180**	µg/m ³
Lead (Pb)	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)	1***	µg/m ³
CO	0.67	0.62	0.63	0.72	0.62	0.67	0.68	0.70	0.62	4**	mg/m ³
Benzene (C ₆ H 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)	8***	µg/m ³
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/m ³
Arsenic (As)	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)	8***	ng/m ³
Nickel (Ni)	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)	20***	ng/m ³
NH ₃	26.3	24.0	25.4	29.6	29.1	27.3	26.8	27.3	26.8	400*	µg/m ³

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

[*] 24 hour monitoring value; [**] 1 hour monitoring value; [***] Annual monitoring value



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Results:

Particulate Matter (PM₁₀): Maximum value of PM₁₀ is observed at L&T Site office (AAQ-6) as 89.0 µg /m³ with minimum value observed at Kille Gavthan (AAQ-5) as 69.0 µg /m³ in December 2025.

Particulate Matter (PM_{2.5}): Maximum value of PM_{2.5} is observed at Ulwe Node (AAQ-3) as 34.1 /m³ with minimum value observed at Kille Gavthan (AAQ-5) as 23.7 µg /m³ in December 2025.

Sulphur Dioxide (SO₂): Maximum value of SO₂ is observed at NMIA Project office (AAQ-4) as 28.1 µg /m³ with minimum value observed at Pargaon (AAQ-2) as 21.3 µg /m³ in December 2025.

Oxides of Nitrogen (NO_x): Maximum value of NO₂ is observed at NMIA Project Office (AAQ-4) as 39.5 µg /m³ with minimum value observed at Pargaon (AAQ-2) as 34.5 µg /m³ in December 2025.

Carbon Monoxide (CO): Maximum value for CO is observed at NMIA Project office (AAQ-4) as 0.72 mg/m³ with minimum value observed at Pargaon (AAQ-2) & Kille Gavthan (AAQ-5) as 0.62 mg/m³ in December 2025.

Ozone (O₃): Maximum value for O₃ is observed at NMIA Project office (AAQ-4) as 19.1 µg /m³ with minimum value observed at Pargaon (AAQ-2) as 14.6 µg /m³ in December 2025.

Ammonia (NH₃): Maximum value for NH₃ is observed at NMIA Project office (AAQ-4) as 29.6 µg /m³ with minimum value observed at Paragon (AAQ-2) as 24.0 µg/m³ in December 2025.

All above parameters are observed to be following permissible limits as per NAAQ Standards in December 2025. Also, parameters such as Lead (Pb), Arsenic (As), Nickel (Ni), Benzo(a)Pyrene (BaP) and Benzene (C₆H₆) were found to be within the prescribed limits in December 2025.



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(October 2025 - March 2026)

Table 4-4 Ambient Air Quality monitoring at various stations during January 2026

Sampling Locations	Owale Village	Pargaon	Ulwe Node	PT-1 Passenger Arrival (L0)	Kille Gaothan	PT-1 Passenger Departure (L2)- Near Gate no 3	Diwale Koliwada	Jui	Panel	Limit #	Unit
Sampling Date	01.01.2026			02.01.2026			03.01.2026				
SO ₂	21.3	24.9	22.6	23.6	25.2	20.7	22.3	24.2	25.2	80*	µg/m ³
NO _x	29.6	35.3	33.4	38.6	36.2	33.4	34.1	35.1	37.4	80*	µg/m ³
PM ₁₀	72.6	81.3	76.5	92.2	85.7	92.4	80.7	87.8	84.1	100*	µg/m ³
PM _{2.5}	21.6	27.1	24.2	25	31.3	52.3	31.3	36.2	33.7	60*	µg/m ³
Ozone (O ₃)	15.5	18.3	17.2	17.5	17.8	19.5	17.2	18.1	19.2	180**	µg/m ³
Lead (Pb)	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)	1***	µg/m ³
CO	0.64	0.73	0.69	0.75	0.77	0.79	0.69	0.72	0.74	4**	mg/m ³
Benzene (C ₆ H 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)	8***	µg/m ³
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/m ³
Arsenic (As)	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)	8***	ng/m ³
Nickel (Ni)	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)	20***	ng/m ³
NH ₃	25.4	29.2	27.3	28.7	30.6	26.8	25.4	27.3	28.7	400*	µg/m ³

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

[*] 24 hour monitoring value; [**] 1 hour monitoring value; [***] Annual monitoring value



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(October 2025 - March 2026)

Results

Particulate Matter (PM₁₀): Maximum value of PM₁₀ is observed at PT-1 Passenger Departure (L2)- Near Gate no 3 (AAQ-6) as 92.40 µg /m³ with minimum value observed at Owale (AAQ-1) as 72.60 µg /m³ in January 2026

Particulate Matter (PM_{2.5}): Maximum value of PM_{2.5} is observed at PT-1 Passenger Departure (L2)- Near Gate no 3 (AAQ-6) as 52.30 µg /m³ with minimum value observed at Owale (AAQ-1) as 21.60 µg /m³ in January 2026

Sulphur Dioxide (SO₂): Maximum value of SO₂ is observed at Kille Gavthan (AAQ-5) as 25.20 µg /m³ with minimum value observed at PT-1 Passenger Departure (L2)- Near Gate no 3 (AAQ-6) as 20.70 µg /m³ in January 2026

Oxides of Nitrogen (NO_x): Maximum value of SO₂ is observed at PT-1 Passenger Arrival (L0) (AAQ-4) as 38.60 µg /m³ with minimum value observed at Owale (AAQ-1) as 29.60 µg /m³ in January 2026

Carbon Monoxide (CO): Maximum value for CO is observed at PT-1 Passenger Arrival (L0) (AAQ-4) as 17.50 mg/m³ with minimum value observed at Owale (AAQ-1) as 0.64 mg/m³ in January 2026

Ozone (O₃): Maximum value for O₃ is observed at PT-1 Passenger Departure (L2)- Near Gate no 3 (AAQ-6) as 19.50 µg /m³ with minimum value observed at PT-1 Passenger Arrival (L0) (AAQ-4) as 0.75 µg /m³ in January 2026

Ammonia (NH₃): Maximum value for NH₃ is observed at Kille Gavthan (AAQ-5) as 30.60 µg /m³ with minimum value observed at Owale (AAQ-1) as 25.40 µg /m³ in January 2026

All above parameters are observed to be following permissible limits as per NAAQ Standards in January 2026

Also, parameters such as Lead (Pb), Arsenic (As), Nickel (Ni), Benzo(a)Pyrene (BaP) and Benzene (C6H6) were found to be within the prescribed limits in January 2026



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(October 2025 - March 2026)

Table 4-5 Ambient Air Quality monitoring at various stations during February 2026

Sampling Locations	Owale Village	Pargaon	Utwe Node	NMIA Project site	Kille Gaothan	L & T Site Office	Diwale Koliwada	Jui	Panvel	PT-1 MLCP	PT-1 (LT) Entry up ramp	Limit #	Unit
Sampling Date	09.02.2026			10.02.2026			11.02.2026						
SO ₂	25.1	24.2	28.1	29.0	22.2	27.1	25.1	23.2	26.1	25.5	24.5	80*	µg/m ³
NO _x	38.8	36.7	40.9	40.2	31.5	41.6	35.4	37.4	37.4	39.7	36.2	80*	µg/m ³
PM ₁₀	82.6	87.1	89.0	88.2	79.4	90.7	84.5	81.7	86.6	89.1	85.9	100*	µg/m ³
PM _{2.5}	30.4	31.6	34.1	37.0	27.0	35.8	33.7	35.4	34.5	33.7	35.0	60*	µg/m ³
Ozone (O ₃)	17.5	19.1	20.0	21.1	16.0	19.4	18.3	19.4	18.3	20.3	17.7	180**	µg/m ³
Lead (Pb)	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)	BDL (DL-0.2)	BDL (DL-0.2)	1***	µg/m ³
CO	0.69	0.75	0.8	0.81	0.6	0.79	0.66	0.69	0.78	0.76	0.72	4**	mg/m ³
Benzene (C ₆ H 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)	BDL (DL-0.2)	BDL (DL-0.2)	8***	µg/m ³
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)	BDL (DL-0.5)	BDL (DL-0.5)	1***	ng/m ³
Arsenic (As)	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)	BDL (DL-0.2)	BDL (DL-0.2)	8***	ng/m ³
Nickel (Ni)	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)	BDL (DL-0.2)	BDL (DL-0.2)	20***	ng/m ³
NH ₃	27.7	28.2	30.1	28.7	29.1	29.6	27.7	31.5	29.1	30.1	27.7	400*	µg/m ³

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

[*] 24 hour monitoring value; [**] 1 hour monitoring value; [***] Annual monitoring value

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(October 2025 - March 2026)

Results:

Particulate Matter (PM₁₀): Maximum value of PM₁₀ is observed at L&T Site Office (AAQ-6) as 90.7 µg /m³ with minimum value observed at Kille Gavthan (AAQ-5) as 79.40 µg /m³ in February 2026

Particulate Matter (PM_{2.5}): Maximum value of PM_{2.5} is observed at NMIA Project office (AAQ-4) as 37.0 µg /m³ with minimum value observed at Kille Gavthan (AAQ-5) as 27.0 µg /m³ in February 2026

Sulphur Dioxide (SO₂): Maximum value of SO₂ is observed at NMIA Project Office (AAQ-4) as 29.0 µg /m³ with minimum value observed at Kille Gavthan (AAQ-5) as 22.2 µg /m³ in February 2026

Oxides of Nitrogen (NO_x): Maximum value of NO_x is observed at L&T Site Office (AAQ-6) as 41.60 µg /m³ with minimum value observed at Kille Gavthan (AAQ-5) as 31.5 µg /m³ in February 2026

Carbon Monoxide (CO): Maximum value for CO is observed at NMIA Project Office (AAQ-4) as 0.81 mg/m³ with minimum value observed at Kille Gavthan (AAQ-5) as 0.60 mg/m³ in February 2026

Ozone (O₃): Maximum value for O₃ is observed at NMIA Project Office (AAQ-4) as 21.1 µg /m³ with minimum value observed at Kille Gavthan (AAQ-5) as 16.0 µg /m³ in February 2026

Ammonia (NH₃): Maximum value for NH₃ is observed at Jui (AAQ-8) as 31.5 µg /m³ with minimum value observed at Diwale Koliwada (AAQ-7) as 27.7 µg /m³ in February 2026

All above parameters are observed to be following permissible limits as per NAAQ Standards in February 2026

Also, parameters such as Lead (Pb), Arsenic (As), Nickel (Ni), Benzo(a)Pyrene (BaP) and Benzene (C₆H₆) were found to be within the prescribed limits in February 2026

Also, parameters such as Lead (Pb), Arsenic (As), Nickel (Ni), Benzo(a)Pyrene (BaP) and Benzene (C₆H₆) were found to be within the prescribed limits in February 2026.



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(October 2025 - March 2026)

Table 4-6 Ambient Air Quality monitoring at various stations during March 2026

Sampling Locations	Owale Village	Pargaon	NMIA Project site	Kille Gavthan	Diwale Koliwada	Panvel	Solid waste Facility East	Limit #	Unit
Sampling Date	18.03.2026	17.03.2026	16.03.2026				17.03.2026		
SO ₂	22.6	23.3	27.8	25.2	25.8	26.8	26.8	80*	µg/m ³
NO _x	31.8	35.0	41.2	32.9	38.5	40.5	38.8	80*	µg/m ³
PM ₁₀	77.2	83.7	86.6	82.6	87.2	85.3	89.2	100*	µg/m ³
PM _{2.5}	28.8	31.7	34.2	30.8	28.3	36.7	37.5	60*	µg/m ³
Ozone (O ₃)	18.6	17.2	19.8	20.0	21.7	21.2	20.6	180*	µg/m ³
Lead (Pb)	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)	1*	µg/m ³
CO	0.70	0.73	0.85	0.66	0.75	0.79	0.81	4**	mg/m ³
Benzene (C ₆ H 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)	5***	µg/m ³
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)	1***	ng/m ³
Arsenic (As)	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)	6***	ng/m ³
Nickel (Ni)	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)	20***	ng/m ³
NH ₃	28.2	26.8	29.6	31.4	30.0	29.6	28.6	400*	µg/m ³

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

[*] 24 hour monitoring value; [**] 1 hour monitoring value; [***] Annual monitoring value

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Results:

Particulate Matter (PM₁₀): Maximum value of PM₁₀ is observed at Diwale Koliwada (AAQ-7) as 87.2 µg /m³ with minimum value observed at Owale (AAQ-1) as 77.2 µg /m³ in March 2026.

Particulate Matter (PM_{2.5}): Maximum value of PM_{2.5} is observed at Panvel (AAQ-9) as 36.7 µg /m³ with minimum value observed at Diwale Koliwada (AAQ-7) as 28.3 µg /m³ in March 2026.

Sulphur Dioxide (SO₂): Maximum value of SO₂ is observed at NMIA Project office (AAQ-4) as 27.8 µg /m³ with minimum value observed at Owale (AAQ-2) as 22.6 µg /m³ in March 2026.

Oxides of Nitrogen (NO_x): Maximum value of NO_x is observed at NMIA Project Office (AAQ-4) as 41.2 µg /m³ with minimum value observed at Owale (AAQ-1) as 31.8 µg /m³ in March 2026.

Carbon Monoxide (CO): Maximum value for CO is observed at NMIA Project office (AAQ-4) as 0.85 mg/m³ with minimum value observed at Kille Gavthan (AAQ-5) as 0.66 mg/m³ in March 2026.

Ozone (O₃): Maximum value for O₃ is observed at NMIA Project office (AAQ-7) as 21.7 µg /m³ with minimum value observed at Pargaon (AAQ-2) as 17.2 µg /m³ in March 2026.

Ammonia (NH₃): Maximum value for NH₃ is observed at Kille Gavthan (AAQ-5) as 31.4 µg /m³ with minimum value observed at Pargaon (AAQ-2) as 26.8 µg /m³ in March 2026.

All above parameters are observed to be following permissible limits as per NAAQ Standards in March 2026.

Also, parameters such as Lead (Pb), Arsenic (As), Nickel (Ni), Benzo(a)Pyrene (BaP) and Benzene (C6H6) were found to be within the prescribed limits in March 2026.

30/03/2026



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4.1.2 Inference of AAQM Data

The concentration of Particulate Matter – 10 μ (PM₁₀) was observed in range of 41.5 – 93.4 $\mu\text{g}/\text{m}^3$ and level of Particulate Matter - 2.5 μ (PM 2.5) were noted ranged from 11.6 to 38.7 $\mu\text{g}/\text{m}^3$. PM₁₀ and PM 2.5 are under limits as per NAAQ Standards. Gaseous pollutants - Nitrogen Oxide, Sulfur Dioxide, Carbon Monoxide, Ozone and Ammonia are under NAAQS norms during collection period during October 2025 to March 2026 (Refer Tables 4.1 to 4.6 above) Lead, Benzopyrene, Arsenic, Nickel were found below detectable level.

4.2 AMBIENT NOISE LEVEL MONITORING REPORT**4.2.1 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 2.3).

Results of analysis are compiled below:

Table 4-7 Ambient Noise Level monitoring during October 2025 -March 2026

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
N1	Owale	14.10.2025	54.0	46.2	51.2	44.4	41.2	43.3	55	45
N2	Pargaon		54.9	46.2	52.8	44.1	40.5	42.3	55	45
N3	Ulwe Node		54.3	46.1	51.0	44.1	41.8	43.0	55	45
N4	Karanjade		54.8	48.3	50.2	44.7	42.1	43.7	55	45
N5	NMIA Project Site	16.10.2025	63.9	52.8	57.3	53.6	50.3	52.1	75	70
N7	Kille Gavthan		54.8	45.0	50.7	44.8	42.3	43.8	55	45
N4	L&T Site Office		62.8	53.6	57.7	54.9	53.2	53.9	75	70
N8	Diwale Koliwada	15.10.2025	54.8	48.3	52.4	44.7	42.3	43.9	55	45
N9	Jui		54.6	45.8	51.2	44.7	43.2	44.1	55	45
N10	Panvel		54.8	47.3	52.3	44.8	40.2	42.8	55	45
N1	Owale	10.11.2025	55.5	50.2	53.0	43.8	40.5	41.9	55	45
N2	Pargaon		55.9	51.5	53.9	44.3	40.7	42.3	55	45
N3	Ulwe Node		55.4	49.5	53.2	46.9	40.2	42.2	55	45
N4	Karanjade		54.7	51.0	53.5	43.5	40.6	42.1	55	45

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(October 2025 - March 2026)

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			Day Time	Nighttime
			Max	Min	Avg	Max	Min	Avg		
N5	NMIA Project Site	11.11.2025	60.5	51.5	55.4	53.1	50.5	51.3	75	70
N6	Kille Gavthan		55.7	46.2	51.5	44.1	40.2	41.8	55	45
N7	L&T Site Office		63.4	53.1	56.3	53.1	50.5	51.7	75	70
N8	Diwale Koliwada	12.11.2025	55.7	46.5	51.6	42.5	40.1	41.5	55	45
N9	Jui		56.9	49.1	53.8	43.5	40.5	42.3	55	45
N10	Panvel		55.8	46.3	52.4	45.2	40.5	42.2	55	45
N1	Owale	15.12.2025	55.3	50.1	52.9	45.1	40.2	41.8	55	45
N2	Pargaon		55.8	51.4	53.8	45.1	40.3	42.0	55	45
N3	Ulwe Node		54.6	51.3	53.3	43.9	40.1	41.3	55	45
N4	Karanjade	16.12.2025	55.2	50.4	53.1	44.8	40.3	42.2	55	45
N4	NMIA Project Site		59.8	52.5	55.5	54.1	49.1	51.2	75	70
N5	Kille Gavthan		55.1	46.3	51.5	44.5	40.1	42.1	55	45
N6	L&T Site Office	16.12.2025	62.8	53.2	56.4	51.3	50.1	51.3	75	70
N8	Diwale Koliwada		55.1	47.2	51.5	43.1	40.1	41.6	55	45
N9	Jui		56.2	50.1	53.2	43.5	40.2	41.5	55	45
N10	Panvel		55.2	46.1	52.3	44.1	40.2	42.0	55	45
N1	Owale	01.01.2026	55.6	39.5	49.1	32.4	39.4	35.5	55	45
N2	Pargaon		54.8	51.1	53.0	44.4	41.5	42.8	55	45
N3	Ulwe Node		54.8	49.7	52.2	46.1	41.6	43.9	55	45
N4	Karanjade	05.01.2026	55.1	44.8	52.0	43.9	40.4	41.7	55	45
N5	PT - 1 Passenger Arrival		73.7	63.6	69.9	71.3	67.8	69.8	75	70
N6	Kille Gavthan		54.8	44.6	50.6	44.3	40.5	42.5	55	45
N7	PT - 1 Passenger Departure	03.01.2026	66.6	74.7	70.9	69	66.2	67.6	75	70
N8	Diwale Koliwada		57.2	43.6	51.3	46.4	39.3	42.0	55	45
N9	Jui		56.1	43.4	50.5	46.6	40.2	43.0	55	45
N10	Panvel		57.0	47.4	52.7	45.6	42.0	43.7	55	45
N1	Owale	09.02.2026	55.6	40.2	49.8	39.7	34.3	36.4	55	45
N2	Pargaon		47.3	56.8	52.7	44.3	39.4	41.8	55	45
N3	Ulwe Node		58.1	47.9	53.9	49.2	41.4	43.8	55	45
N4	Karanjade	10.02.2026	57.1	48.3	53.8	44	41.3	42.7	55	45
N5	PT - 1 Passenger Departure		70.0	50.8	57.7	51.3	48.7	49.7	75	70
N6	Kille Gavthan		57.1	49.4	53.6	48.1	41.9	44.4	55	45

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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			Day Time	Nighttime
			Max	Min	Avg	Max	Min	Avg		
N7	L&T Site Office	11.02.2026	64.9	55.1	56.8	55.1	54.8	54.9	75	70
N8	Diwale Koliwada		57.4	45.1	51.0	44.1	40.0	41.9	55	45
N9	Jui		57.8	42.5	50.8	46.3	40.5	43.6	55	45
N10	Panvel		58.3	33.6	53.3	45.8	41.5	43.3	55	45
N1	Owale	18.03.2026	56.8	45.8	52.9	45.7	39.3	42.4	55	45
N2	Pargaon		50.5	51.8	45.6	39.5	34.2	37.7	55	45
N4	Karanjade	17.03.2026	55.8	42.8	51.3	43.2	40.6	41.6	55	45
N5	NMIA Project site	17.03.2026	63.0	57.9	61.0	59.9	50.8	56.0	75	70
N6	Kille Gaothan	16.03.2026	55.5	43.3	51.1	44.9	40.5	42.1	55	45
N8	Diwale Koliwada		56.5	44.6	51.6	42.2	36.5	39.9	55	45
N10	Panvel		55.3	47.7	53.3	46.3	41.8	43.3	55	45
N13	Solid Waste Facility	17.03.2026	59.1	45.4	53.1	58.3	44.0	51.7	75	70

4.2.2 Inference of Noise Data

During daytime, the average Noise level was observed in the range of 45.6- 70.9 dB(A) & Nighttime levels were observed at 35.5 – 69.8 dB(A) during sampling period. Following observations are made about average Noise levels in the monitoring carried out in different months:

- In October 2025 average Noise level during daytime and night time is under the Limit of Standard (Leq) as per EP Act Schedule II.
- In November 2025 average Noise level during daytime and night time is under the Limit of Standard (Leq) as per EP Act Schedule II.
- In December 2025 average Noise level during daytime and night time is under the Limit of Standard (Leq) as per EP Act Schedule II.
- In January 2026 average Noise level during daytime and nighttime were under the Limit of Standard (Leq) as per EP Act Schedule II.
- In February 2026 average Noise level during daytime and nighttime were under the Limit of Standard (Leq) as per EP Act Schedule II.
- In March 2026 average Noise level during night time and nighttime noise level were under the Limit of Standard (Leq) as per EP Act Schedule II.

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4.3 SOIL QUALITY MONITORING REPORT

4.3.1 Soil Analysis Data (December 2025 and March 2026)

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

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Table 4-8 Soil analysis of various stations in study area during December 2025

Sr. No.	Locations	Chinchpada	Koli	Kopar	Ulwe	NMIA Project site	Kombadhuje	Pargaon	Owale	Unit
15.12.2025 to 16.12.2025										
1.	pH	7.11	7.12	7.52	7.64	7.98	7.98	7.47	8.52	--
2.	Coarse sand	18	19	19	18	19	17	16	17	
3.	Clay	40	37	38	38	37	39	36	40	%
	Silt	20	24	18	24	24	19	25	16	
	Fine Sand	22	20	20	20	20	25	23	27	
4.	Class	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	--
5.	Conductivity	337.6	277.8	71.26	326.2	310.2	390.4	223.4	290.8	µS/cm
6.	Organic Carbon	0.34	0.83	0.55	0.62	0.40	0.38	0.42	0.19	%
7.	Available Nitrogen	0.011	0.012	0.012	0.019	0.014	0.012	0.019	0.018	%
8.	Available Phosphorus	76	85	76	86	86	83	87	97	kg/ha
9.	Available Potassium	28	25	29	25.5	28	22	34	32.7	kg/ha
10.	Chloride	23	22	21.6	23	21.3	22.3	20	16.9	mg/kg
11.	Sulphate as SO ₄	34.3	19.3	26.8	29.5	36.5	34.1	32.1	24.8	mg/kg
12.	Calcium as Ca	14.6	10.4	10.6	10.2	11.2	11.8	12.6	8.2	meq/l
13.	Magnesium as Mg	70	60	70	60	60	70	60	60	meq/l
14.	Sodium as Na	60	50	60	50	50	60	50	50	kg/ha
15.	Manganese as Mn	0.08	1.04	< 0.02	1.10	2.18	2.00	1.20	1.12	mg/kg
16.	Copper as Cu	1.00	0.04	0.24	1.05	1.02	1.04	0.90	1.12	mg/kg
17.	Cadmium as Cd	0.22	0.06	0.42	0.28	0.14	0.24	0.24	0.24	mg/kg



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Sr. No.	Locations	Chinchpada	Koli	Kopar	Ulwe	NMIA Project site	Kombadbhuje	Pargaon	Owale	Unit
	Sampling Date	15.12.2025 to 16.12.2025								
18.	Cobalt as Co	< 0.02	0.32	1.18	< 0.02	0.14	0.26	0.28	0.12	mg/kg
19.	Zinc as Zn	1.20	1.24	1.51	3.48	2.20	1.88	2.00	2.20	mg/kg
20.	Nickel as Ni	0.06	1.38	1.60	0.84	1.11	1.12	0.04	1.00	mg/kg
21.	Aluminium as Al	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/kg
22.	Arsenic as As	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/kg
23.	Mercury as Hg	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/kg
24.	Chromium as Cr	2.00	0.18	1.62	3.01	2.32	2.16	1.68	2.10	mg/kg
25.	Iron as Fe	3.12	2.48	3.21	3.58	2.48	3.00	2.12	3.00	mg/kg
26.	Lead as Pb	0.14	0.14	0.12	0.20	0.04	0.16	0.12	0.05	mg/kg



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4.3.2 Soil Data Inference during December 2025:

It has been observed that the pH of the soil ranged from 7.11 to 8.52 indicating that the soils are Acidic to Alkaline in nature. The soil in the study area is mostly clay. The observed electrical conductivity ranged from 71.26 $\mu\text{S}/\text{cm}$ to 390.4 $\mu\text{S}/\text{cm}$.

The nitrogen concentrations are in the range of 0.011 % to 0.019 %. The phosphorous concentrations are in the range of 76 to 97 kg/ha. indicating that soils have medium of phosphorus. The very less phosphorus recorded at NIMA project site; medium at Chinchpada; on an average sufficient at Kopar and Owale; Sufficient at Owale, Pargaon and Koli; and more than sufficient Phosphorus at Kombadbhuje.

The potassium concentrations range between 22 kg/ha to 34 kg/ha which indicate that the soils have very less quantity of potassium at all sampling locations.

Source: Standard soil classification as per Handbook of Agriculture, Indian Council of Agricultural Research.



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Table 4-9 Soil analysis of various stations in study area during March 2026

Sr. No.	Locations	Chinchpada	Koli	Kopar	Ulwe	NMIA Project site	Kombadbuje	Pargaon	Owale	Unit
1.	pH	7.29	7.26	6.39	7.65	7.47	7.70	7.70	7.72	--
	Coarse sand	14	14	19	22	20	18	14	16	
2.	Texture	54	56	51	42	40	38	56	52	%
	Silt	16	16	18	16	18	16	18	14	
	Fine Sand	16	14	12	20	22	28	12	18	
3.	Class	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	
4.	Conductivity	472.7	250.2	309.7	289.9	403.8	225.4	351.6	497.5	$\mu S/cm$
5.	Organic Carbon	0.62	0.17	0.89	0.21	0.6	0.40	0.25	0.28	%
6.	Available Nitrogen	0.014	0.010	0.012	0.018	0.014	0.014	0.019	0.018	%
7.	Available Phosphorus	86	92	85	97	98	95	86	94	kg/ha
8.	Available Potassium	35.45	28.36	43.96	29.07	21.98	21.27	35.45	49.63	kg/ha
9.	Chloride	24.6	18	22	22	18	18	20	14	mg/kg
10.	Sulphate as SO_4	50.8	60.1	33.2	53.4	50	43.4	54.5	41.1	mg/kg
11.	Calcium as Ca	9.0	10.2	6.6	7.0	13.4	15.6	14.9	9.5	meq/l
12.	Magnesium as Mg	60	30	70	40	50	60	50	40	meq/l
13.	Sodium as Na	70	70	60	70	60	60	60	80	kg/ha



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Sr. No.	Locations	Chinchpada	Koli	Kopar	Ulwe	NMIA Project site	Kombadbuje	Pargaon	Owale	Unit
	Sampling Date	19.03.2026								
14.	Manganese as Mn	0.54	0.12	< 0.02	0.48	1.10	1.24	1.42	0.24	mg/kg
15.	Copper as Cu	1.28	0.21	0.22	0.88	0.80	1.24	0.36	0.28	mg/kg
16.	Cadmium as Cd	0.28	0.18	0.24	0.18	< 0.02	0.28	0.12	0.22	mg/kg
17.	Cobalt as Co	0.14	0.26	0.24	0.08	0.18	0.14	0.04	0.08	mg/kg
18.	Zinc as Zn	2.54	3.24	3.48	3.8	2.40	2.80	2.84	3.21	mg/kg
19.	Nickel as Ni	0.56	0.84	0.65	< 0.02	1.40	0.80	0.02	0.88	mg/kg
20.	Aluminium as Al	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/kg
21.	Arsenic as As	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/kg
22.	Mercury as Hg	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/kg
23.	Chromium as Cr	1.20	0.68	1.48	1.24	1.58	1.80	1.72	1.24	mg/kg
24.	Iron as Fe	4.54	4.22	4.58	4.58	3.80	4.2	2.48	5.20	mg/kg
25.	Lead as Pb	0.04	< 0.02	0.10	< 0.02	< 0.02	0.04	0.04	< 0.02	mg/kg



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4.3.3 Soil Data Inference during March 2026

It has been observed that the pH of the soil ranged from 6.39 to 7.72 indicating that the soils are Moderately acidic to alkaline nature of soil. The soil in the study area is mostly clay. The electrical conductivity was observed to be in the range of 225.4 to 546.4 $\mu\text{S}/\text{cm}$.

The nitrogen concentrations are in the range of 0.010% to 0.019%. The phosphorous concentrations are in the range of 85 kg/ha to 98 kg/ha. The phosphorus concentration is indicating that soils have medium of phosphorus.

The potassium concentrations range between 21.27 kg/ha to 49.63 kg/ha, which indicates that the soils have very less quantity of potassium.

Source: Standard soil classification as per Handbook of Agriculture, Indian Council of Agricultural Research.

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4.4 GROUND WATER QUALITY ANALYSIS REPORT**4.4.1 GW Analysis Data during October 2025**

Ground water samples were collected in October 2025.

Table 4-10 Ground water analysis at various stations during October 2025

Sr. No.	Sampling Locations	Unit	Kille Gaothan	Ulwe	Pargaon	Jui	Panvel
	Sampling month		14.10.2025				
1.	Colour	Hazen	5.0	5.0	< 5.0	5.0	< 5.0
2.	pH	--	7.2	7.0	7.0	7.0	7.0
3.	Total Dissolved Solids	mg/l	660	220	90	260	340
4.	Ammonia (as N)	mg/l	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
5.	Boron	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
6.	Calcium as Ca	mg/l	32	24	14.4	28.8	48
7.	Chlorides	mg/l	180	45	22	64	72
8.	Fluoride	mg/l	0.32	0.34	0.32	0.32	0.34
9.	Iron	mg/l	0.04	0.034	0.034	0.03	0.04
10.	Magnesium as Mg	mg/l	53.5	4.4	4.9	13.6	18
11.	Sulphate	mg/l	95	25	8.2	52	60
12.	Alkalinity	mg/l	250	126	48	92	150
13.	Hardness	mg/l	300	78	56	128	194
14.	Odour	mg/l	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
15.	Turbidity	--	<1.0	<1.0	<1.0	<1.0	<1.0
16.	Free Residual Chlorine	mg/l	0.4	0.4	0.4	0.4	0.4
17.	Aluminium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
18.	Detergents	mg/l	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
19.	Arsenic	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
20.	Barium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
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.	Chromium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
24.	Zinc	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
25.	Nitrate	mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
26.	Selenium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
27.	Lead	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
28.	Molybdenum	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Sr. No.	Sampling Locations	Unit	Kille Gaothan	Ulwe	Pargaon	Jui	Panvel
	Sampling month		14.10.2025				
29.	Nickel	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
30.	Cadmium	mg/l	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
31.	Phenolic compounds	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
32.	Sulphide	mg/l	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
33.	Mercury	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
34.	Chloramines	mg/l	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
35.	Silver	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
36.	Cyanide	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
37.	Polynuclear Aromatic Hydrocarbons	mg/l	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
38.	Alachlor	mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
39.	Atrazine	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
40.	Aldrin	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
41.	Alpha HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
42.	Beta HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
43.	Butachlor	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
44.	Chloropyrifos	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
45.	Delta HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
46.	DDT	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
47.	Endosulphan	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
48.	Ethion	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
49.	Lindane	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
50.	Malathion	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
51.	Methyl parathion	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
52.	Manocrotophos	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
53.	Phorate	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
54.	Coliforms	MPN/100ml	>1600	>1600	>1600	>1600	>1600
55.	E-Coli	MPN/100 ml	Present	Present	Present	Present	Present

4.4.2 GW Analysis Inference:

Analysis results indicate pH ranges from 7.0 to 7.2 and is observed to be within desirable limit of 6.5 to 8.5. Total hardness is in the range of 56 to 300 mg/l and is observed to be within permissible limit

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of 600 mg/l at all locations. Iron concentration is found to be in the range of 0.03 to 0.04 mg/l and is observed to be within desirable limit of 1.0 mg/l at all locations.

Chlorides concentration is in the range of 22 to 180 mg/l and is observed to be within desirable limit of 250 mg/l at all locations. Fluoride concentration is in the range 0.32 to 0.34 mg/l and is observed to be within desirable limit of 1.5 mg/l at all locations. Total Dissolved Solids are in the range of 90 to 660 mg/l, and is observed to be within desirable limit of 500 mg/l at all locations except at Kille Gaothan and are also within the permissible limit of 2000 mg/l.

The ground water samples collected from all locations and are analyzed for physical, chemical and biological parameters. The chemical and physical characteristics of the analyzed ground water samples show that the samples are potable as per IS 10500-RA2018. The biological characteristics of the analyzed ground water samples show that the samples are not potable as per IS 10500-RA2018.

4.4.3 GW Analysis Data during November 2025

Ground water samples were collected in November 2025.

Table 4-11 Ground water analysis at various stations during November 2025

Sr. No.	Sampling Locations	Unit	Owale	Dapoli
	Sampling month		10.11.2025	
1.	Colour	Hazen	<5.0	5.0
2.	pH	--	6.8	6.8
3.	Total Dissolved Solids	mg/l	440	570
4.	Ammonia (as N)	mg/l	< 0.2	< 0.2
5.	Boron	mg/l	< 0.05	< 0.05
6.	Calcium as Ca	mg/l	20.8	31.2
7.	Chlorides	mg/l	92	98
8.	Fluoride	mg/l	0.32	0.34
9.	Iron	mg/l	0.034	0.034
10.	Magnesium as Mg	mg/l	62.2	67.6
11.	Sulphate	mg/l	87	92
12.	Alkalinity	mg/l	220	364
13.	Hardness	mg/l	308	356
14.	Odour	mg/l	Agreeable	Agreeable
15.	Turbidity	NTU	<1.0	<1.0
16.	Free Residual Chlorine	mg/l	0.4	0.4

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Sr. No.	Sampling Locations	Unit	Owale	Dapoli
	Sampling month		10.11.2025	
17.	Aluminium	mg/l	< 0.01	< 0.01
18.	Detergents	mg/l	< 0.04	< 0.04
19.	Arsenic	mg/l	< 0.005	< 0.005
20.	Barium	mg/l	< 0.01	< 0.01
21.	Copper	mg/l	< 0.01	< 0.01
22.	Manganese	mg/l	< 0.01	< 0.01
23.	Chromium	mg/l	< 0.01	< 0.01
24.	Zinc	mg/l	< 0.01	< 0.01
25.	Nitrate	mg/l	< 0.5	< 0.5
26.	Selenium	mg/l	< 0.005	< 0.005
27.	Lead	mg/l	< 0.005	< 0.005
28.	Molybdenum	mg/l	< 0.01	< 0.01
29.	Nickel	mg/l	< 0.01	< 0.01
30.	Cadmium	mg/l	< 0.001	< 0.001
31.	Phenolic compounds	mg/l	< 0.001	< 0.001
32.	Sulphide	mg/l	< 0.02	< 0.02
33.	Mercury	mg/l	< 0.001	< 0.001
34.	Chloramines	mg/l	< 2.0	< 2.0
35.	Silver	mg/l	< 0.01	< 0.01
36.	Cyanide	mg/l	< 0.05	< 0.05
37.	Polynuclear Aromatic Hydrocarbons	mg/l	< 0.025	< 0.025
38.	Alachlor	mg/l	< 0.5	< 0.5
39.	Atrazine	µg/l	< 0.5	< 0.5
40.	Aldrin	µg/l	< 0.01	< 0.01
41.	Alpha HCH	µg/l	< 0.01	< 0.01
42.	Beta HCH	µg/l	< 0.01	< 0.01
43.	Butachlor	µg/l	< 5.0	< 5.0
44.	Chloropyriphos	µg/l	< 0.05	< 0.05
45.	Delta HCH	µg/l	< 0.01	< 0.01
46.	DDT	µg/l	< 0.01	< 0.01
47.	Endosulphan	µg/l	< 0.01	< 0.01
48.	Ethion	µg/l	< 0.05	< 0.05
49.	Lindane	µg/l	< 0.01	< 0.01
50.	Malathion	µg/l	< 0.05	< 0.05
51.	Methyl parathion	µg/l	< 0.01	< 0.01

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Sr. No.	Sampling Locations	Unit	Owale	Dapoli
	Sampling month		10.11.2025	
52.	Manocrotophos	µg/l	< 0.5	< 0.5
53.	Phorate	µg/l	< 0.5	< 0.5
54.	Coliforms	MPN/100ml	>1600	>1600
55.	E-Coli	MPN/100 ml	Present	Present

4.4.4 GW Analysis Inference:

Analysis results indicate pH range 6.8 and is observed to be within desirable limit of 6.5 to 8.5. Total hardness is in the range of 308 to 356 mg/l and is observed to be within permissible limit of 600 mg/l at all locations. Iron concentration is found to be in the range 0.034 mg/l and is observed to be within desirable limit of 1.0 mg/l at all locations.

Chlorides concentration is in the range of 92 to 98 mg/l and is observed to be within desirable limit of 250 mg/l at all locations. Fluoride concentration is in the range 0.32 to 0.34 mg/l and is observed to be within desirable limit of 1.5 mg/l at all locations. Total Dissolved Solids are in the range of 440 to 570 mg/l, and is observed to be within desirable limit of 500 mg/l at Owale and exceeds its limit at Dapoli and are also within the permissible limit of 2000 mg/l.

The ground water samples collected from all locations and are analyzed for physical, chemical and biological parameters. The chemical and physical characteristics of the analyzed ground water samples show that the samples are potable as per IS 10500-RA2018. The biological characteristics of the analyzed ground water samples show that the samples are not potable as per IS 10500-RA2018.

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4.4.5 GW Analysis Data during December 2025

Ground water samples were collected in December 2025.

Table 4-12 Ground water analysis at various stations during December 2025

Sr. No.	Sampling Locations	Unit	Kille Gavthan	Ulwe	Pargaon	Jui	Panvel
	Sampling month		15.12.2026			16.12.2026	17.12.2026
1.	Colour	Hazen	5.0	5.0	5.0	5.0	5.0
2.	pH	--	7.2	7.7	7.3	6.8	7.2
3.	Total Dissolved Solids	mg/l	760	190	450	270	360
4.	Ammonia (as N)	mg/l	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
5.	Boron	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
6.	Calcium as Ca	mg/l	44	16	60	28	56
7.	Chlorides	mg/l	245	32	65	44	68
8.	Fluoride	mg/l	0.34	0.32	0.32	0.32	0.34
9.	Iron	mg/l	0.038	0.034	0.04	0.032	0.036
10.	Magnesium as Mg	mg/l	60	11.7	17	14.6	17.5
11.	Sulphate	mg/l	120	28	80	48	60
12.	Alkalinity	mg/l	190	104	240	136	210
13.	Hardness	mg/l	356	88	218	130	212
14.	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
15.	Free Residual Chlorine	mg/l	0.4	0.4	0.4	0.4	0.4
16.	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	<1.0
17.	Aluminium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
18.	Detergents	mg/l	<0.04	< 0.04	< 0.04	< 0.04	< 0.04
19.	Arsenic	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
20.	Barium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
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.	Chromium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
24.	Zinc	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
25.	Nitrate	mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
26.	Selenium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
27.	Lead	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
28.	Molybdenum	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
29.	Nickel	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
30.	Cadmium	mg/l	< 0.003	< 0.003	< 0.003	< 0.003	< 0.003
31.	Phenolic compounds	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
32.	Sulphide	mg/l	< 0.02	< 0.05	< 0.02	< 0.05	< 0.02

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Sr. No.	Sampling Locations	Unit	Kille Gavthan	Ulwe	Pargaon	Jui	Panvel
	Sampling month		15.12.2026			16.12.2026	17.12.2026
33.	Mercury	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
34.	Chloramines	mg/l	<2.0	<2.0	<2.0	<2.0	<2.0
35.	Mneral Oil	mg/l	<0.5	<0.5	<0.5	<0.5	<0.5
36.	Silver	mg/l	< 0.01	< 0.1	< 0.01	< 0.1	< 0.01
37.	Cyanide	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
38.	Polynuclear Aromatic Hydrocarbons	mg/l	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
39.	Alachlor	mg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
40.	Atrazine	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
41.	Aldrin	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
42.	Alpha HCH	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
43.	Beta HCH	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
44.	Butachlor	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
45.	Chloropyriphos	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
46.	Delta HCH	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
47.	DDT	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
48.	Endosulphan	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
49.	Ethion	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
50.	Lindane	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
51.	Malathion	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
52.	Methyl parathion	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
53.	Manocrotophos	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
54.	Phorate	µg/l	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
55.	Coliforms	MPN/100ml	>1600	>1600	>1600	>1600	>1600
56.	E-Coli	MPN/100 ml	Present	Present	Present	Present	Present

4.4.6 GW Analysis Inference:

Analysis results indicate pH ranges from 6.8 to 7.7 and is observed to be within desirable limit of 6.5 to 8.5. Total hardness is in the range of 60 to 356 mg/l and is observed to be within permissible limit of 600 mg/l at all locations. Iron concentration is found to be in the range of 0.03 to 0.04 mg/l and is observed to be within desirable limit of 1.0 mg/l at all locations.

Chlorides concentration is in the range of 32 to 245 mg/l and is observed to be within desirable limit of 250 mg/l at all locations. Fluoride concentration is in the range 0.32 to 0.34 mg/l and is observed to be within desirable limit of 1.5 mg/l at all locations. Total Dissolved Solids are in the range of 190

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to 760 mg/l, and is observed to be within desirable limit of 500 mg/l at all locations except at Kille Gaothan and are also within the permissible limit of 2000 mg/l.

The ground water samples collected from all locations and are analyzed for physical, chemical and biological parameters. The chemical and physical characteristics of the analyzed ground water samples show that the samples are potable as per IS 10500-RA2018. The biological characteristics of the analyzed ground water samples show that the samples are not potable as per IS 10500-RA2018.

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4.4.7 GW Analysis Data during January 2026

Ground water samples were collected in January 2026.

Table 4-13 Ground water analysis at various stations during January 2026

Sr. No.	Sampling Locations	Unit	Owale	Dapoli
	Sampling month		01.01.2026	
1.	Colour	Hazen	5.0	5.0
2.	pH	--	7.3	7.2
3.	Total Dissolved Solids	--	420	400
4.	Ammonia (as N)	NTU	< 0.2	< 0.2
5.	Boron	mg/l	< 0.05	< 0.05
6.	Calcium as Ca	mg/l	28.8	54.4
7.	Chlorides	mg/l	62	42
8.	Fluoride	mg/l	0.34	0.36
9.	Iron	mg/l	0.034	0.032
10.	Magnesium as Mg	mg/l	49.6	38.4
11.	Sulphate	mg/l	95	80
12.	Alkalinity	mg/l	256	330
13.	Hardness	mg/l	276	294
14.	Odour	--	Agreeable	Agreeable
15.	Turbidity	NTU	<1.0	<1.0
16.	Free Residual Chlorine	mg/l	0.4	0.4
17.	Aluminium	mg/l	< 0.01	< 0.01
18.	Detergents	mg/l	< 0.04	< 0.04
19.	Arsenic	mg/l	< 0.005	< 0.005
20.	Barium	mg/l	< 0.01	< 0.01
21.	Copper	mg/l	< 0.01	< 0.01
22.	Manganese	mg/l	< 0.01	< 0.01
23.	Chromium	mg/l	< 0.01	< 0.01
24.	Zinc	mg/l	< 0.01	< 0.01
25.	Nitrate	mg/l	< 0.5	< 0.5
26.	Selenium	mg/l	< 0.005	< 0.005
27.	Lead	mg/l	< 0.005	< 0.005
28.	Molybdenum	mg/l	< 0.01	< 0.01
29.	Nickel	mg/l	< 0.01	< 0.01
30.	Cadmium	mg/l	< 0.001	< 0.001
31.	Phenolic compounds	mg/l	< 0.001	< 0.001

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Sr. No.	Sampling Locations	Unit	Owale	Dapoli
	Sampling month		01.01.2026	
32.	Sulphide	mg/l	< 0.02	< 0.02
33.	Mercury	mg/l	< 0.001	< 0.001
34.	Chloramines	mg/l	< 2.0	< 2.0
35.	Silver	mg/l	< 0.01	< 0.01
36.	Cyanide	mg/l	< 0.05	< 0.05
37.	Polynuclear Aromatic Hydrocarbons	mg/l	< 0.025	< 0.025
38.	Alachlor	mg/l	< 0.5	< 0.5
39.	Atrazine	µg/l	< 0.5	< 0.5
40.	Aldrin	µg/l	< 0.01	< 0.01
41.	Alpha HCH	µg/l	< 0.01	< 0.01
42.	Beta HCH	µg/l	< 0.01	< 0.01
43.	Butachlor	µg/l	< 5.0	< 5.0
44.	Chloropyriphos	µg/l	< 0.05	< 0.05
45.	Delta HCH	µg/l	< 0.01	< 0.01
46.	DDT	µg/l	< 0.01	< 0.01
47.	Endosulphan	µg/l	< 0.01	< 0.01
48.	Ethion	µg/l	< 0.05	< 0.05
49.	Lindane	µg/l	< 0.01	< 0.01
50.	Malathion	µg/l	< 0.05	< 0.05
51.	Methyl parathion	µg/l	< 0.01	< 0.01
52.	Manocrotophos	µg/l	< 0.5	< 0.5
53.	Phorate	µg/l	< 0.5	< 0.5
54.	Coliforms	MPN/100ml	> 1600	> 1600
55.	E-Coli	MPN/100 ml	Present	Present

4.4.8 GW Analysis Inference:

Analysis results indicate pH range 7.2 to 7.3 and is observed to be within desirable limit of 6.5 to 8.5. Total hardness is in the range of 276 to 294 mg/l and is observed to be within permissible limit of 600 mg/l at all locations. Iron concentration is found to be in the range of 0.034 to 0.036 mg/l and is observed to be within desirable limit of 1.0 mg/l at all locations.

Chlorides concentration is in the range of 42 to 62 mg/l and is observed to be within desirable limit of 250 mg/l at all locations. Fluoride concentration is in the range 0.34 to 0.36 mg/l and is observed to be within desirable limit of 1.5 mg/l at all locations. Total Dissolved Solids are in the range of 400

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to 420 mg/l, and is observed to be within desirable limit of 500 mg/l at all locations and are also within the permissible limit of 2000 mg/l.

The ground water samples collected from all locations and are analyzed for physical, chemical and biological parameters. The chemical and physical characteristics of the analyzed ground water samples show that the samples are potable as per IS 10500-RA2018. The biological characteristics of the analyzed ground water samples show that the samples are not potable as per IS 10500-RA2018.

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4.4.9 GW Analysis Data during February 2026

Ground water samples were collected in February 2026.

Table 4-14 Ground water analysis at various stations during February 2026

Sr. No	Sampling Locations	Unit	Kille Gaothan	Ulwe	Pargaon	Jui	Panvel
	Sampling month		12/02/2026	10.02.2026		11.02.2026	12.02.2026
1.	Colour	Hazen	5.0	5.0	5.0	5.0	5.0
2.	pH	--	7.8	7.2	7.2	7.1	8.0
3.	Total Dissolved Solids	mg/l	1600	140	350	220	360
4.	Ammonia (as N)	mg/l	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
5.	Boron	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
6.	Calcium as Ca	mg/l	208	16	54.4	30.4	34.4
7.	Chlorides	mg/l	800	21	58	40	48
8.	Fluoride	mg/l	0.36	0.36	0.36	0.36	0.34
9.	Iron	mg/l	0.032	0.032	0.032	0.032	0.034
10.	Magnesium as Mg	mg/l	145.8	7.3	19.4	10.2	31.6
11.	Sulphate	mg/l	135	6.9	50	18	56
12.	Alkalinity	mg/l	198	110	236	150	238
13.	Hardness	mg/l	860	70	210	118	216
14.	Odour	mg/l	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
15.	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	<1.0
16.	Free Residual Chlorine	mg/l	0.4	0.4	0.4	0.4	0.4
17.	Aluminium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
18.	Detergents	mg/l	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
19.	Arsenic	mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
20.	Barium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
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.	Chromium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
24.	Zinc	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
25.	Nitrate	mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
26.	Selenium	mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
27.	Lead	mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
28.	Molybdenum	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
29.	Nickel	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Sr. No.	Sampling Locations	Unit	Kille Gaothan	Ulwe	Pargaon	Jui	Panvel
	Sampling month		12/02/2026	10.02.2026		11.02.2026	12.02.2026
30.	Cadmium	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
31.	Phenolic compounds	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
32.	Sulphide	mg/l	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
33.	Mercury	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
34.	Chloramines	mg/l	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
35.	Silver	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
36.	Cyanide	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
37.	Polynuclear Aromatic Hydrocarbons	mg/l	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
38.	Alachlor	mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
39.	Atrazine	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
40.	Aldrin	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
41.	Alpha HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
42.	Beta HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
43.	Butachlor	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
44.	Chloropyriphos	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
45.	Delta HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
46.	DDT	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
47.	Endosulphan	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
48.	Ethion	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
49.	Lindane	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
50.	Malathion	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
51.	Methyl parathion	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
52.	Manocrotophos	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
53.	Phorate	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
54.	Coliforms	µg/l	> 1600	> 1600	> 1600	> 1600	> 1600
55.	E-Coli	MPN/100ml	Present	Present	Present	Present	Present

4.4.10 GW Analysis Inference:

Analysis results indicate pH range 7.1 to 8.0 and is observed to be within desirable limit of 6.5 to 8.5. Total hardness is in the range of 30 to 860 mg/l exceeding permissible limit at Kille Gaothan and observed within permissible limit of 600 mg/l at all other locations. Iron concentration is found to

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be in the range of 0.032 to 0.034mg/l and is observed to be within desirable limit of 1.0 mg/l at all locations.

Chlorides concentration is in the range of 21 to 800 mg/l and is observed to be within permissible limit of 1000 mg/l at all locations. Fluoride concentration is in the range 0.34 to 0.36 mg/l and is observed to be within desirable limit of 1.5 mg/l at all locations. Total Dissolved Solids are in the range of 40 to 1600 mg/l, and it exceeds desirable limit at Kille Gaothan and observed within desirable limit of 500 mg/l at all locations and are also within the permissible limit of 2000 mg/l.

The ground water samples collected from four locations and are analyzed for physical, chemical and biological parameters. The chemical and physical characteristics of the analyzed ground water samples show that the samples are potable as per IS 10500-RA2018. The biological characteristics of the analyzed ground water samples show that the samples are not potable as per IS 10500-RA2018.


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4.4.11 GW Analysis Data during March 2026

Ground water samples were collected in March 2026.

Table 4-15 Ground water analysis at various stations during March 2026

Sr. No.	Sampling Locations	Unit	Owale	Dapoli
	Sampling month		16.03.2026	
1.	Colour	Hazen	5.0	5.0
2.	pH	--	7.4	7.2
3.	Total Dissolved Solids	mg/l	430	460
4.	Ammonia (as N)	mg/l	< 0.2	< 0.2
5.	Boron	mg/l	< 0.05	< 0.05
6.	Calcium as Ca	mg/l	72	65.6
7.	Chlorides	mg/l	70	75
8.	Fluoride	mg/l	0.36	0.38
9.	Iron	mg/l	0.034	0.032
10.	Magnesium as Mg	mg/l	33	32.6
11.	Sulphate	mg/l	88	84
12.	Alkalinity	mg/l	280	280
13.	Hardness	mg/l	316	298
14.	Odour	mg/l	Agreeable	Agreeable
15.	Turbidity	NTU	<1.0	<1.0
16.	Free Residual Chlorine	mg/l	0.4	0.4
17.	Aluminium	mg/l	< 0.01	< 0.01
18.	Detergents	mg/l	< 0.04	< 0.04
19.	Arsenic	mg/l	< 0.005	< 0.005
20.	Barium	mg/l	< 0.01	< 0.01
21.	Copper	mg/l	< 0.01	< 0.01
22.	Manganese	mg/l	< 0.01	< 0.01
23.	Chromium	mg/l	< 0.01	< 0.01
24.	Zinc	mg/l	< 0.01	< 0.01
25.	Nitrate	mg/l	< 0.5	< 0.5
26.	Selenium	mg/l	< 0.005	< 0.005
27.	Lead	mg/l	< 0.005	< 0.005
28.	Molybdenum	mg/l	< 0.01	< 0.01
29.	Nickel	mg/l	< 0.01	< 0.01
30.	Cadmium	mg/l	< 0.001	< 0.001
31.	Phenolic compounds	mg/l	< 0.001	< 0.001

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Sr. No.	Sampling Locations	Unit	Owale	Dapoli
	Sampling month		16.03.2026	
32.	Sulphide	mg/l	< 0.02	< 0.02
33.	Mercury	mg/l	< 0.001	< 0.001
34.	Chloramines	mg/l	< 2.0	< 2.0
35.	Silver	mg/l	< 0.01	< 0.01
36.	Cyanide	mg/l	< 0.05	< 0.05
37.	Polynuclear Aromatic Hydrocarbons	mg/l	< 0.025	< 0.025
38.	Alachlor	mg/l	< 0.5	< 0.5
39.	Atrazine	µg/l	< 0.5	< 0.5
40.	Aldrin	µg/l	< 0.01	< 0.01
41.	Alpha HCH	µg/l	< 0.01	< 0.01
42.	Beta HCH	µg/l	< 0.01	< 0.01
43.	Butachlor	µg/l	< 5.0	< 5.0
44.	Chloropyrifos	µg/l	< 0.05	< 0.05
45.	Delta HCH	µg/l	< 0.01	< 0.01
46.	DDT	µg/l	< 0.01	< 0.01
47.	Endosulphan	µg/l	< 0.01	< 0.01
48.	Ethion	µg/l	< 0.05	< 0.05
49.	Lindane	µg/l	< 0.01	< 0.01
50.	Malathion	µg/l	< 0.05	< 0.05
51.	Methyl parathion	µg/l	< 0.01	< 0.01
52.	Manocrotophos	µg/l	< 0.5	< 0.5
53.	Phorate	µg/l	< 0.5	< 0.5
54.	Coliforms	MPN/100 ml	> 1600	> 1600
55.	E-Coli	MPN/100 ml	Present	Present

4.4.12 GW Analysis Inference:

Analysis results indicate pH range 7.2 to 7.4 and is observed to be within desirable limit of 6.5 to 8.5. Total hardness is in the range of 298 to 316 mg/l and is observed to be within permissible limit of 600 mg/l at all locations. Iron concentration is found to be in the range of 0.032 to 0.034 mg/l and is observed to be within desirable limit of 1.0 mg/l at all locations.

Chlorides concentration is in the range of 70 to 75 mg/l and is observed to be within desirable limit of 250 mg/l at all locations. Fluoride concentration is in the range 0.36 to 0.38 mg/l and is observed to be within desirable limit of 1.5 mg/l at all locations. Total Dissolved Solids are in the range of 430

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to 460 mg/l, and is observed to be within desirable limit of 500 mg/l at all locations and are also within the permissible limit of 2000 mg/l.

The ground water samples collected from all locations and are analyzed for physical, chemical and biological parameters. The chemical and physical characteristics of the analyzed ground water samples show that the samples are potable as per IS 10500-RA2018. The biological characteristics of the analyzed ground water samples show that the samples are not potable as per IS 10500-RA2018.

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4.5 DRINKING WATER QUALITY ANALYSIS REPORT

NMIA project site was selected for analysis of drinking water during December 2025, January 2026, February 2026 and March 2025.

Table 4-16 Drinking water analysis during December 2025

Sr. No.	Sampling Locations Sampling month	Unit	NMIA Project site 17.12.2025
1.	Colour	Hazen	<5.0
2.	pH	--	7.5
3.	Total Dissolved Solids	mg/l	80
4.	Ammonia as N	mg/l	< 0.2
5.	Boron	mg/l	< 0.05
6.	Calcium as Ca	mg/l	12.8
7.	Chlorides	mg/l	17
8.	Fluoride	mg/l	0.32
9.	Iron	mg/l	0.03
10.	Magnesium as Mg	mg/l	6.8
11.	Sulphate	mg/l	8.0
12.	Alkalinity	mg/l	56
13.	Hardness	mg/l	60
14.	Turbidity	NTU	<0.1
15.	Free Residual Chlorine	mg/l	0.4
16.	Odour	mg/l	Agreeable
17.	Aluminium	mg/l	< 0.01
18.	Detergents	mg/l	< 0.04
19.	Arsenic	mg/l	< 0.01
20.	Barium	mg/l	< 0.01
21.	Copper	mg/l	< 0.01
22.	Manganese	mg/l	< 0.01
23.	Chromium	mg/l	< 0.01
24.	Zinc	mg/l	< 0.01
25.	Nitrate	mg/l	< 0.5
26.	Selenium	mg/l	< 0.01
27.	Lead	mg/l	< 0.01
28.	Molybdenum	mg/l	< 0.01
29.	Nickel	mg/l	< 0.01
30.	Cadmium	mg/l	< 0.003
31.	Phenolic compounds	mg/l	< 0.001
32.	Sulphide	mg/l	< 0.05

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Sr. No.	Sampling Locations Sampling month	Unit	NMIA Project site 17.12.2025
33.	Mercury	mg/l	< 0.001
34.	Chloramines	mg/l	<2.0
35.	Silver	mg/l	< 0.1
36.	Cyanide	mg/l	< 0.05
37.	Polynuclear Aromatic Hydrocarbons	mg/l	< 0.0001
38.	Alachlor	mg/l	< 1.0
39.	Atrazine	µg/l	< 1.0
40.	Aldrin	µg/l	< 1.0
41.	Alpha HCH	µg/l	< 1.0
42.	Beta HCH	µg/l	< 1.0
43.	Butachlor	µg/l	< 1.0
44.	Chloropyriphos	µg/l	< 1.0
45.	Delta HCH	µg/l	< 1.0
46.	DDT	µg/l	< 1.0
47.	Endosulphan	µg/l	< 1.0
48.	Ethion	µg/l	< 1.0
49.	Lindane	µg/l	< 1.0
50.	Malathion	µg/l	< 1.0
51.	Methyl parathion	µg/l	< 1.0
52.	Monocrotophos	µg/l	< 1.0
53.	Phorate	µg/l	< 1.0
54.	Coliforms	µg/l	Absent
55.	E-Coli	MPN/100ml	Absent

4.5.1 Drinking Water Analysis Inference:

The analysis results indicate the pH value is 7.5 and is observed within the desirable limit of 6.5 to 8.5, beyond this range water will affect the mucous membrane and/or water supply system. The total hardness was observed 60 mg/l and is observed within the permissible limit of 600 mg/l. The total hardness beyond the permissible limit causes encrustation in water supply structure and adverse effects on domestic use. The iron concentration is found 0.030 mg/l and is observed within the acceptable limit of 1.0 mg/l. Beyond the desirable limit taste/appearance are affected, has adverse effect on domestic uses and water supply structures, and promotes iron bacteria.

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The chlorides concentration is 17 mg/l and is observed to be within the acceptable limit of 250 mg/l. Beyond this limit, taste, corrosion and palatability are affected. The fluoride concentration is 0.32 mg/l and is observed within the acceptable limit of 1.0 mg/l, high fluoride may cause fluorosis. The value of TDS is observed 80 mg/l and is observed within the desirable limit of 500 mg/l and is also within the permissible limit of 2000 mg/l. The Drinking water samples were collected from 1 location and analyzed for physical, chemical and biological parameters. Which shows that the samples are potable as per IS 10500-RA2018.

Table 4-17 Drinking water analysis during January 2026

Sr. No.	Sampling Locations	Unit	Results		
			DW 1	DW 2	DW 3
	Sampling Months		02/01/2026		
1	Colour	Hazen	<5.0	<5.0	<5.0
2	pH	--	6.9	7.1	7.0
3	Total Dissolved Solids	mg/l	70	50	80
4	Ammonia as N	mg/l	< 0.2	< 0.2	< 0.2
5	Boron	mg/l	< 0.05	< 0.05	< 0.05
6	Calcium as Ca	mg/l	12	8.0	17.6
7	Chlorides	mg/l	10	9.0	12
8	Fluoride	mg/l	0.32	0.32	0.32
9	Iron	mg/l	0.030	0.030	0.030
10	Magnesium as Mg	mg/l	4.9	3.9	3.4
11	Sulphate	mg/l	13	8.1	20
12	Alkalinity	mg/l	46	34	48
13	Hardness	mg/l	50	36	58
14	Odour	mg/l	Agreeable	Agreeable	Agreeable
15	Turbidity	NTU	<1.0	<1.0	<1.0
16	Free Residual Chlorine	mg/l	0.4	0.4	0.4
17	Aluminium	mg/l	< 0.01	< 0.01	< 0.01
18	Detergents	mg/l	< 0.04	< 0.04	< 0.04
19	Arsenic	mg/l	< 0.005	< 0.005	< 0.005
20	Barium	mg/l	< 0.01	< 0.01	< 0.01

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Sr. No.		Unit	Results		
	Sampling Locations		DW 1	DW 2	DW 3
	Sampling Months		02/01/2026		
21	Copper	mg/l	< 0.01	< 0.01	< 0.01
22	Manganese	mg/l	< 0.01	< 0.01	< 0.01
23	Chromium	mg/l	< 0.01	< 0.01	< 0.01
24	Zinc	mg/l	< 0.01	< 0.01	< 0.01
25	Nitrate	mg/l	< 0.5	< 0.5	< 0.5
26	Selenium	mg/l	< 0.005	< 0.005	< 0.005
27	Lead	mg/l	< 0.005	< 0.005	< 0.005
28	Molybdenum	mg/l	< 0.01	< 0.01	< 0.01
29	Nickel	mg/l	< 0.01	< 0.01	< 0.01
30	Cadmium	mg/l	< 0.001	< 0.001	< 0.001
31	Phenolic compounds	mg/l	< 0.001	< 0.001	< 0.001
32	Sulphide	mg/l	< 0.02	< 0.02	< 0.02
33	Mercury	mg/l	< 0.001	< 0.001	< 0.001
34	Chloramines	mg/l	< 2.0	< 2.0	< 2.0
36	Silver	mg/l	< 0.01	< 0.01	< 0.01
37	Cyanide	mg/l	< 0.05	< 0.05	< 0.05
39	Polynuclear Aromatic Hydrocarbons	mg/l	< 0.025	< 0.025	< 0.025
40	Alachlor	mg/l	< 0.5	< 0.5	< 0.5
41	Atrazine	µg/l	< 0.5	< 0.5	< 0.5
42	Aldrin	µg/l	< 0.01	< 0.01	< 0.01
43	Alpha HCH	µg/l	< 0.01	< 0.01	< 0.01
44	Beta HCH	µg/l	< 0.01	< 0.01	< 0.01
45	Butachlor	µg/l	< 5.0	< 5.0	< 5.0
46	Chloropyriphos	µg/l	< 0.05	< 0.05	< 0.05
47	Delta HCH	µg/l	< 0.01	< 0.01	< 0.01
49	DDT	µg/l	< 0.01	< 0.01	< 0.01
50	Endosulphan	µg/l	< 0.01	< 0.01	< 0.01
51	Ethion	µg/l	< 0.05	< 0.05	< 0.01
52	Lindane	µg/l	< 0.01	< 0.01	< 0.01

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Sr. No.		Unit	Results		
	Sampling Locations		DW 1	DW 2	DW 3
	Sampling Months		02/01/2026		
54	Malathion	µg/l	< 0.05	< 0.05	< 0.05
55	Methyl parathion	µg/l	< 0.01	< 0.01	< 0.01
56	Monocrotophos	µg/l	< 0.5	< 0.5	< 0.5
57	Phorate	MPN/100ml	< 0.5	< 0.5	< 0.5
58	Coliforms	µg/l	Absent	Absent	Absent
59	E-Coli	MPN/100ml	Absent	Absent	Absent

Continued from previous table

Sr. No.		Units	Results				
	Sampling Locations		DW 4	DW 5	DW 6	DW 7	DW 8
	Sampling Months		02/01/2026				
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	<5.0
2	pH	--	6.9	7.0	6.8	6.8	7.4
3	Total Dissolved Solids	mg/l	80	70	50	50	20
4	Ammonia (as N)	mg/l	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
5	Boron	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
6	Calcium as Ca	mg/l	16	16	8.8	8.0	1.6
7	Chlorides	mg/l	11	9.0	12	10	3.0
8	Fluoride	mg/l	0.34	0.32	0.32	0.32	0.3
9	Iron	mg/l	0.030	0.030	0.030	0.030	0.030
10	Magnesium as Mg	mg/l	4.9	3.4	3.4	2.9	1.45
11	Sulphate	mg/l	18	14	8.0	7.6	5.2
12	Alkalinity	mg/l	54	56	24	26	10
13	Hardness	mg/l	60	54	36	32	10
14	Odour	mg/l	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
15	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	<1.0
16	Free Residual Chlorine	mg/l	0.4	0.4	0.4	0.4	0.4
17	Aluminium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Sr. No.	Sampling Locations	Units	Results				
			DW 4	DW 5	DW 6	DW 7	DW 8
	Sampling Months		02/01/2026				
18	Detergents	mg/l	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
19	Arsenic	mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
20	Barium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
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	Chromium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
24	Zinc	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
25	Nitrate	mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
26	Selenium	mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
27	Lead	mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
28	Molybdenum	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
29	Nickel	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
30	Cadmium	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
31	Phenolic compounds	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
32	Sulphide	mg/l	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
33	Mercury	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
34	Chloramines	mg/l	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
36	Silver	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
37	Cyanide	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
39	Polynuclear Aromatic Hydrocarbons	mg/l	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
40	Alachlor	mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
41	Atrazine	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
42	Aldrin	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
43	Alpha HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
44	Beta HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
45	Butachlor	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
46	Chloropyriphos	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
47	Delta HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Sr. No.		Units	Results				
	Sampling Locations		DW 4	DW 5	DW 6	DW 7	DW 8
	Sampling Months		02/01/2026				
49	DDT	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
50	Endosulphan	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
51	Ethion	µg/l	< 0.01	< 0.01	< 0.01	< 0.05	< 0.05
52	Lindane	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
54	Malathion	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
55	Methyl parathion	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
56	Monocrotophos	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
57	Phorate	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
58	Coliforms	µg/l	Absent	Absent	Absent	Absent	Absent
59	E-Coli	MPN/100ml	Absent	Absent	Absent	Absent	Absent

Continued from previous table

Sr. No.	Sampling Location	UoM	Results		
			03.01.2026		
	Sampling Location		DW 9	DW 10	DW 11
	Sampling Month				
1	Colour	Hazen	<5.0	<5.0	<5.0
2	pH	--	6.8	7.3	6.6
3	Total Dissolved Solids	mg/l	20	30	70
4	Ammonia as N	mg/l	< 0.2	< 0.2	< 0.2
5	Boron	mg/l	< 0.05	< 0.05	< 0.05
6	Calcium as Ca	mg/l	2.4	3.2	8.0
7	Chlorides	mg/l	4.0	4.0	14
8	Fluoride	mg/l	0.30	0.3	0.3
9	Iron	mg/l	0.030	0.030	0.030
10	Magnesium as Mg	mg/l	1.5	1.9	7.3
11	Sulphate	mg/l	5.2	6.0	16
12	Alkalinity	mg/l	10	18	34
13	Hardness	mg/l	12	16	50
14	Odour	mg/l	Agreeable	Agreeable	Agreeable
15	Turbidity	NTU -	<1.0	<1.0	<1.0

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Sr. No.	Sampling Location	UoM	Results		
			03.01.2026		
	Sampling Month		DW 9	DW 10	DW 11
16	Free Chlorine Residual	mg/l	0.4	0.4	0.4
17	Aluminium	mg/l	< 0.01	< 0.01	< 0.01
18	Detergents	mg/l	< 0.04	< 0.04	< 0.04
19	Arsenic	mg/l	< 0.005	< 0.005	< 0.005
20	Barium	mg/l	< 0.01	< 0.01	< 0.01
21	Copper	mg/l	< 0.01	< 0.01	< 0.01
22	Manganese	mg/l	< 0.01	< 0.01	< 0.01
23	Chromium	mg/l	< 0.01	< 0.01	< 0.01
24	Zinc	mg/l	< 0.01	< 0.01	< 0.01
25	Nitrate	mg/l	< 0.5	< 0.5	< 0.5
26	Selenium	mg/l	< 0.005	< 0.005	< 0.005
27	Lead	mg/l	< 0.005	< 0.005	< 0.005
28	Molybdenum	mg/l	< 0.01	< 0.01	< 0.01
29	Nickel	mg/l	< 0.01	< 0.01	< 0.01
30	Cadmium	mg/l	< 0.001	< 0.001	< 0.001
31	Phenolic compounds	mg/l	< 0.001	< 0.001	< 0.001
32	Sulphide	mg/l	< 0.02	< 0.02	< 0.02
33	Mercury	mg/l	< 0.001	< 0.001	< 0.001
34	Chloramines	mg/l	< 2.0	< 2.0	< 2.0
36	Silver	mg/l	< 0.01	< 0.01	< 0.01
37	Cyanide	mg/l	< 0.05	< 0.05	< 0.05
39	Polynuclear Aromatic Hydrocarbons	mg/l	< 0.025	< 0.025	< 0.025
40	Alachlor	mg/l	< 0.5	< 0.5	< 0.5
41	Atrazine	µg/l	< 0.5	< 0.5	< 0.5
42	Aldrin	µg/l	< 0.01	< 0.01	< 0.01
43	Alpha HCH	µg/l	< 0.01	< 0.01	< 0.01
44	Beta HCH	µg/l	< 0.01	< 0.01	< 0.01
45	Butachlor	µg/l	< 5.0	< 5.0	< 5.0
46	Chloropyriphos	µg/l	< 0.05	< 0.05	< 0.05
47	Delta HCH	µg/l	< 0.01	< 0.01	< 0.01

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(October 2025 - March 2026)

Sr. No.		UoM	Results		
			03.01.2026		
	Sampling Location		DW 9	DW 10	DW 11
	Sampling Month				
49	DDT	µg/l	< 0.01	< 0.01	< 0.01
50	Endosulphan	µg/l	< 0.01	< 0.01	< 0.01
51	Ethion	µg/l	< 0.05	< 0.05	< 0.05
52	Lindane	µg/l	< 0.01	< 0.01	< 0.01
54	Malathion	µg/l	< 0.05	< 0.05	< 0.05
55	Methyl parathion	µg/l	< 0.01	< 0.01	< 0.01
56	Monocrotophos	µg/l	< 0.5	< 0.5	< 0.5
57	Phorate	µg/l	< 0.5	< 0.5	< 0.5
58	Coliforms	µg/l	Absent	Absent	Absent
59	E-Coli	MPN/100ml	Absent	Absent	Absent

Table 4-18 Drinking water analysis during February 2026

Sr. No.	Sampling Locations	Unit	Results			
			DW 1	DW 2	DW 3	DW 4
	Sampling Months		13.02.2026			
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0
2	pH	--	7.3	7.7	7.8	7.8
3	Total Dissolved Solids	mg/l	70	70	100	40
4	Ammonia as N	mg/l	< 0.2	< 0.2	< 0.2	< 0.2
5	Boron	mg/l	< 0.05	< 0.05	< 0.05	< 0.05
6	Calcium as Ca	mg/l	12	13.6	22.4	8.0
7	Chlorides	mg/l	10	8.0	16	7.0
8	Fluoride	mg/l	0.32	0.32	0.34	0.32
9	Iron	mg/l	0.031	0.031	0.034	0.03
10	Magnesium as Mg	mg/l	3.9	3.4	2.91	2.43
11	Sulphate	mg/l	7.7	12	18	8.0
12	Alkalinity	mg/l	56	50	66	24
13	Hardness	mg/l	54	48	68	30
14	Odour	mg/l	Agreeable	Agreeable	Agreeable	Agreeable
15	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0

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Dhan Thapa

Environmental Consultant



Checked By:
Kalpita Pathare

Aditya Environmental Services Pvt. Ltd.

(October 2025 -March 2026)

Sr. No.	Sampling Locations	Unit	Results			
			DW 1	DW 2	DW 3	DW 4
	Sampling Months		13.02.2026			
16	Free Residual Chlorine	mg/l	0.4	0.4	0.4	0.4
17	Aluminium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
18	Detergents	mg/l	< 0.04	< 0.04	< 0.04	< 0.04
19	Arsenic	mg/l	< 0.005	< 0.005	< 0.005	< 0.005
20	Barium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
21	Copper	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
22	Manganese	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
23	Chromium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
24	Zinc	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
25	Nitrate	mg/l	< 0.5	< 0.5	< 0.5	< 0.5
26	Selenium	mg/l	< 0.005	< 0.005	< 0.005	< 0.005
27	Lead	mg/l	< 0.005	< 0.005	< 0.005	< 0.005
28	Molybdenum	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
29	Nickel	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
30	Cadmium	mg/l	< 0.001	< 0.001	< 0.001	< 0.001
31	Phenolic compounds	mg/l	< 0.001	< 0.001	< 0.001	< 0.001
32	Sulphide	mg/l	< 0.02	< 0.02	< 0.02	< 0.02
33	Mercury	mg/l	< 0.001	< 0.001	< 0.001	< 0.001
34	Chloramines	mg/l	< 2.0	< 2.0	< 2.0	< 2.0
36	Silver	mg/l	< 0.01	< 0.01	< 0.01	< 0.01
37	Cyanide	mg/l	< 0.05	< 0.05	< 0.05	< 0.05
39	Polynuclear Aromatic Hydrocarbons	mg/l	< 0.025	< 0.025	< 0.025	< 0.025
40	Alachlor	mg/l	< 0.5	< 0.5	< 0.5	< 0.5
41	Atrazine	µg/l	< 0.5	< 0.5	< 0.5	< 0.5
42	Aldrin	µg/l	< 0.01	< 0.01	< 0.01	< 0.01
43	Alpha HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01
44	Beta HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01
45	Butachlor	µg/l	< 5.0	< 5.0	< 5.0	< 5.0

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Environmental Consultant



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Kalpita Pathare

Aditya Environmental Services Pvt. Ltd.

(October 2025 - March 2026)

Sr. No.		Unit	Results			
	Sampling Locations		DW 1	DW 2	DW 3	DW 4
	Sampling Months		13.02.2026			
46	Chloropyrifos	µg/l	< 0.05	< 0.05	< 0.05	< 0.05
47	Delta HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01
49	DDT	µg/l	< 0.01	< 0.01	< 0.01	< 0.01
50	Endosulphan	µg/l	< 0.01	< 0.01	< 0.01	< 0.01
51	Ethion	µg/l	< 0.05	< 0.05	< 0.01	< 0.01
52	Lindane	µg/l	< 0.01	< 0.01	< 0.01	< 0.01
54	Malathion	µg/l	< 0.05	< 0.05	< 0.05	< 0.05
55	Methyl parathion	µg/l	< 0.01	< 0.01	< 0.01	< 0.01
56	Monocrotophos	µg/l	< 0.5	< 0.5	< 0.5	< 0.5
57	Phorate	µg/l	< 0.5	< 0.5	< 0.5	< 0.5
58	Coliforms	µg/l	Absent	Absent	Absent	Absent
59	E-Coli	MPN/100ml	Absent	Absent	Absent	Absent

Continued from previous table

Sr. No.		Units	Results				
	Sampling Locations		DW 5	DW 6	DW 7	DW 8	DW 9
	Sampling Months		13.02.2026				
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	<5.0
2	pH	--	7.9	7.8	7.6	7.6	7.4
3	Total Dissolved Solids	mg/l	50	60	20	20	70
4	Ammonia (as N)	mg/l	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
5	Boron	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
6	Calcium as Ca	mg/l	12.8	8.8	0.8	4.0	8
7	Chlorides	mg/l	9.0	7.0	4	5.0	8
8	Fluoride	mg/l	0.32	0.32	0.3	30	0.32
9	Iron	mg/l	0.031	0.03	0.031	0.03	0.032
10	Magnesium as Mg	mg/l	0.97	2.91	3.4	0.97	7.3
11	Sulphate	mg/l	6.0	6.0	5.4	3.2	10
12	Alkalinity	mg/l	40	48	12	12	58

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(October 2025 - March 2026)

Sr. No.		Units	Results				
	Sampling Locations		DW 5	DW 6	DW 7	DW 8	DW 9
	Sampling Months		13.02.2026				
13	Hardness	mg/l	36	34	16	14	50
14	Odour	mg/l	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
15	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	<1.0
16	Free Residual Chlorine	mg/l	0.4	0.4	0.4	0.4	0.4
17	Aluminium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
18	Detergents	mg/l	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
19	Arsenic	mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
20	Barium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
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	Chromium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
24	Zinc	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
25	Nitrate	mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
26	Selenium	mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
27	Lead	mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
28	Molybdenum	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
29	Nickel	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
30	Cadmium	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
31	Phenolic compounds	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
32	Sulphide	mg/l	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
33	Mercury	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
34	Chloramines	mg/l	<2.0	<2.0	<2.0	<2.0	<2.0
36	Silver	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
37	Cyanide	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
39	Polynuclear Aromatic Hydrocarbons	mg/l	<0.025	<0.025	<0.025	<0.025	<0.025
40	Alachlor	mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
41	Atrazine	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
42	Aldrin	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Sr. No.	Sampling Locations	Units	Results				
			DW 5	DW 6	DW 7	DW 8	DW 9
	Sampling Months		13.02.2026				
43	Alpha HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
44	Beta HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
45	Butachlor	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
46	Chloropyrifos	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
47	Delta HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
49	DDT	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
50	Endosulphan	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
51	Ethion	µg/l	< 0.01	< 0.05	< 0.05	< 0.05	< 0.05
52	Lindane	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
54	Malathion	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
55	Methyl parathion	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
56	Monocrotophos	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
57	Phorate	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
58	Coliforms	µg/l	Absent	Absent	Absent	Absent	Absent
59	E-Coli	MPN/100ml	Absent	Absent	Absent	Absent	Absent

4.5.2 Drinking Water Analysis Inference:

The analysis results indicate the pH range of 7.3 to 7.9 and is observed within the desirable limit of 6.5 to 8.5, beyond this range water will affect the mucous membrane and/or water supply system. The total hardness is in the range of 14 to 68 mg/l and is observed within the permissible limit of 600 mg/l. The total hardness beyond the permissible limit causes encrustation in water supply structure and adverse effects on domestic use. The iron concentration is found in the range of 0.03 to 0.034 mg/l and is observed within the acceptable limit of 1.0 mg/l. Beyond the desirable limit taste/appearance are affected, has adverse effect on domestic uses and water supply structures, and promotes iron bacteria. The chlorides concentration is in the range of 4 to 16 mg/l and is observed to be within the acceptable limit of 250 mg/l. Beyond this limit, taste, corrosion and palatability are affected.

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The fluoride concentration is 0.30 to 0.34 mg/l and is observed within the acceptable limit of 1.0 mg/l at all locations, high fluoride may cause fluorosis. The value of TDS is observed from 20 to 100 mg/l and is observed within the desirable limit of 500 mg/l at all locations and are also within the permissible limit of 2000 mg/l. The Drinking water samples were collected from two locations and analyzed for physical, chemical and biological parameters. Which shows that the samples are potable as per IS 10500-RA2018.

Table 4-19 Drinking water analysis during March 2026

Sr. No.			Results		
	Sampling Locations	Unit	DW 1	DW 2	DW 3
	Sampling Months		18.03.2026		
1	Colour	Hazen	<5.0	<5.0	<5.0
2	pH	--	7.4	7.5	7.6
3	Total Dissolved Solids	mg/l	20	20	30
4	Ammonia as N	mg/l	< 0.2	< 0.2	< 0.2
5	Boron	mg/l	< 0.05	< 0.05	< 0.05
6	Calcium as Ca	mg/l	4.0	0.8	5.6
7	Chlorides	mg/l	8.0	5.0	7.0
8	Fluoride	mg/l	0.32	0.32	0.32
9	Iron	mg/l	0.031	0.032	0.03
10	Magnesium as Mg	mg/l	1.9	3.4	1.9
11	Sulphate	mg/l	0.2	2.6	3.2
12	Alkalinity	mg/l	12	14	20
13	Hardness	mg/l	18	16	22
14	Odour	mg/l	Agreeable	Agreeable	Agreeable
15	Turbidity	NTU	<1.0	<1.0	<1.0
16	Free Residual Chlorine	mg/l	0.4	0.4	0.4
17	Aluminium	mg/l	< 0.01	< 0.01	< 0.01
18	Detergents	mg/l	< 0.04	< 0.04	< 0.04
19	Arsenic	mg/l	< 0.005	< 0.005	< 0.005
20	Barium	mg/l	< 0.01	< 0.01	< 0.01
21	Copper	mg/l	< 0.01	< 0.01	< 0.01
22	Manganese	mg/l	< 0.01	< 0.01	< 0.01
23	Chromium	mg/l	< 0.01	< 0.01	< 0.01
24	Zinc	mg/l	< 0.01	< 0.01	< 0.01

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Sr. No.	Sampling Locations	Unit	Results		
			DW 1	DW 2	DW 3
	Sampling Months		18.03.2026		
25	Nitrate	mg/l	< 0.5	< 0.5	< 0.5
26	Selenium	mg/l	< 0.005	< 0.005	< 0.005
27	Lead	mg/l	< 0.005	< 0.005	< 0.005
28	Molybdenum	mg/l	< 0.01	< 0.01	< 0.01
29	Nickel	mg/l	< 0.01	< 0.01	< 0.01
30	Cadmium	mg/l	< 0.001	< 0.001	< 0.001
31	Phenolic compounds	mg/l	< 0.001	< 0.001	< 0.001
32	Sulphide	mg/l	< 0.02	< 0.02	< 0.02
33	Mercury	mg/l	< 0.001	< 0.001	< 0.001
34	Chloramines	mg/l	< 2.0	< 2.0	< 2.0
36	Silver	mg/l	< 0.01	< 0.01	< 0.01
37	Cyanide	mg/l	< 0.05	< 0.05	< 0.05
39	Polynuclear Aromatic Hydrocarbons	mg/l	< 0.025	< 0.025	< 0.025
40	Alachlor	mg/l	< 0.5	< 0.5	< 0.5
41	Atrazine	µg/l	< 0.5	< 0.5	< 0.5
42	Aldrin	µg/l	< 0.01	< 0.01	< 0.01
43	Alpha HCH	µg/l	< 0.01	< 0.01	< 0.01
44	Beta HCH	µg/l	< 0.01	< 0.01	< 0.01
45	Butachlor	µg/l	< 5.0	< 5.0	< 5.0
46	Chloropyrifos	µg/l	< 0.05	< 0.05	< 0.05
47	Delta HCH	µg/l	< 0.01	< 0.01	< 0.01
49	DDT	µg/l	< 0.01	< 0.01	< 0.01
50	Endosulphan	µg/l	< 0.01	< 0.01	< 0.01
51	Ethion	µg/l	< 0.05	< 0.05	< 0.05
52	Lindane	µg/l	< 0.01	< 0.01	< 0.01
54	Malathion	µg/l	< 0.05	< 0.05	< 0.05
55	Methyl parathion	µg/l	< 0.01	< 0.01	< 0.01
56	Monocrotophos	µg/l	< 0.5	< 0.5	< 0.5
57	Phorate	µg/l	< 0.5	< 0.5	< 0.5
58	Coliforms	µg/l	> 1600	> 1600	> 1600
59	E-Coli	MPN/100ml	Present	Present	Present

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Sr. No.		Units	Results				
	Sampling Locations		DW 4	DW 5	DW 6	DW 7	DW 8
	Sampling Months		18.03.2026				
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	<5.0
2	pH	--	6.8	6.8	6.7	6.9	6.8
3	Total Dissolved Solids	mg/l	70	70	30	40	50
4	Ammonia (as N)	mg/l	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
5	Boron	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
6	Calcium as Ca	mg/l	10.4	8.0	4.8	7.2	6.4
7	Chlorides	mg/l	16	18	8.0	7.0	10
8	Fluoride	mg/l	0.32	0.32	0.32	0.32	0.32
9	Iron	mg/l	0.03	0.03	0.03	0.03	0.031
10	Magnesium as Mg	mg/l	6.8	6.8	2.43	2.92	5.4
11	Sulphate	mg/l	6.8	7.0	2.4	6.4	7.7
12	Alkalinity	mg/l	50	40	18	32	34
13	Hardness	mg/l	54	48	22	30	38
14	Odour	mg/l	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
15	Turbidity	NTU	<1.0	<1.0	<1.0	<1.0	<1.0
16	Free Residual Chlorine	mg/l	0.4	0.4	0.4	0.4	0.4
17	Aluminium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
18	Detergents	mg/l	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
19	Arsenic	mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
20	Barium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
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	Chromium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
24	Zinc	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
25	Nitrate	mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
26	Selenium	mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
27	Lead	mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
28	Molybdenum	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
29	Nickel	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
30	Cadmium	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
31	Phenolic compounds	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
32	Sulphide	mg/l	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
33	Mercury	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
34	Chloramines	mg/l	<2.0	<2.0	<2.0	<2.0	<2.0
36	Silver	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
37	Cyanide	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

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(October 2025 - March 2026)

Sr. No.	Sampling Locations	Units	Results				
			DW 4	DW 5	DW 6	DW 7	DW 8
	Sampling Months		18.03.2026				
39	Polynuclear Aromatic Hydrocarbons	mg/l	<0.025	<0.025	<0.025	<0.025	<0.025
40	Alachlor	mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
41	Atrazine	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
42	Aldrin	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
43	Alpha HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
44	Beta HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
45	Butachlor	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
46	Chloropyrifos	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
47	Delta HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
49	DDT	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
50	Endosulphan	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
51	Ethion	µg/l	< 0.05	< 0.05	< 0.01	< 0.01	< 0.01
52	Lindane	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
54	Malathion	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
55	Methyl parathion	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
56	Monocrotophos	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
57	Phorate	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
58	Coliforms	µg/l	Absent	Absent	Absent	Absent	Absent
59	E-Coli	MPN/100ml	Absent	Absent	Absent	Absent	Absent

Continued from previous table

Sr. No.	Sampling Location	Units	Results				
			DW 9	DW 10	DW 11	DW 12	DW 13
	Sampling Month		17.03.2026				
1	Colour	Hazen	<5.0	<5.0	<5.0	<5.0	<5.0
2	pH	--	6.8	6.9	6.8	6.9	6.8
3	Total Dissolved Solids	mg/l	70	60	40	70	70
4	Ammonia as N	mg/l	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
5	Boron	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
6	Calcium as Ca	mg/l	13.6	13.6	8.0	10.4	13.6
7	Chlorides	mg/l	19	18	7.0	16	18
8	Fluoride	mg/l	0.32	0.3	0.32	0.32	0.34
9	Iron	mg/l	0.03	0.031	0.03	0.031	0.034
10	Magnesium as Mg	mg/l	3.9	2.9	1.5	4.9	3.9
11	Sulphate	mg/l	7.2	5.4	2.8	5.8	8

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Sr. No.	Sampling Location	Units	Results				
			DW 9	DW 10	DW 11	DW 12	DW 13
	Sampling Month		17.03.2026				
12	Alkalinity	mg/l	36	32	30	44	44
13	Hardness	mg/l	34	46	26	36	50
14	Odour	mg/l	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
15	Turbidity	NTU -	<1.0	<1.0	<1.0	<1.0	<1.0
16	Free Residual Chlorine	mg/l	0.4	0.4	0.4	0.4	0.4
17	Aluminium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
18	Detergents	mg/l	< 0.04	< 0.04	< 0.04	< 0.04	< 0.04
19	Arsenic	mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
20	Barium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
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	Chromium	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
24	Zinc	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
25	Nitrate	mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
26	Selenium	mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
27	Lead	mg/l	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005
28	Molybdenum	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
29	Nickel	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
30	Cadmium	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
31	Phenolic compounds	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
32	Sulphide	mg/l	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
33	Mercury	mg/l	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
34	Chloramines	mg/l	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
36	Silver	mg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
37	Cyanide	mg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
39	Polynuclear Aromatic Hydrocarbons	mg/l	< 0.025	< 0.025	< 0.025	< 0.025	< 0.025
40	Alachlor	mg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
41	Atrazine	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
42	Aldrin	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
43	Alpha HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
44	Beta HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
45	Butachlor	µg/l	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
46	Chloropyrifos	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
47	Delta HCH	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
49	DDT	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01

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Sr. No.	Sampling Location	Units	Results				
			DW 9	DW 10	DW 11	DW 12	DW 13
	Sampling Month		17.03.2026				
50	Endosulphan	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
51	Ethion	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
52	Lindane	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
54	Malathion	µg/l	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
55	Methyl parathion	µg/l	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
56	Monocrotophos	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
57	Phorate	µg/l	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
58	Coliforms	µg/l	Absent	Absent	Absent	Absent	Absent
59	E-Coli	MPN/100ml	Absent	Absent	Absent	Absent	Absent

4.5.3 Drinking Water Analysis Inference:

The analysis results indicate the pH range of 6.7 to 7.6 and is observed within the desirable limit of 6.5 to 8.5, beyond this range water will affect the mucous membrane and/or water supply system. The total hardness is in the range of 16 to 54 mg/l and is observed within the permissible limit of 600 mg/l. The total hardness beyond the permissible limit causes encrustation in water supply structure and adverse effects on domestic use. The iron concentration is found 0.030 to 0.034 mg/l and is observed within the acceptable limit of 1.0 mg/l. Beyond the desirable limit taste/appearance are affected, has adverse effect on domestic uses and water supply structures, and promotes iron bacteria.

The chlorides concentration is in the range of 5 mg/l to 19 mg/l and is observed to be within the acceptable limit of 250 mg/l. Beyond this limit, taste, corrosion and palatability are affected. The fluoride concentration is 0.30 to 0.34 mg/l and is observed within the acceptable limit of 1.0 mg/l at all locations, high fluoride may cause fluorosis. The value of TDS is observed from 20 to 70 mg/l and is observed within the desirable limit of 500 mg/l at all locations and are also within the permissible limit of 2000 mg/l. The Drinking water samples were collected from two locations and analyzed for physical, chemical and biological parameters. Which shows that the samples are potable as per IS 10500-RA2018.

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4.6 STP Water quality Analysis report

One location is selected for analysis of sewage water within NMIA Project site during January 2026 and February 2026.

Table 4-20 STP Water Quality

Sr. No.	Parameter	STP 1		
		January 2026	February 2026	MPCB Consent Limits
1.	pH @ 25°C	7.1	7.1	6.0 to 8.5
2.	Suspended Solids@103°C, mg/l	6.0	8.0	< 20
3.	Chemical Oxygen Demand, mg/l	30	30	< 50
4.	Biochemical Oxygen Demand @ 27°C for 3 days, mg/l	6.9	7.1	< 10
5.	Total Dissolved Solids @ 180°C, mg/l	2000	1990	< 2100
6.	Chloride as Cl ⁻ , mg/l	550	570	< 600
7.	Sulphates as SO ₄ ⁻² , mg/l	52.4	105	< 1000
8.	Oil & Grease, mg/l	< 2.0	< 2.0	< 10

Water sample is within permissible limits prescribed by MPCB.

**Figure 4-1 Collection of Sewage Water**

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4.7 QUARTERLY MARINE WATER QUALITY ANALYSIS REPORT DURING December 2025

Surface Marine water samples were collected for different Physiochemical and Biological parameters from 10 stations on 19th and 20th December 2025. The analysis part is mentioned in subsequent sections below.



Figure 4-2 Collection of Marine Water and sediment samples during December 2025

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4.7.1 Analytical Data - Physicochemical Parameters during December 2025**Table 4-21 Marine water physicochemical analysis at various stations during December 2025**

Sr. No.	Parameter	MW 1	MW 2	MW 3	MW 4	MW 5	MW 6	MW 7	MW 8	MW 9	MW 10	Unit
		S	S	S	S	S	S	S	S	S	S	
1.	pH	7.6	7.2	6.9	6.8	6.8	6.9	6.9	6.9	7.0	7.6	--
2.	Temperature	28	28	28	28	28	28	29	29	29	29	°C
3.	Turbidity	1.2	1.2	1.4	1.4	1.8	1.4	1.6	1.8	1.4	1.8	NTU
4.	Conductivity	1216	15	32	56.4	60	63	64	64	66	30.6	mS/Cm
5.	Salinity	0.28	8.8	20.3	26.8	31.2	26.4	29.4	30.3	31.4	19.8	ppt
6.	Iron as Fe ₂	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	mg/l
7.	Magnesium as Mg	34	602	1042	908.8	1392	1343	1244	1300	1411	770	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	0.34	0.34	0.34	0.38	0.38	0.38	0.36	0.38	0.34	0.34	mg/l
10.	Sulphate	49.4	1104	1340	1769	2457	2656	2502	2597	2670	1598	mg/l
11.	Phenolic compound	14	22	34	45	52	34	46	54	58	32	µg/l
12.	Alkalinity	174	166	242	174	164	146	172	140	140	136	mg/l
13.	Hardness as CaCO ₃	256	2850	4950	4500	6500	6350	6050	6300	6700	4000	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	< 0.01	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	mg/l
16.	BOD	1.1	1.2	1.8	1.8	1.4	1.6	1.6	1.2	1.2	1.8	mg/l
17.	Chloride	1120	1160	1233	1100	50	1180	1120	1200	1830	2020	mg/l
18.	DO	2.4	3.1	3.2	3.2	3.3	3.3	3.4	2.8	2.6	3.0	mg/l
19.	Total Nitrogen as N	4.1	4.2	2.6	3.2	4.0	3.2	3.2	3.1	3.2	3.4	µmol/l
20.	Phosphorus as P	1.1	0.88	0.88	1.8	1.6	2.1	1.6	1.5	1.8	1.1	µmol/l
21.	Sodium as Na	90	145	148	130	142	132	132	138	128	138	mg/l
22.	Potassium as K	26	100	82	90	94	90	100	104	98	98	mg/l
23.	Lead as Pb	< 0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	mg/l
24.	Mercury as Hg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 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

4.7.2 Inference - Physicochemical Parameters during December 2025

The pH value ranged from 6.9 to 7.6 at surface represents Acidic to basic nature of water. Salinity was low form MW1 to MW2 due to influx of fresh water and in increasing trends in creek waters during collection Period of sampling as proceedings from Gadhi river to Panvel creek.

Dissolved Oxygen level was observed low at MW1 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 MW1 (Refer Table 4.17).

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4.7.3 Analytical Data - Biological Parameters during December 2025

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

Table 4-22 Marine Water biological analysis of stations (MW1 to MW5) during December 2025

Parameter	MW 1	MW 2	MW3	MW4	MW5
	S	S	S	S	S
Phytoplankton					
Chlorophyll (mg/m ³)	35.28	37.42	33.15	39.01	41.70
Pheophytin (mg/m ³)	11.12	47.90	131.5	49.66	3.90
Population (no x 10 ³ /L)	184.8	201.6	297.6	234.4	209.6
Total Genera (No)	17	16	15	14	15
Major Genera	Agmenellum (22.5%), Scenedesmus (19.0%), Oscillatoria (15.6%), Actinastrum (7.4%)	Coscinodiscus (35.7%), Agmenellum (11.5%), Cyclotella (10.3%), Skeletonema (8.7%)	Thalassiosira (26.9%), Coscinodiscus (26.3%), Skeletonema (18.8%), Cyclotella (11.3%)	Skeletonema (46.8%), Cyclotella (38.2%), Thalassiosira (9.9%), Agmenellum (1.1%)	Cyclotella (25.57%), Navicula (25.57%), Thalassiosira (19.08%), Skeletonema (15.65%)
Diversity Index	2.25	2.10	1.85	1.22	1.81
Zooplankton					
Population (no x 10 ³ /100m ³)	31	19	3	2	1
Total Group (No)	5	4	1	2	4
Major Groups	Copepods (59.46%), Decapoda larvae (24.32%), Gastropods (10.81%)	Gastropods (47.83%), Copepods (30.43%)	Copepods (100%)	Copepods (99.9%), Acetes (0.1%)	Copepods (99.79%), Decapod (0.11%), Lamellibranch (0.05%), Polychaetes (0.05%)
Biomass (mg/100m ³)	33.3	41.67	16.7	0.3	0.3
Diversity Index	1.09	1.19	<0.1	<0.1	<0.1
Macrobenthos					
Population (no x 10 ³ /m ²)	<1	<1	<1	573	451
Total Group (No)	<1	<1	<1	1	1
Major Groups	<1	<1	<1	Polychaete (100%)	Polychaete (100%)
Biomass (gm/m ²)	<1	<1	<1	0.41	1.03
Diversity Index	<0.1	<0.1	<0.1	<0.1	<0.1
Microbiology					
Total Coliform (MPN/100 ml)	>1600	>1600	>1600	>1600	>1600

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Table 4-23 Marine Water biological analysis of stations (MW6 to MW10) during December 2025

Parameter	MW 6	MW 7	MW8	MW9	MW10
	S	S	S	S	S
Phytoplankton					
Chlorophyll (mg/m ³)	19.25	31.01	4.28	7.48	40.10
Pheophytin (mg/m ³)	9.52	2.41	0.16	1.12	15.66
Population (no x 10 ⁴ /L)	86.4	178.4	24.8	56.8	186.4
Total Genera (No)	9	9	7	8	13
Major Genera	Cyclotella (48.1%), Thalassiosira (30.6%), Skeletonema (13.0%), Leptocylindrus (3.7%)	Skeletonema (60.1%), Cyclotella (22.0%), Thalassiosira (9.9%), Pseudonitzschia (3.1%)	Cyclotella (54.8%), Skeletonema (25.8%), Navicula (6.5%), Nitzschia (3.2%)	Skeletonema (67.6%), Cyclotella (15.5%), Thalassiosira (9.9%), Rhizosolenia (1.4%)	Leptocylindrus (42.1%), Oscillatoria (34.8%), Cyclotella (6.0%), Navicula (4.3%)
Diversity Index	1.32	0.88	1.30	1.08	1.54
Zooplankton					
Population (no x 10 ³ /100m ³)	4	3.52	0.20	4	3
Total Group (No)	4	7	4	9	1
Major Groups	Copepods (96.69%), Medusae (2.58%), Decapods (0.60%), Polychaetes (0.14%)	Copepods (98.27%), Decapods (0.93%), Medusae (0.40%), Polychaetes (0.18%)	Copepods (44.53%), Decapods (28.91%), Medusae (24.22%), Polychaetes (2.34%)	Copepods (88.85%), Decapods (8.24%), Medusae (2.15%), Lucifer (0.24%)	Copepods (100%)
Biomass (ml/100m ³)	0.9	0.7	0.8	0.9	16.7
Diversity Index	0.17	0.11	1.15	0.44	<0.1
Macrobenthos					
Population (no x 10 ² /m ²)	2726	226	1233	486	<1
Total Group (No)	1	1	3	3	<1
Major Groups	Polychaete (100%)	Polychaete (100%)	Polychaete (78.87%), Bivalve (16.90%), Crab (4.23%)	Polychaete (67.86%), Bivalve (28.57%), Amphipods (3.57%)	<1
Biomass (gm/m ²)	18.35	2.05	1300.65	27.87	<1
Diversity Index	<0.1	<0.1	0.62	0.74	<0.1
Microbiology					
Total Coliform (MPN/100 ml)	>1600	>1600	>1600	>1600	>1600

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4.7.4 Inferences - Biological Parameters during December 2025

4.7.4.1 Phytoplankton

In December 2025, Chlorophyll ranged from 4.28 to 41.7 mg/m³ and pheophytin ranged 0.16 to 131.5 mg/m³; at surface water of all 10 stations. Phytopigments were observed highest at MW5 and lowest at MW8 respectively.

Phytoplankton population density ranges from 24.8 -297.6 x 10³/l at surface water of all 10 stations. Highest phytoplankton population at surface water of MW3 may be due to influx of domestic water from surrounding villages; total generic groups ranges from 7-17 nos. at surface water of all 10 stations. Maximum generic diversity 17 no. is observed at surface water of Station MW1 and lowest at MW8 respectively during December 2025 (Refer Table 4.22 and 4.23).

Thalassiosira, *Skeletonema*, *Navicula*, and *Cyclotella* are most common ones, followed by rest of observed genera like *Pleurosigma*, *Nitzschia* and *Leptocylindrus*. The other freshwater phytoplankton genera found are *Scenedesmus*, *Anabaena*, *Closterium*, *Phacus* and *Pediastrum* in Gadhi River (MW1) and Ulwe river (MW10) respectively. Graphical representations of Phytopigments, phytoplankton population and total genera is represented in **Figure 4.3**.

The graph below shows the Phytopigments, population of phytoplankton is more at MW3; and less at station MW8, which represents there is discharge of sewage and domestic waste. The phytoplankton trend with respect to total number of genera is high at Station MW1 and lowest at MW8. Some of the major genera seen were photographed and shown in **Figure 4.4**.

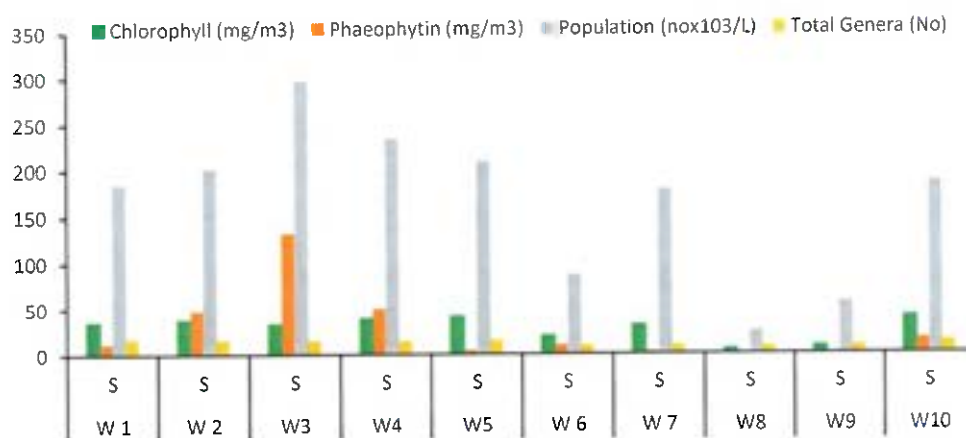


Figure 4-3 Representation of phytopigments, phytoplankton population & Total genera

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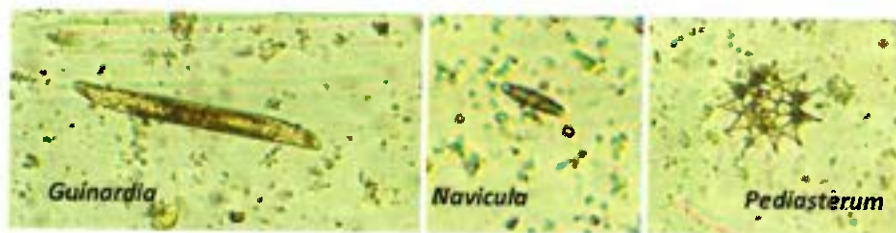


Figure 4-4 Phytoplankton found in samples for December 2025

4.7.4.2 Zooplankton

In December 2025, the zooplankton biomass ranged from 0.3 to 41.67 ml/100 m³ with population density of 0.2 to 31 x 10³/100 m³ while having faunal groups ranging from 1-9 nos. The zooplankton was noted with a good population and group diversity. Copepods, Decapods, Medusae and Polychaetes were common groups observed, **Figure 4.5** represents zooplankton standing stock graphically and **Figure 4.6** represents photos of peculiar zooplankton genera. The graph below represents that standing stock reported from all stations; MW8 shows lowest population respectively as compared to MW1 with highest population; and MW4 and MW5 show lowest biomass and MW2 shows highest biomass, respectively.

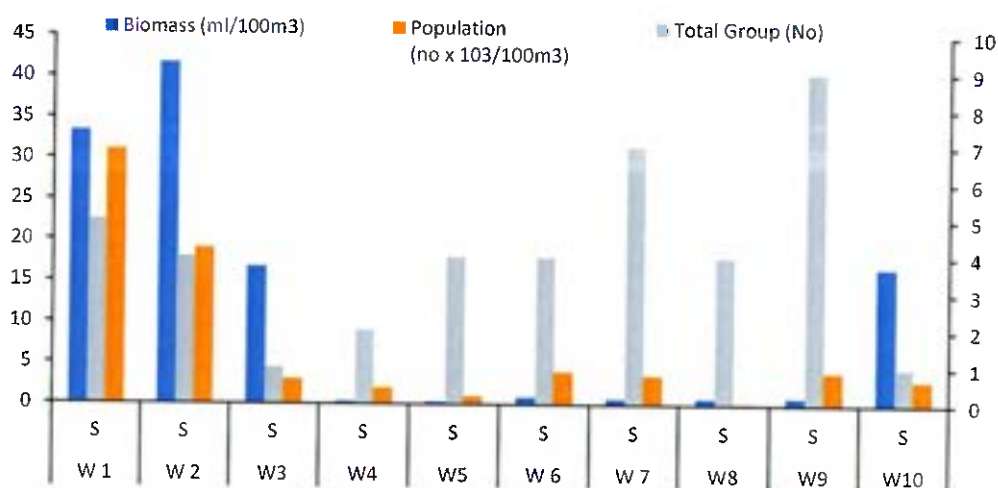


Figure 4-5 Representation of Zooplankton Biomass, Population & Total group for December 2025

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Figure 4-6 Zooplankton found in samples for December 2025

4.7.4.3 Macrofauna

In December 2025, macro-benthic biomass ranged from <1 to 1300.65 gm/ m² with population ranging from <1 to 2726/m². Total group 1 to 3 was observed. Low biomass noted at MW1, MW2, MW3 and MW10 and high biomass at MW8. Low population was noted at MW1, MW2, MW3 and MW10 and high population observed at MW6. The faunal group found were majorly Polychaete. **Figure 4.7** shows the % composition of benthic organisms for study period. Figure 4.8 shows peculiar organisms found.

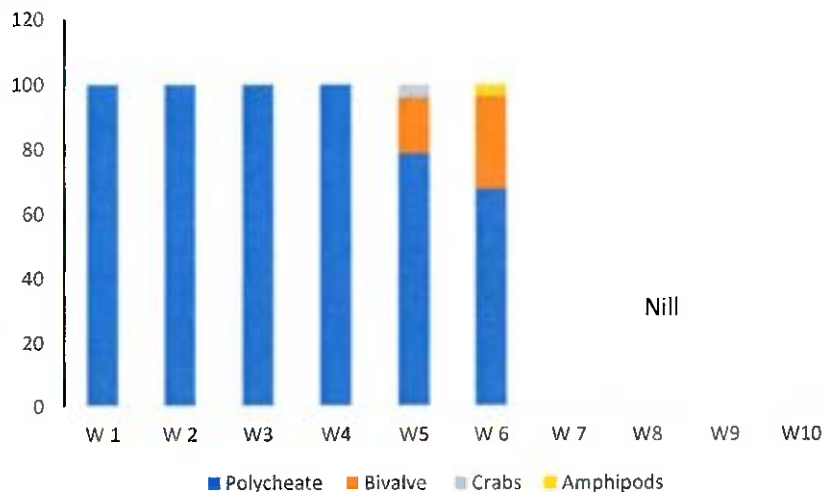


Figure 4-7 % Composition of Benthic organisms for December 2025

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Figure 4-8 Benthic organism Found in samples for December 2025

4.7.4.4 Microbiology

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

4.8 QUARTERLY MARINE WATER QUALITY ANALYSIS REPORT DURING March 2026

Surface Marine water samples were collected for different Physiochemical and Biological parameters for 10 stations on 20th and 21st March 2026. The analysis part is mentioned in subsequent sections below.



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Figure 4-9 Collection of Marine Water samples during March 2026

4.8.1 Analytical Data - Physicochemical Parameters during March 2026

Table 4-24 Marine water physicochemical analysis at various stations during March 2026

Sr. No.	Parameter	MW 1	MW 2	MW 3	MW 4	MW 5	MW 6	MW 7	MW 8	MW 9	MW 10	Unit
		S	S	S	S	S	S	S	S	S	S	
1.	pH	7.2	7.3	7.1	6.8	6.8	6.9	7.0	7.1	7.3	7.2	--
2.	Temperature	28	28	28	26	27	28	28	28	28	28	°C
3.	Turbidity	1.4	1.6	1.4	1.3	1.4	1.6	1.8	1.6	1.6	1.4	NTU
4.	Conductivity	22.3	25.8	21.2	29	27.5	28.9	23.8	27.3	27.3	18.05	mS/Cm
5.	Salinity	31	17.2	27.7	24.6	39.4	40.7	32.3	32.5	26.8	34	ppt
6.	Iron as Fe ₂	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	mg/l
7.	Magnesium as Mg	930.7	629.4	976.8	812	1275	1380	1028	1174	1237	1108	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	0.36	0.38	0.38	0.36	0.36	0.34	0.38	0.38	0.34	0.38	mg/l
10.	Sulphate	1718	1266	1196	1648	2998	2610	2029	2475	1380	1964	mg/l
	Phenolic compound	58	65	78	70	47	45.9	45	52	72	63	µg/l
11.	Alkalinity	88	92	84	64	78	72	66	84	64	68	mg/l
12.	Hardness as CaCO ₃	4720	3120	4800	4000	6250	6680	5040	6560	5520	5880	mg/l
13.	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

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Sr. No.	Parameter	MW 1	MW 2	MW 3	MW 4	MW 5	MW 6	MW 7	MW 8	MW 9	MW 10	Unit
		S	S	S	S	S	S	S	S	S	S	
14.	Cadmium as Cd	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	<0.01	mg/l
15.	BOD	2.2	1.9	1.8	1.6	1.8	1.6	1.6	1.6	1.6	2.0	mg/l
16.	Chloride	15250	13000	18250	14000	23250	24000	19000	27000	9750	26500	mg/l
17.	DO	3.5	3.6	3.6	3.4	3.4	3.6	3.4	3.2	3.6	3.2	mg/l
18.	Total Nitrogen as N	10	6.3	11.2	8.6	7.5	7.5	2.5	9.8	8.7	2.5	µmol/l
19.	Phosphorus as P	20	14	19	11.2	9.2	4.2	66	3.2	14	7.8	µmol/l
20.	Sodium as Na	109	107	122	125	82	65	118	118	125	118	mg/l
21.	Potassium as K	88	39	86	91	109	113	70	54	100	57	mg/l
22.	Lead as Pb	<0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	0.005	mg/l
23.	Mercury as Hg	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	mg/l
24.	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

4.8.1.1 Inference - Physicochemical Parameters during March 2026

The pH value ranged from 6.8 to 7.3 at surface, which shows basic neutral to alkaline nature of water. The salinity was observed low at station MW2 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 at all locations. BOD value suggests the presence of organic matter in the water body which comes as domestic sewage discharge from surrounding areas (villages, STPs of NMMC in Nerul) and effluents from CETP at MIDC Talaja.

The concentration of Magnesium was high at all locations and Iron was low at all stations (Refer Table 4.24).

4.8.1.2 Analytical Data - Biological Parameters during March 2026

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

Table 4-25 Marine Water biological analysis of stations (MW1 to MW5) during March 2026

Parameter	MW 1	MW 2	MW 3	MW 4	MW 5
	S	S	S	S	S
Phytoplankton					
Chlorophyll (mg/m ³)	2.30	39.03	34.86	133.44	115.53

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Parameter	MW 1	MW 2	MW 3	MW 4	MW 5
	S	S	S	S	S
Pheophytin (mg/m ³)	1.41	8.0	0.95	28.41	13.17
Population (no x 10 ³ /L)	18.4	270.4	112	6216.0	823.2
Total Genera (No)	16	14	15	14	15
Major Genera	<i>Skeletonema</i> (76.5%), <i>Leptocylindrus</i> (5.9%), <i>Scenedesmus</i> (4.7%), <i>Thalassiosira</i> (2.4%)	<i>Chaetoceros</i> (94.7%), <i>Thalassiosira</i> (1.2%), <i>Euglena</i> (0.9%), <i>Biddulphia</i> (0.3%)	<i>Skeletonema</i> (39.3%), <i>Chaetoceros</i> (37.9%), <i>Thalassiosira</i> (11.4%), <i>Bacteriostroma</i> (2.1%)	<i>Thalassiosira</i> (96.5%), <i>Scenedesmus</i> (2.6%), <i>Chaetoceros</i> (0.5%), <i>Oscillatoria</i> (0.1%)	<i>Thalassiosira</i> (97.2%), <i>Oscillatoria</i> (0.5%), <i>Euglena</i> (0.4%), <i>Skeletonema</i> (0.4%)
Diversity Index	1.10	2.23	1.50	0.18	0.20
Zooplankton					
Population (no x 10 ³ /100m ³)	5	2.86	2.01	167	12
Total Group (No)	9	8	9	1	1
Major Groups	Acetes (96.16%), Decapods (1.17%), Lucifer (0.98%), Chaetognaths (0.93%)	Acetes (87.96%), Lucifer (3.90%), Decapods (3.62%), Chaetognaths (2.20%)	Acetes (65.44%), Lucifer (11.48%), Decapods (11.08%), Chaetognaths (8.44%)	Copepods (100%)	Copepods (100%)
Biomass (ml/100m ³)	124.5	56.6	30.2	16.7	16.7
Diversity Index	0.22	0.54	1.13	<0.1	<0.1
Macrobenthos					
Population (no /m ²)	191	1545	191	69	52
Total Group (No)	1	3	1	1	1
Major Groups	Polychaete (100%)	Polychaete (53.93%), Bivalve (44.94%), Crab (1.12%)	Polychaete (90.91%), Crab (9.09%)	Polychaete (100%)	Polychaete (100%)
Biomass (gm/m ²)	3.33	262.65	197.25	1.33	0.74
Diversity Index	<0.01	0.74	0.30	<0.01	<0.01
Microbiology					
Total Coliform (MPN/100 ml)	>1600	>1600	>1600	>1600	>1600

Table 4-26 Marine Water biological analysis of stations (MW6 to MW10) during March 2026

Parameter	MW 6	MW 7	MW 8	MW 9	MW 10
	S	S	S	S	S
Phytoplankton					
Chlorophyll (mg/m ³)	166.42	62.87	9.14	4.01	123.76
Pheophytin (mg/m ³)	9.31	1.13	4.14	3.10	26.61
Population (no x 10 ³ /L)	1279.2	196.8	200	80.8	1265.6
Total Genera (No)	13	17	13	14	11

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Parameter	MW 6	MW 7	MW 8	MW 9	MW 10
	S	S	S	S	S
Major Genera	<i>Thalassiosira</i> (93.8%), <i>Skeletonema</i> (3.8%), <i>Chaetoceros</i> (1.4%), <i>Nitzschia</i> (0.2%)	<i>Thalassiosira</i> (40.7%), <i>Skeletonema</i> (33.7%), <i>Chaetoceros</i> (15.9%), <i>Navicula</i> (2.0%)	<i>Skeletonema</i> (92.00 %), <i>Chaetoceros</i> (1.60%), <i>Thalassiosira</i> (1.20%), <i>Oscillatoria</i> (0.80%)	<i>Skeletonema</i> (80.2%), <i>Scenedesmus</i> (4.0%), <i>Pseudonitzschia</i> (4.0%), <i>Oscillatoria</i> (2.0%)	<i>Thalassiosira</i> (94.8%), <i>Euglena</i> (1.8%), <i>Pleurosigma</i> (1.1%), <i>Navicula</i> (0.9%)
Diversity Index	0.31	1.49	0.47	0.97	0.30
Zooplankton					
Population (no x 10 ³ /100m ³)	101	<1	469	3	12
Total Group (No)	1	2	6	6	1
Major Groups	Copepods (94.95%), Decapod Larvae (3.39%), Cladocera (1.12%), Medusa (0.26%)	Copepods (99.5%), Amphipods (0.5%)	Acetes (63.54%), Lucifer (13.95%), Decapod (8.75%), Copepods (6.82%)	Acetes (95.2%), Lucifer (1.71%), Copepods (1.39%), Decapods (1.18%)	Copepods (100%)
Biomass (ml/100m ³)	16.7	0.3	20.2	54.7	16.67
Diversity Index	<0.01	<0.01	1.15	0.27	<0.01
Macrobenthos					
Population (no /m ²)	3785	399	469	1429	35
Total Group (No)	1	1	2	2	1
Major Groups	Polychaete (100 %)	Polychaete (100%),	Polychaete (81.48%), Bivalve (18.52%)	Polychaete (88.37%), Bivalve (11.63%)	Polychaete (100%)
Biomass (gm/m ²)	46.55	4.43	9.06	74.80	0.65
Diversity Index	<0.1	<0.01	0.17	0.36	<0.01
Microbiology					
Total Coliform (MPN/100 ml)	>1600	>1600	>1600	>1600	>1600

4.8.2 Inferences - Biological Parameters during March 2026

4.8.6.1 Phytoplankton

In March 2026, Chlorophyll ranged from 2.3 to 166.42 mg/m³ and pheophytin ranged 0.95 to 28.41 mg/m³ at surface water of all 10 stations. The **Figure 4.10** below shows graphical representation of phytopigments at different stations.

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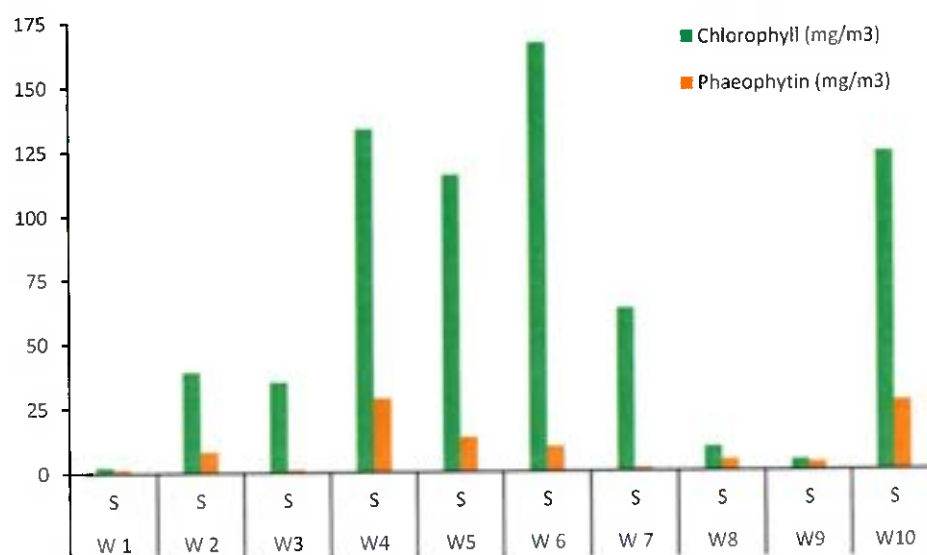


Figure 4-10 Representation of phytopigments for March 2026

The phytoplankton population ranged from 18.4 to 6216 (no x 10³/l) with highest population noted at Station MW4 and Lowest at Station MW1. Total generic groups range from 11-17 nos. at surface water of all 10 stations. Maximum generic diversity 17 no. is observed at surface water of Station MW7 during March 2026 (Refer Table 4.25 and 4.26).

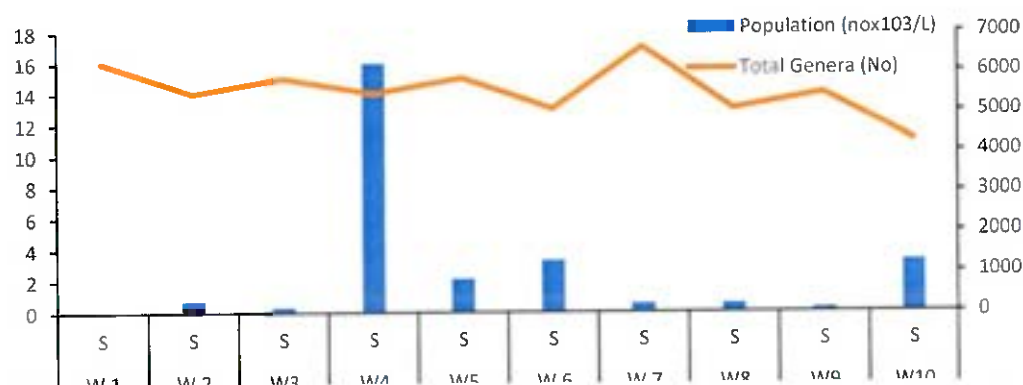


Figure 4-11 Representation of phytoplankton population & Total genera March 2026

Thalassiosira, *Skeletonema*, *Chaetoceros* and *Nitzschia* are most common ones, followed by rest of observed genera like *Pleurosigma*, *Navicula*, *Gyrosigma* and *Oscillatoria*. The other freshwater

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phytoplankton genera found are *Scenedesmus*, *Phacus*, *Agmenellum* and *Pediastrum* in Gadhi River (MW1) and Ulwe river (MW10) respectively. Graphical representations of phytoplankton population and total genera are represented in **Figure 4.11**, graph below shows the population of phytoplankton is maximum at MW8; and less at station MW1. The phytoplankton trend with respect to the total number of genera is high at Station MW7 and low at station MW10 respectively. Some of the major genera seen were photographed and shown in **Figure 4.12**.

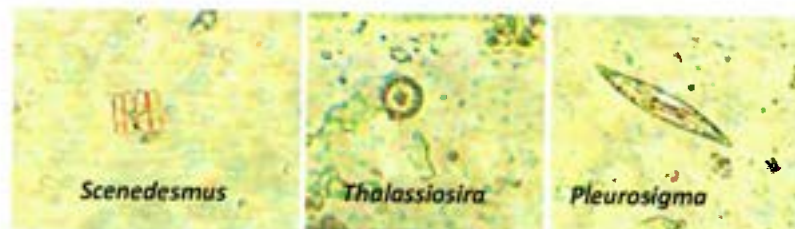


Figure 4-12 Phytoplankton found in samples for March 2026

4.7.3.2 Zooplankton

In March 2026, the zooplankton biomass ranged from 0.3 to 124.5 ml/100 m³ with population density of 0.33 to 469 x 10³/100m³ while having faunal group ranging from 1-9 nos. The zooplankton was noted with good population and group diversity. Acetes, Copepods, Decapods, Lucifers & Chaetognaths were common groups observed, **Figure 4.13** represents zooplankton standing stock graphically and **Figure 4.14** represents photos of peculiar zooplankton found in marine water body.

The graph below represents that the average standing stock reported from all stations; Station MW4 has lowest population as compared to Station MW7 with highest population; and Station MW4 shows lowest biomass and Station MW1 and MW2 shows the highest biomass, respectively.

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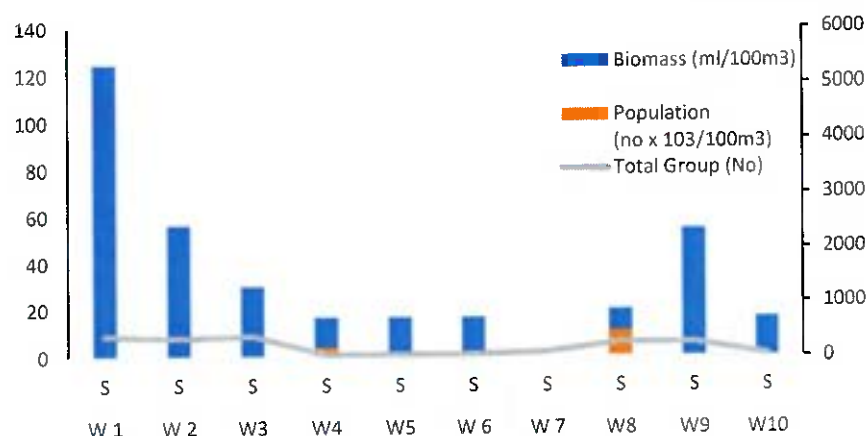


Figure 4-13: Representations of Zooplankton Biomass, Population & Total group for March 2026



Figure 4-14 Zooplankton found in samples for March 2026

4.8.3 4.7.3.3 Macrofauna

In March 2026, macro-benthic biomass ranged from 0.65 to 262.65 gm/ m² with population ranging from 35 to 3785 /m². The total group ranges from 1 to 3. The lowest biomass was noted at MW10 and high biomass at MW2. The high population observed at MW4. The faunal group found were majorly Polychaetes. The % composition and peculiar Benthic organism are shown in Figure 4.15 and 4.16 respectively.

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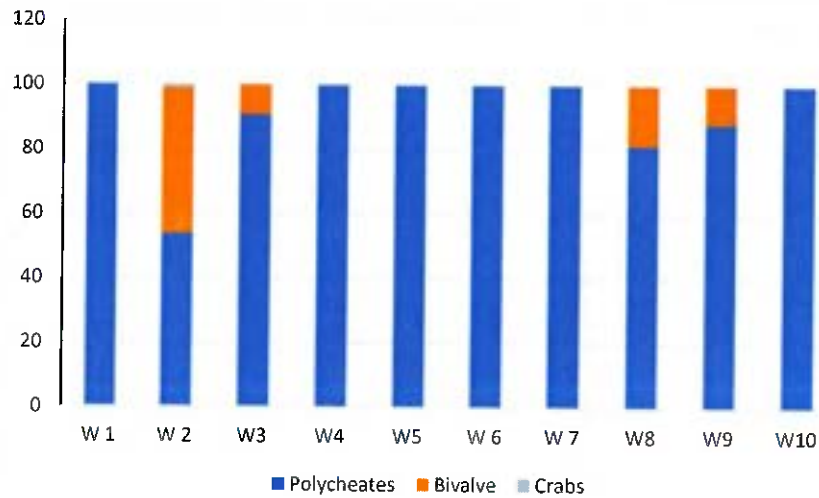


Figure 4-15 % composition of Benthic organisms for March 2026



Figure 4-16 Benthic organism found in samples for March 2026

4.8.4 4.7.3.5 Microbiology

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

4.9 DG SET Monitoring

4.9.1 Stack Monitoring

The stack monitoring was done at NMIA project Site. The table below represents results of Gaseous emission for the months of November 2025, January 2026 and February 2026.

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Table 4-27 Stack Monitoring of DG Set during November 2025

Sampling Locations	DG 1	MPCB Limit	Unit
Sampling Date	12.11.2025		
Gas Temperature	122	-	(°C)
Gas Velocity	7.8	-	(m/s)
Gas Flow Rate	2193	-	(Nm ³ /hr.)
Particulate Matter	29.4	150	(mg/Nm ³)
Sulphur Dioxide	20.0		(mg/Nm ³)
Sulphur Dioxide	1.06	-	(Kg/Day)
Oxides of Nitrogen	38.6	-	(mg/Nm ³)
NMHC	6.1	-	(mg/Nm ³)



Figure 4-17 DG Stack Sampling during November 2025

The monitoring undertaken indicates the stack Air Quality Values for Particulate matter is under limit set by MPCB.

4.9.2 Noise monitoring

The Noise generated from DG Set was monitored at NMIA project Site. The tables below represent results of noise generated for the months of November 2025, January 2026 and February 2026.

Table 4-28 Noise Quality of DG Set during November 2026

Reading from 0.5 m away from DG Set		
Direction	DG 1	
	12.11.2025	
	Door Closed	Door Opened
East	74.3	99.8
West	74.4	99.3
South	74.2	99.6
North	74	99.7
Avg.	74.2	99.6
Difference	25.4	

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**Figure 4-18 Noise monitoring for DG Set during November 2026**

The monitoring undertaken indicates the DG Noise Quality value for insertion loss is within consent limit.

Table 4-29 Stack Monitoring of DG Set during January 2026

Sampling Locations	DG 1	DG 2	DG 3	DG 4	DG 5	DG 6	MPCB Limit	Unit
Sampling Date	02.01.2026		03.01.2026					
Gas Temperature	137	146	132	129	149	159	-	(°C)
Gas Velocity	2.9	6.9	7.2	7.2	8.0	7.7	-	(m/s)
Gas Flow Rate	325	346	333	339	3120	2939	-	(Nm ³ /hr.)
Particulate Matter	42.6	39.7	30.2	33.5	46.7	51.1	150	(mg/Nm ³)
Sulphur Dioxide	30.1	28.5	23.4	25.1	34.4	32.1		(mg/Nm ³)
Sulphur Dioxide	0.2	0.24	0.19	0.21	2.6	2.3	-	(Kg/Day)
Oxides of Nitrogen	52.8	38.6	39.2	43.5	56.9	60.5	-	(mg/Nm ³)
NMHC	6.9	6.2	5.9	6.0	7.2	6.9	-	(mg/Nm ³)

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Figure 4-19 DG Stack Sampling during January 2026

The monitoring undertaken indicates the stack Air Quality Values for Particulate matter is under limit set by MPCB.

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Table 4-30 Noise Quality of DG Set during January 2026

Direction	Reading from 0.5 m away from DG Set											
	DG 1			DG 2			DG 3			DG 4		
	02.01.2025			02.01.2025			02.01.2025			03.01.2025		
	Door Closed	Door Opened	Door Closed	Door Opened	Door Closed	Door Opened	Door Closed	Door Opened	Door Closed	Door Opened	Door Closed	Door Opened
East	73.5	99.6	74.3	99.8	73.8	98.9	74.0	99.6	74.3	99.8	73.5	99.5
West	73.6	99.4	74.2	99.2	73.6	99.2	73.8	99.5	74.0	99.6	73.7	99.6
South	73.5	99.8	74.1	99.4	73.8	99.6	74.2	99.2	74.1	99.5	73.7	98.9
North	73.8	99.5	74.3	99.6	74.1	99.4	74.0	99.1	74.1	99.5	73.5	99.3
Avg.	73.6	99.6	74.2	99.5	73.8	99.3	74.0	99.4	74.1	99.6	73.6	99.3
Difference	26.0			25.3			25.5			25.4		
										25.5		
										25.7		



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Figure 4-20 Noise monitoring for DG Set during January 2026

The monitoring undertaken indicates the DG Noise Quality value for insertion loss is within consent limit.

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Table 4-31 Stack Monitoring of DG Set February 2026

Sampling Locations	DG 1	DG 2	DG 3	DG 4	DG 5	DG 6	DG 7	DG 8	DG 9	MPCB Limit	Unit
Sampling Date	11.02.2026					12.02.2026					
Gas Temperature	165	152	155	129	140	157	139	160	119	-	(°C)
Gas Velocity	7.7	7.6	7.4	7.2	8.2	7.9	7.6	7.5	6.6	-	(m/s)
Gas Flow Rate	5014	5099	4920	919	1026	938	954	888	873	-	(Nm ³ /hr.)
Particulate Matter	56.3	52.6	49.2	31.4	28.8	40.2	37.6	32.5	30.4	150	(mg/Nm ³)
Sulphur Dioxide	19.2	23.4	25.3	16.7	13.3	16.7	18.3	16.7	15.0		(mg/Nm ³)
Sulphur Dioxide	2.3	2.8	2.9	0.4	0.3	0.4	0.4	0.4	0.3	-	(Kg/Day)
Oxides of Nitrogen	61.7	64.7	60.8	40.5	39.5	49.9	44.3	50.9	51.8	-	(mg/Nm ³)
NMHC	8.3	7.8	8.1	6.4	6.5	6.7	5.9	6.2	6.7	-	(mg/Nm ³)



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Figure 4-21 DG Stack Sampling during February 2026

The monitoring undertaken indicates the stack Air Quality Values for Particulate matter is under limit set by MPCB.

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Table 4-32 Noise Quality of DG Set February 2026

Reading from 0.5 m away from DG Set																			
DG 1		DG 2		DG 3		DG 4		DG 5		DG 6		DG 7		DG 8		DG 9			
11.02.2026		11.02.2026		11.02.2026		11.02.2026		11.02.2026		11.02.2026		12.02.2026		12.02.2026		12.02.2026			
Direction	Door Closed	Door Opened	Door Closed	Door Opened	Door Closed	Door Opened	Door Closed	Door Opened	Door Closed	Door Opened	Door Closed	Door Opened	Door Closed	Door Opened	Door Closed	Door Opened	Door Closed	Door Opened	
East	73.2	99.0	73.9	99.3	73.6	98.8	73.2	98.9	73.4	98.5	73.5	99	73.7	98.9	73.1	99.0	73.7	99.7	
West	73.5	98.8	74.2	99.7	73.8	99.7	74.5	99.8	73.4	99.0	73.8	98.9	74.0	99.5	73.5	99.2	74.0	98.7	
South	73.4	98.7	73.8	99.9	74.0	99.9	73.5	99.9	73.2	98.7	73.4	99.5	73.9	98.7	73.8	98.7	74.5	99.9	
North	73.4	99.0	74.5	98.9	73.4	98.5	73.5	98.9	73.6	99.0	73.0	98.7	73.8	99.8	73.8	98.9	73.8	98.8	
Avg.	73.4	98.9	74.1	99.5	73.4	99.2	73.7	99.4	73.4	98.8	73.4	99.0	73.9	99.2	73.6	99.0	74.0	99.3	
Difference	25.5		25.4		25.5		25.7		25.4		25.6		25.3		25.4		95.3		

$$-2.1 \times 10^{-11} \text{ m}^2$$


Handwritten: $\frac{1}{2}$



Dhan Thapa

Prepared By:
Dhan Thapa



Kalpita Pathare

Checked By:
Kalpita Pathare

(October 2025 - March 2026)



Figure 4-22 Noise monitoring for DG Set during February 2026

The monitoring undertaken indicates the DG Noise Quality value for insertion loss is within consent limit.

Prepared By:
Dhan Thapa



Checked By:
Kalpita Pathare

Environmental Consultant

Aditya Environmental Services Pvt. Ltd.

ANNEXURE 3 –
HAZARD IDENTIFICATION AND
RISK ASSESSMENT (HIRA)
REPORT



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\41-
Revision No.:02

RA No.: LT/LS/06/42

Work Code

Location of Work

Work Activity/Task

Duration of the activity

Date & time of activity being carried out

TI-LS/2024/07

Arrival & Departure Ramp Bridge

Foundation, Sub-Structure and Superstructure

☐ day(s)

Week(s)

☐ 6 Month(s)

☒ DAY

☐ NIGHT

17.01.2024, 8:00 AM / 7:00 PM- 11 Hours

RISK ASSESSMENT

RISK ASSESSING TEAM

Sl.No.	Name	Designation	Signature
1	Mr. Rachit Shah	Sr. Construction Manager	
2	Mr. Amol Ghawate	Manager	
3	Mr. Pankaj Kumar	Site Engineer	
4	Mr. Jethava Chetankumar	Site Engineer	

PERSONNEL DETAILS		EQUIPMENT/MATERIAL DETAILS		DOCUMENTATIONS		SEVERITY
No. of employees Required to do the work	200	Work Platforms/Access	Required	Crane/Operators Competency (If so attach document)	YES	
Occupations Trades/Skills required	Site- In charge, Site Engineer, Supervisor, Surveyor, Carpenters, Fitters, Driver/Operator And unskilled workers	Associated Hazards Man/Machine/Environment)	Noise, Dust, Heat, Movement of Equipment, material handling, electrical hazards, ergonomic, health.	Any other specific documents required	NO	NA
Qualifications	• For Drivers/Operators:	Tools/Power tools	Crowbar, Spade,		YES	NO

Person Preparing the Risk Assessment Name - Mr. Amol Ghawate Signature Date



Code.	EHSNMIAL
Form No.	C-20:26
Issue	2/II:2022

TRAINING ACKNOWLEDGEMENT						Name	Signature	Date
4					13			/ /
5					14			/ /
6					15			/ /
7					16			/ /
8					17			/ /
9					18			/ /
Toolbox talks given by :						Site Engineer		/ /
						Site Supervisor		/ /
						Safety Officer/Representative		/ /

Person Preparing the Risk Assessment Name – NITIN PATIL
Sensitivity: LNT Construction Internal Use Signature *[Signature]*
NMTAPEHS @ 10/2021

Date/Time; ___/___/___; ___ AM/PM



Navi Mumbai International Airport Pvt. Ltd

Project Environment, Health & Safety Department

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										Site In-charge / Site Engineer
24	Manual Lifting/ Musculoskeletal disorder/ In case emergency	- Lifting Heavy load. - Poor Posture. - Repetitive work. - Pushing load - Pulling and.	- Back strain. - Spinal or joint dysfunction. - muscle or skeletal pain. - Body strain.	3	2	6	- All workmen will go through manual lifting training before deployment at work. - Workmen should not allow to lift load more than 35 Kg manually. - Adequate supervision shall be provided. - Adequate PPE(shoulder pad) shall be worn by workmen when manually handling load - Workmen will given 10 minutes break in case of repetitive work more than 2 hours. - Trolley should be used for pulling & pushing the load. - First aid box			
25	In case emergency	- Lack of emergency facilities - Lack of training	Major or fatal injury	3	4	12	- Emergency training given to all workers before start of work. - First aid box provide on roof, office and wherever required. - Stretcher will available on roof for emergency. - Emergency numbers display on roof.			

To be completed prior to the commencement of the work activity/Task

The personnel listed below have been made aware of and understand the procedures, hazards and control measures out lined in this Risk Assessment. They will abide by the control measures outlined within this document, but not limited to. They have been instructed to report any accident/incident & Near Misses during work.

Sl No.	Name	Id.No.	Signature	Sl.No.	Name	Id.No.	Signature
1				10			
2				11			
3				12			

Person Preparing the Risk Assessment Name – NITIN PATIL
Signature 
Sensitivity: LNT Construction Internal Use NMI/PEHS @ 10/2021

Date/Time; ____/____/____; ____ AM/PM



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		- Poor lighting - Electric shock - Fall of material & man - Poor supervision - Lack of emergency facilities	- Electrocution - Major injuries /disability/fatality - Property damage				- Provide sufficient light and access light for the work area. - Site supervisor shall ensure the required lighting arrangement before start to work - Special TBT shall be ensured before start the night shift. - Ensure all the required PPE's for all workmen. - Ensure the availability of night work permit and displayed it. - Supervisor should ensure sufficient man power to do the night work - Site engineer should be continuous present at work location.	Site In-charge / Site Engineer
22	Working at night shift			3	3	9		
23	Roof Housekeeping and waste management	- Sharp edge - Height work - Electrocution	- Fall of person / material - Cut injury - Electric shock	3	3	9	- Material basket shall be made and use. Get TPI done. - All waste material shall be collected and kept at designated area till the disposal is done from the site. - Weekly scrap shall be disposed off thru authorised vendor - Heavy material and wastage roof sheet shifting by crane. - All loose material FOD keep in bags, and removed from roof by basket, and maintain register. - Site engineer should be continuous present at work location.	

Person Preparing the Risk Assessment Name - NITIN PATIL

Sensitivity: LNT Construction Internal Use Signature

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							Site In-charge / Site Engineer
21	Flashing fixing	• Fall • Sharp edge of flashing • Machine overheating, • Electrocutation • Loose material on roof	• Fall of person / material • Cut injury • Electric shock. • Major injury	3	3	9	• Workers ability to work at height is physically examined and authorized to work at height • Ensure proper use of full body harness with shock observer near roof edge. • Placed more engineers for effective supervision. • Barricade below work area and placed worker to guard trespassing. • Work shall be stopped in adverse weather condition. • Allot sufficient number of skilled workmen involved in the job. • Safety helmet, safety shoes, hand gloves shall be provided to the workmen • Ensure no any single flashing keep on roof. • Earthing shall be provided to Distribution board. • All electrical connections shall be routed through RCCB/ELCB. • Do not use machine without plug top.

Person Preparing the Risk Assessment Name - NITIN PATIL
Signature 
Sensitivity: LNT Construction Internal Use
NMI/PEHS @ 10/2021

Date/Time : ___/___/___; ___:___ AM/PM

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20	Kalzip sheet fixing	• Fall • Sharp edge of sheet. • Trip hazards. • Slip trip on roof	• Bodily injury • Cut injury • Fall of person from height.	3	3	9	• Workers ability shall be check for work at height physically examined and authorized to work at height. • Sufficient workmen provide to handle long sheet. • Placed more engineers for effective supervision • work should be stopped in adverse weather condition • When zipping work going that time ensure worker anchor full body harness with life line near roof edge. • Cut resistance had gloves use to handle sharp edge sheet.	Site In-charge / Site Engineer

Person Preparing the Risk Assessment Name - NITIN PATIL

Sensitivity: LNT Construction Internal Use

Signature



NMI/PEHS @ 10/2021

Date/Time : ____ / ____ / ____ ; ____ AM/PM



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19	Crane operations Katzip sheet lifting by spreader beam	Soil / Road condition Moving and suspended load Defects in Lifting gears/ Defects in sling	Major injury property damage	3	4	12	• Pre inspect position area of crane and outriggers. • Ensure area is Compacted & levelled prior to setup of crane. • Deploy only trained operators • Only experienced rigger involved in this activity. • Only certified crane shall be used • All lifting gears like D shackle, Wire rope / Web / Chain Sling shall also be used only after certification by competent person. TPI • No lifting without Lifting engineers, riggers & signal man. • Lifting operation stop if wind speed above 40 km per hours. Barricaded all lifting area. • Spreader Beam TPI inspection done by competent person. • All sling check before start of work. • all lifting material properly scurried to avoid any damages.	Site In-Charge / Site Engineer / crane operator	Date/Time : ____ / ____ / ____ ; ____ AM/PM
Person	Preparing the Risk Assessment	Name - NITIN PATIL							
Sensitivity	LNT Construction Internal Use	Signature . 10/2021							

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Code, EHSNMIAL

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Issue 2/11/2022

17	Rockwool storage & Rock wool insulation laying on roof	- Skin hazards - inhalation	- Skin irritation - health hazards	3	2	6	- Use MSDS (Material safety data sheet) for Rockwool handling safety. - Training to all workers how to handle rock wool. - All workmen should wear full sleeve shirt and full pant, Nose mask, safety goggles, hand gloves - Rockwool are stored in original packagings until they are used and open packed will be covered by tarpaulin. - All loose Rockwool pieces collect immediately and keep in bag. - Ensure no any Rockwool left on roof at any point daily before close of work	Site In-charge / Site Engineer
18	Kalzip sheet production	- Leakage of power - sharp edge - Obstruction in work area - Struck by coil while shifting and fixing - Electrocution	- Cut Injury - Trip injury, - Fall of material - Hit by coil	3	2	6	- Allot sufficient number of skilled workmen involved sheet production. - Safety helmet, safety shoes, hand gloves shall be provided to the workmen - Authorised drivers shall be engaged to coil shifting work. - Only kazip operator handle the profiling machine. - Equipment & machinery shall be inspected - Earthing should be proper. - Correct rated metal plug tops shall be used for taking power supply. - Only authorized person shall give power supply to the profiling machine. - Damage material strictly do not use. - Avoid use of joint cable for power supply to profiling machine. - Sheet support shall be checked. - Only authorised operator work on profiling machine.	Site In-charge / Site Engineer

Person Preparing the Risk Assessment

Name - NITIN PATIL

Sensitivity: LMT Construction Internal Use

Signature

For 

NMIAP/HS @ 10/2021

Date/Time : ____ / ____ / ____ ; ____ AM/PM



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		- Loose material on roof - Machine overheating, - Electricity - Electrocution.	- bodily injury - Electric shock. - Cut injury				- All top hat stack at one place & tied on roof by nylon rope - machine, hand grinder check and tag before start of work Cut resistance hand gloves use for handling of top hat. - Ensure No any top hat loose on roof. - Earthing shall be provided to Distribution board. - All electrical connections shall be routed through RCCB/ELCB. - All screw machine, hand grinder check and tag before start of work.	Site In-charge / Site Engineer
15	Top Hat fixing			3	3	9		
16	Aluminum ST clip fixing	- Clip fall from height. - Screw - Machine overheating. - Electrocution - Machine burnout,	- Trip injury, - physical injury - Electric shock.	3	3	9	- All ST clips stack at one place. - Ensure no any single ST clip on roof. - Only trained people allow working in this area where halter fixing is done. - Earthing shall be provided to Distribution board. - And electrical connections shall be routed through RCCB/ELCB. - Continue checking of machines. - Do not use machine without plug top and tagged	Site In-charge / Site Engineer

Person Preparing the Risk Assessment Name - NITIN PATIL
Signature 
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NMI/PEHS @ 10/2021

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	Material fall down • Working on height • Slip / Trip on roof • Cement board cutting dust	Fall of person / material • electric shock. • Electrocutation • Major injury • Inhalation	3	2	6	- work personnel to ensure that material are securely tied with nylon rope. - Work personnel shall be maintain proper housekeeping at roof all times - Site engineer to ensure that no any cement board keep near edge - Site engineer to ensure that work personnel use nose mask while cutting of cement board. - Ensure proper use of full body harness with shock observer near roof edge. - Earthing shall be provided to Distribution board. - All electrical connections shall be routed through RCCB/ELCB. - Continue checking of machine - Do not use machine without plug top. - Use cutting face shield while cutting cement board. - Only authorized workmen should be engaged to use of cement board cutting machine. - Use proper cutting wheel to cutting machine. - Ensure machine guard place in proper position in machine..	Site In-charge / Site Engineer
13	Cement board fixing						
14	VCL laying on roof	• Roll fall from height	3	2	6	- All VCL roll on roof covered & tied by 12 mm nylon ropes, - Ensure no loose roll is left on roof. - Maintain proper housekeeping on roof.	Site In-charge / Site Engineer

Person Preparing the Risk Assessment Name - NITIN PATIL

Sensitivity: LNT Construction Internal Use Signature .

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10	Skylight opening	• Fall	• Major injury • Fatal	3	4	12	• During roof sheeting activity, if any opening/edge generated that shall be protected by hard barricading(which can take 90 kgf load). Skylight opening shall be protected by hard barricading. • Also covering roof opening, skylight, vent etc., with safety net.	Note:- Hard barricading material will provide by L&T and install by VIJAYNATH, *covering safety net by L&T
11	Top hat bracket lifting and stacking on roof	• Slip , trip on roof • Sharp edge of bracket	• Minor injury • cut injury • Material damage.	3	2	6	• Only experience & trained person allow on roof. • Observation on roof to be made by engineer. • Obtain height work permit. • Proper lifting top hat bracket in basket. and properly stack on roof. • Ensure no any single piece of top hat bracket on roof. • Safety engineer shall be check of no any loose material on roof. or get tied / remove before closing the work. • Provide & ensure use of cut resistance hand gloves while handling of top hat bracket.	Site In-charge / Site Engineer
12	Top hat bracket fixing on liner sheet	• Loose material on roof • Machine overheating, • electricity	• bodily injury • Machine burnout, • electric shock. • Electrocution. • Cut injury	3	2	6	• All top hat bracket stack at one place • cut resistance hand gloves use for handling of top hat bracket. • Ensure No any top hat bracket loose on roof. • Earthing shall be provided to Distribution board. • All electrical connections shall be routed through RCCB/ELCB/ • Continue checking of screw machines. • Do not use machine without plug top.	Site In-charge / Site Engineer

Person Preparing the Risk Assessment Name - NITIN PATIL
Signature: 
Sensitivity: LNT Construction Internal Use
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Date/Time : ____ / ____ / ____ ; ____ : ____ AM/PM



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Code. EHSNMIAL

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	1. Fall	2. Sharp edge of sheet, Machine overheating, Electrocutation, Loose material on roof	3. Fall of person / material	4. Cut injury	5. electric shock, Electrocutation	6. Major injury	7. Workers ability shall be check for work at height physically examined and authorized to work at height.	8. Site In-charge / Site Engineer
9	liner sheet fixing						• Ensure proper anchor of full body harness in life line near roof edge. • In critical roof slope we will use Retractable fall arrester. • catch net shall be fixed below proposed roof sheeting area and to progressive area • Placed more engineers for effective supervision. • below work area shall be Barricaded and placed worker for trespassers • Work shall be stopped in adverse weather condition. • Allot sufficient number of skilled workmen involved in the job. • Safety helmet, safety shoes anti-skid, cut resistance hand gloves shall be provided to the workmen • Ensure no any single sheet keep on roof. • Earthing shall be provided to Distribution board. • All electrical connections shall be routed through RCCB/ELCB. • All screw machine, hand grinder check and tag before start of work. • Adequate resource (post, barrication pipe, tripod, clamp) shall be made available before starting roof sheeting work. All edges and opening shall be protected proactively.	Note:- Hard barricading material will provide by L&T and install by VIJAYNATH,

Person Preparing the Risk Assessment Name - NITIN PATIL

Sensitivity: LNT Construction Internal Use

Signature. For

Date/Time : ___/___/___ : ___ AM/PM



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							Site In-charge / Site Engineer
8	Aluminum Gutter fixing by argon welding	• Electrocutation • Pressurised cylinder	• Machine burnout, electric shock. • Electrocutation • Fire. • Cylinder burst • asphyxiation • burn injury	3	3	9	• Earthing shall be provided to Distribution board. • All electrical connections shall be routed through RCCB/ELCB. • Continue checking of machine • Do not use machine without plug top. • Check Argon welding m/c before start of work • Cylinder should be in vertical position in trolley and secured by chain. • Ensure work area clear from combustible material • Hose pipe and valve check before start of work • PPE use (welding face shield, leather hand gloves, helmet, safety shoes etc) • Fire extinguisher shall be near welding work. • Hot permit obtained before start of work • if required barricading provided to below work area on ground level. • Use suitable lifting cage for gas cylinder lifting with TPI

Person Preparing the Risk Assessment Name – NITIN PATIL
Signature for
Sensitivity: LNT Construction Internal Use NMI/PEHS @ 10/2021

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		- Leakage of power - Electrocution - Fire - Tripping by ground level cable	- Electrocution - bodily injury - fatality - Burn				- Correct rated industrial plug tops shall be used for taking power supply. - Only electrician shall give power supply to the equipment - Light posts, hand tools etc shall be allowed to shift only after the disconnect electric power supply. - Hand tools and machinery shall be inspected by site engineer and EHS person before deployment. - All DB shall be fitted with RCCB/ELCB. - All high powered equipment shall be provided with earthing. - Damage material strictly do not use. - Avoid joint in cable, use only without joint cable. - Cable shall be laid properly on ground and roof also.	Site In-charge / Site Engineer
7	Power distribution			3	3	9		

Person Preparing the Risk Assessment Name – NITIN PATIL

Sensitivity: LNT Construction Internal Use

Signature

[Signature]

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	Improper planning • Loose sheet on roof • Sharp edge	Property damage • Slip, trip • Cut injury				Only experience & trained person allow on roof. • Observation on roof to be made by engineer. • Full body harness with shock absorber use on roof near age and ensure anchor with life line. • Obtain height work permit. • Proper tie up sheets and cement board on roof by nylon rope. • Site will be inspected before closing work by site engineer. • Safety engineer shall be check of no any loose material on roof. Or get tied / remove before closing the work. • Provide & ensure use of cut resistance hand gloves while sheet handling. • Sheet and cement board not stacking in single point on roof.	Site In-charge / Site Engineer
5	Sheet, cement board stacking on roof			3	2	6	
6	Liner Sheet shifting on roof	• Slip , trip on roof • fall of person	• Bodily injury • cut injury • material damage.	3	2	6	Site In-charge / Site Engineer

Date/Time : ____/____/____ : ____ AM/PM

Person Preparing the Risk Assessment Name - NITIN PATIL

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		Soil / Road condition • Moving load • Defects in Lifting gears/ Defects in sling • Suspended Load	Major bodily injury to workmen • property damage • Hit to fix object, physical injury	3	4	12		Site In-charge / Site Engineer / crane operator
4	Crane operations liner sheet , cement board, rock wool lifting by crane (100 T)						• Pre inspect position area of crane and outriggers. • Ensure area is Compacted & levelled of land surface prior to setup of crane. • Deploy only trained operators. • Only experienced rigger involved in this activity. • Only certified crane shall be used • Operate crane after obtaining Equipment fitness test by Competent Person • All lifting gears like D shackle, Wire rope / Web / Chain Sling shall also be used only after certification by competent person. TPJ • No lifting without Lifting engineers, riggers & signal man. • Barricaded all lifting area. • Monthly Inspection by EHS Engineers & erection engineer. • All sling check before start of work. • lifting operation stop if wind speed above 40 km per hours • Use Guide rope both side of load while lifting.	

Person Preparing the Risk Assessment Name – NITIN PATIL
Sensitivity: LNT Construction Internal Use Signature . For
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		- Illegal way - Improper staircase - Fall from height, sharp edge - Unauthorized entry - scaffolding collapses	- cut injury - fatal - physical injury			- Given training to all workers. - Ensure scaffolding staircase erection done by competent person and green tagged by authorised person - Use only proper scaffolding staircases for reach to roof. - Scaffolding staircase erection on sound soil with proper base plate. - Safety harness double lanyard with shock absorber used on structure. - All workers to carry entry pass. - Periodically inspection /check scaffolding staircase. - Only experienced worker allow this work. - Use 8 mm wire rope for Life line. - Tying lifeline according to slopes, and on roof 2 meters keep away from the edge. - Roof access controller shall be deployed with register at Stair base. NO roof pass NO Permission to go on roof.	Site In-charge / Site Engineer Note:- Roof access staircase will provide by L&T
3	Access to roof by scaffolding tower staircase & Tying life line on roof			2	3	6	

Person Preparing the Risk Assessment Name - NITIN PATIL
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		• Rash • Vehicle movement • Unloading of sharp edged sheet • Improper stacking. • Ankle cut • Inadequate pedestrian areas and unauthorized movement. • Tripping hazards. • Over loading of crane.	• Major injuries • disability • Hit injury	2	3	6	• Experienced and licensed drivers shall be work • Driver shall be help of banks man or signaller. • Vehicle shall be with Reverse horn • Equipment & machinery shall be tested & certified. • Allot sufficient number of skilled workmen to the job • Safety helmet, safety shoes, hand gloves shall be provided to the workmen. • Lifting belt & equipment to be checked. (TPI) • Lifting permit to be obtained • sheet shall be stacked size wise with signage posted • Area shall be barricaded. • Stacking single sheet shall be avoided • Coils should be keep proper stacking and with support. • Stacking area shall be barricaded. • Stacking of sheet away from work area. • All lifting load will be calculated and ensure under crane lifting capacity before lifting • Materials shall be secured as per L&T's lifting shifting SOP at source to unload material at site safely. • Advance communication shall be done at source to load material as per SOP.	Site In-Charge / Site Engineer
2	Roof liner sheet / coil Unloading (3ton Max) and stacking. By F-15 crane							

Person Preparing the Risk Assessment Name - NITIN PATIL

Sensitivity: LNT Construction Internal Use

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RA No. LNT B&F 03, NMIA-LNT PT-PT1-DS-P1-SH-AR-RP007

RISK ASSESSMENT

Work Code	☒ A	☐ B	☐ C	☐ D
Location of Work	PTB construction site			
Work Activity/Task	Roofing installation work			
Duration of the activity - TBA	☐ day(s)	☐ Week(s)	☐ Month(s)	☐ DAY ☐ NIGHT
Date & time of activity being carried out	___/___/___ AM/PM (TO BE ANNOUNCED)			

RISK ASSESSING TEAM

Sl.No.	Name	Designation	Signature
1	Jaychndran Panickar	Project in charge	
2	Bipin Das	Technical Head	
3	Rahul Waghmare	Project Head	
4	Nitin Patil - Review	Head EHS	

PERSONNEL DETAILS		EQUIPMENT/MATERIAL DETAILS		DOCUMENTATIONS			
No. of employees Required to do the work		Work Platforms/Access		Crane/Operators Competency (If so attach document)	YES ☐ NO ☐ NA ☐		
Occupations Trades/Skills required		Associated Hazards (Man/Machine/Environment)		Any other specific documents required	YES ☐ NO ☐ NA ☐		
Qualifications (Licenses/Work Permits)		Tools/Power tools (Chisel, Hammer, Grinder)		SEVERITY			
Training (Completed/Required)		Area Illumination (Tower Lights, Pole lights)				MATRIX	
						PROBABILITY	
		1 Negligible	2 First Aid	3 < 2 days	4 Reportable		
		1 Unlikely	Low 2	Low 3	Medium 4		
		2 Possible	Low 4	Medium 6	Medium 8		

Date/Time : ___/___/___ : ___ AM/PM

Person Preparing the Risk Assessment Name - NITIN PATIL
Signature
Sensitivity: LNT Construction Internal Use
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PPE Required for task (Helmets & Safety Shoes are mandatory)		Plant (Static & Mobile)	NA	3 Very Likely	Low 3	Medium 6	High 9	High 12
Sl.No.	JOB STEP Break the Job Down into steps	POTENTIAL HAZARD What Can Harm You?	RISK Type of Harm	RISK RATING P x S = RR		CONTROLS What are you going to do to make the job as safe as possible	ACTION BY Person who will ensure this happens	
1	Manpower deployment / mobilization	• inexperience / untrained personnel • inadequate PPE for the task • height phobia • Lack of awareness during emergency.	• Major injuries • disability/ fatality	3	3	9	• All workers should under gone L & T screening / VRWCSPIL induction training. • Competency assessment shall be done for operators, • CV of EHS proposed EHS member shall be produced to L&T EHS dept. After screening/interview, candidate shall be deployed at site. • Task awareness and risk assessment should be communicated with all personnel engaged in the work. • Periodic training should be carried out on use. Care & maintenance of PPEs • Check on their qualification and skill development in respective area of work. • Management should ensure all personnel are well oriented with displayed signage's individual area of work. • All workmen should make know the Do & Don't at site. • All personnel should checked for the medical fitness by approved authority. • Emergency awareness training shall be provided to all workmen as well as staff.	Site In-charge / Site Engineer

Person Preparing the Risk Assessment Name - NITIN PATIL

Sensitivity: LNT Construction Internal Use

Signature

for [Signature]

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Date/Time : ___/___/___ ; ___ AM/PM



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ACTIVITY Arrival & Departure Ramp

Sl.No.	JOB STEP Break the Job Down into steps	POTENTIAL HAZARD What Can Harm You?	RISK Type of Harm	RISK RATING			CONTROLS What are you going to do to make the job as safe as possible	ACTION BY Person who will ensure this happens
				P	X	S = RR		
1	Survey Marking	- Untrained workforce - Survey during adverse weather condition cause poor visibility (i.e. foggy, rainy weather) - Presence of snake or other reptiles	- Cut injury - Eye irritation due to paint. - Heat related health issues. - Stings and bites	2	2	4	- Before commencing activity, TBT shall be conducted. - All required mandatory and job specific PPEs provided - Use the measuring staff which is made up of insulated material (fiber or wooden staff). - Drinking Water and umbrella with non-conductive handle shall be provided. - Lone working shall be avoided. - A trained and certified first-aiders shall be deployed with the crew and a suitable means of transportation shall be available at all times. - A flagman deputed in advance for warning to live traffic. - Flagman shall stand on median as per regular practice. - All required mandatory and job specific PPEs being used.	Mr. Amol Ghawate & Mr. Pankaj Chaugule

Signature Amol Ghawate

Date

Name - Amol Ghawate

Person Preparing the Risk Assessment

Sensitivity: LNT Construction Internal Use



Navi Mumbai International Airport Project

Doc no.: NMIA\NT\HRA\25
Revision No.:02

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	- Unauthorized operation - Vehicle reversing - Deployment of unfit vehicles - Drunk & Drive - Use of Mobile phone - Intoxication - Dust Generation - Fire in equipment					- All workers must wear mandatory PPEs while working at site - Before commencing activity, TBT shall be conducted - Prior to engaging any vehicles on site, it shall be inspected and fit for the purpose. - Provide clear access for vehicles to enter, exit and move on site. - The access roads shall be kept clear from any obstacles. - Trained Flagman/signalman shall be engaged at hazardous areas (Loading point and junctions) to direct vehicles and do not stand on the downhill side or directly behind a moving or unloading truck. - Make sure the operator has seen you if you are nearby; and make sure trucks can exit from sites when material loaded in that. - All workmen/maintenance technicians shall be inducted and provided with mandatory PPEs which shall be worn all time at site. - Regular monitoring of drivers and operators will be ensured to checked whether they are under the influence of alcohol while at work. Zero tolerance to such unsafe behaviors.	Mr. Amol Ghawate & Mr. Pankaj Chaugule
4	Equipment/vehicle movement	- Injuries to workers - Hit by falling objects. - Slips, trips and falls - Access and egress - Property damage	3	4	12		

Person Preparing the Risk Assessment Name - Amol Ghawate

Date

Signature [Signature]

Sensitivity: LMT Construction Internal Use



Navi Mumbai International Airport Project

Doc no.: NMIA\UNT\HIRA\126
Revision No.:02

6	Loading, Unloading, of rebar & shuttering boards by pick and carry crane	- Unauthorized Operation - Fall of material - Fall from height. - Improper use of lifting belts	- Topping of crane multiple - Injure - Head injury by fall of material. - Injury - Fatigue	3	4	12	- Only authorized workmen and operators should be allowed while erection. - Prohibition of mobile phone usage by the crane operator & signal man. - Verifying the weight of an object to be lifted against SWL of the crane with respect to boom length & horizontal angle by referring manufacturer load chart. - Trained Riggers, signal man and lifting supervisors are deployed. Provision of Tag line to control the load oscillations. Usage of right slinging method (hitches) with right lifting gears. - Lift Card should take before doing any lifting activity - Crane hook must have hook latch. Over load, over hoist limit switch is provided and checked for effective functioning. Daily inspection by the operator. Monthly joint inspection by the EHSO and P&M Engineer. - Safe work platform shall be provide for height work and safety harness should be use. - Medical fitness of operators ascertained before employment and periodically checked. - Ensure adequate warning signage's displayed in the work location - Road shall be made leveled, compacted & free from pot holes and well maintained - Crane shall not be left on a slope with the engine of such vehicles or equipment running - All lifting tools & tackles shall have valid TPI Certification - No person allowed under suspended loads & crane swing areas	Mr. Amol Ghawate & Mr. Pankaj Chaugule
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Person Preparing the Risk Assessment Name - Amol Ghawate

Date

Signature [Signature]



Navi Mumbai International Airport Project

Doc no.: NMIA\UNT\HIRA\28-10-
Revision No.:02

8	Erection of Scaffold	- Scaffold Collapse - Fall of Scaffold - Fall of materials - Fall of Person - Fainting, falling from height - Slip, trip and fall	3	4	12	- Ground Compacted, levelled & made firm. - Scaffold is not erected near to excavation area and vice versa. - Experienced personnel are engaged. - Scaffolding are erected as per scheme drawing. Supervision is ensured. - Scaffold tag system is implemented. - Towers are connected with 2 spring lock pins. - Scaffold erected as per our standard & Inspected by Form Work Dept. - Trained Scaffold gang is deployed. - Lateral supports at every 6 meters intervals - Verticality of scaffold is ensured to the norm of tolerance 1mm per meter - Person erecting the materials with pulley & rope is allowed stay away from the erection area to safeguard from fall of materials. - Working Platform made with 600 mm width & Secured both sides, with handrails - Use of Full body Harness with Double lanyard is ensured. - Single sheave pulley with closed hook is used and secured well at anchorage location. - Trained Scaffold gang is deployed. - No loose material is allowed to keep at top. Hand tools shall be secured so that it will not even if missed. - Beneath height work is cordoned and deployed one person to ensure no one enters the height work area. - Worker's ability to work at height is physically examined and authorized to work at height. - No work on scaffold is allowed to carry out during raining or immediate after rain. - Adequate illumination of 150lux is ensured at workplace. - Competent supervision shall be improved.	Mr. Amol Ghawate & Mr. Pankaj Chaugule
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Person Preparing the Risk Assessment Name - Amol Ghawate

Date

Signature

Sensitivity: UNT Construction Internal Use



Navi Mumbai International Airport Project

Doc no.: NMI/INT/HR/25
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10	Concreting	- Unsafe Transportation - Concrete spillage over the road. - Exposed Rotating parts of Miller - Person standing between transit mixer and concrete boom placer - Extended working hours of operator	- Crush, - Hit by vehicle - Slippage of bike and land pollution - Entanglement - Hazard - Fatigue	3	3	9	- Approach roads shall be levelled. - Overloading of concrete shall not be allowed. - Revolution of back mixer drum should be 2 revolutions/ Min. - Concrete shall be loaded within the capacity of the mixer drum. - Always back chute should always be locked and cleaned properly before dispatching the vehicle from the loading or unloading point. - All rotating parts shall be properly guarded. - While placing the Transit Mixer with boom placer /concrete pump nobody shall be allowed to stand in between the TM and boom placer/concrete pump. - All Vehicles have Reverse horns. - Helper/Flagman shall be guiding the TM while placing with boom placer and concrete pump. - Before placing the vehicle, the operator shall be ensuring the surroundings of vehicle that no person is taking rest underneath the vehicle. - Ensure job rotation to reduce fatigue. - All required mandatory and job specific PPEs provided.	Mr. Amol Ghawate & Mr. Pankaj Chaugule
11	Boom placer operation/Crane Operation	- Unauthorized operation - Use of mobile phone by operator - Maintenance of boom placer/TM - Guards for rotating parts - Holding rubber hose by hand.	- Hit injury / Fall of materials - Hit injury due to erroneous crane movement - Entanglement - Hit injury due to the oscillation of pipe	3	4	12	- Only authorized persons are allowed to operate the crane. - Unauthorized entries shall be strictly banned. - Mobile phone usage while work is strictly banned - Periodical maintenance of equipment/vehicles shall be strictly maintained, and daily safety checklist needs to be maintained. - All rotating parts of machine shall be adequately guarded - Guide rope shall be used while concreting with boom placer. - No one should stand below the pressurized pipeline.	Mr. Amol Ghawate & Mr. Pankaj Chaugule

Name - Amol Ghawate

Date

Signature

Person Preparing the Risk Assessment

Sensitivity: LNT Construction Internal Use



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\26
Revision No.:02

Sl.No.	Name	P S.No.	Signature	Sl.No.	Name	P S.No.	Signature
01	Mr. Amol Gawate	10004034		06	Mr. Pankaj Chougale	20174120	

Sl.No.	Name	P S.No.	Signature	Sl.No.	Name	P S.No.	Signature
13	Dismantling of Scaffold			2			
	Improper Work platform in scaffold			3			
	Dismantling unit wise			6			
	Haphazard lifting pattern						
	Throwing the material from height						
14	Weather condition						
	Rain and wind						
15	General						
	Unauthorized Entry						
	Fire						
	Extended work hours						
	Improper House keeping						

To be completed prior to the commencement of the work activity/Task

The personnel listed below have been made aware of and understand the procedures, hazards and control measures outlined in this Risk Assessment. They will abide by the control measures outlined within this document, but not limited to. They have been instructed to report any accident/incident & Near Misses during work.

Person Preparing the Risk Assessment Name - Amol Gawate

Date

Signature

Sensitivity: LNT Construction Internal Use

RISK

Navi Mumbai International Airport Pvt. Ltd
Project Environment, Health & Safety Department

Code: EHS/NMIAL
Form No. C-20-28
Issue

RA No. LNT B&F/BORE HOLE/R/00

Location of Work: All Area of NMIAL Project
Work Activity/Task: Soil Investigation Boring hole
Duration of the activity: 27/06/2024 8.30 am to 8.30 am AM/PM
Date & time of activity being carried out: 27/06/2024 8.30 am to 8.30 am AM/PM

RISK ASSESSMENT

RISK ASSESSING TEAM

Sl.No.	Name	Designation	Signature
1	Sanjay Pandurang Aher	Site in charge	
2	Kathula Raju	Site engineer	
3	J Karmakar	EHS	
4	Santosh Bhaskar - Review	Head EHS	

PERSONNEL DETAILS

No. of employees Required to do the work	Trades/Skills	Work Platforms/Access	Associated Hazards (Man/Machine/Environment)	Tools/Power tools (Chisel, Hammer,)	Area Illumination (Tower Lights, Pole lights)	Plant	Mandatory PPEs including Nose Mask, Goggle
	NA			Chisel, hammer, brush.		NA	
Qualifications (Licenses/Work Permits)							
Training (Completed/Required)	Required						
PPE							

DOCUMENTATIONS

Crane/Operators Competency (If so, attach document)	Any other specific documents required	YES	NO
		☐	☐
		☐	☐

SEVERITY

MATRIX

PROBABILITY	1 Unlikely	2 Possible	3 Very Likely
SEVERITY	1 Negligible	2 Low	3 Low
1	Low 1	Low 2	Low 3
2	Low 2	Low 4	Medium 6
3	Low 3	Medium 6	High 12

Person Preparing the Risk Assessment: J Karmakar
Sensitivity: LNT Construction Internal Use
NMI/APEHS @ 10/2021

Signature

Date/Time: 29/06/2024; AM/PM



Navi Mumbai International Airport Pvt. Ltd
Project Environment, Health & Safety Department

Code. EHSNMIAL
Form No. C-20/26

Required for task (Helmets & Safety Shoes are mandatory)		Yes	(Static & Mobile)		Issue					
SL.No.	JOB STEP Break the Job Down into steps	POTENTIAL HAZARD What Can Harm You ?	RISK Type of Harm	RISK RATING P X S = RR		CONTROLS What are you going to do to make the job as safe as possible	ACTION BY Person who will ensure this happens			
						4 Certainly	Low 4	Medium 8	High 12	High 16

Person Preparing the Risk Assessment
Sensitivity: LNT Construction Internal Use
Name - J Karmakar
Date/Time : 29 / 05 / 2024; AM/PM

Signature

Navi Mumbai International Airport Pvt. Ltd Project Environment, Health & Safety Department

Code: EHSNMIAL
Form No. C-20:28
Issue

Access/egress for workman & machinery	Workmen/vehicle movement	Fall of workmen or damage to machinery	6	3	2	• Separate access (Pedestrian pathway) shall be provided to all workmen and vehicle. • Adequate lighting shall be done on site area. • Adequate reflecting should be provided. • Soil should be checked for its stability. • Rest shed should be provided in the work area • Vehicle should be checked for its fitness • Wheel stopper should be provided • Minimum required should be followed • Driver and helpers should be briefed before starting of work.	Sanjay Aher
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Signature

Date/Time : 29 / 06 / 2024; AM/PM

Name - J Karmakar

Person Preparing the Risk Assessment
Sensitivity: INT Construction Internal Use

Navi Mumbai International Airport Pvt. Ltd
Project Environment, Health & Safety Department

Code. EHSNMIAL
Form No. C-20/26

		Issue				
2	Boring	Pressurized HT line or underground utilities	Contact with electrical lines or other lines	3	2	6
		• All workers shall be screened and inducted. • All persons shall use appropriate PPEs. • Work area shall be properly inspected prior to start work. • Any OH line shall be identified and briefed in TBT. • All the utilities shall be identified/protected/ re-routed as necessary • Work shall be stopped in heavy rains. • All spoils shall be removed from site at regular intervals.				Sanjay Aher

Person Preparing the Risk Assessment
Sensitivity: LNT Construction Internal Use

Name - J Karnakar

Signature

Date/Time : 29 / 06 / 2024; AM/PM

Navi Mumbai International Airport Pvt. Ltd Project Environment, Health & Safety Department

Code. EHSNIMIAL
Form No. C-20-26
Issue

3	Caught between the moving parts	Caught between the moving parts	3	3	9	• All rotating parts of the machines shall be properly guarded. • Loose garments shall be strictly prohibited at site. • Maintain safe separation distances from plant, particularly rotating/swinging arms, counterweights (Winch / Chisel) etc. • Do not stand or cross beneath, or downhill of suspended loads.(Winch / Chisel) • All machines should be checked before deployment. • Proper housekeeping should be maintain • Material should be stacked in sequence • All slings should be check with third party certification • Work area to be fenced with the caution tapes to avoid entry of workmen. • No workmen should be allowed into the work radius while chiseling and cleaning in progress	Sanjay Aher
4	Noise	Exposure to excessive noise	2	2	4	• Hearing protection should be provided • Work rotation shall be done periodically.	Sanjay Aher

To be completed prior to the commencement of the work activity/Task

Navi Mumbai International Airport Pvt. Ltd
Project Environment, Health & Safety Department

Code. EHSNMIAL

Form No. C-20/28

Issue

The personnel listed below have been made aware of and understand the procedures, hazards and control measures outlined in this Risk Assessment. They will abide by the control measures outlined within this document, but not limited to. They have been instructed to report any accident/incident & Near Misses during work.

Sl.No.	Name	Id.No.	Signature	Sl.No.	Name	Id.No.	Signature
1				10			
2				11			
3				12			
4				13			
5				14			
6				15			
7				16			
8				17			
9				18			

TRAINING ACKNOWLEDGEMENT

TRAINING ACKNOWLEDGEMENT		Name	Signature	Date
Toolbox talks given by ;	Site Engineer			/ /
	Site Supervisor			/ /
	Safety Officer/Representative			/ /

Person Preparing the Risk Assessment
Sensitivity: LMT Construction Internal Use

Name - J Karmakar

Signature

Date/Time : 29 / 06 / 2024; AM/PM



N. ji Mumbai International Airport Pvt. Ltd
Project Environment, Health & Safety Department

Doc no.: NMIA\LNT\HIRA\05
Revision No.:00

RA No. LT/CP/8/005

RISK ASSESSMENT

Work Code
TI-CP/2022/001

Location of Work
F-12 Crusher Plant

Work Activity/Task
Crusher Operation

Duration of the activity
☐ day(s)

Week(s)

Month(s)

☒ DAY
☒ NIGHT

Date & time of activity being carried out 08:00 AM / 08:00 AM - 24: 00 Hours

RISK ASSESSING TEAM

Sl.No.	Name	Designation	Signature
1	Girish Krishnamurthy Nandyal	Crusher Incharge	
2	Sankarnarayan As	Construction Manager	

PERSONNEL DETAILS

No. of employees 25
Required to do the work

Occupations
Trades/Skills required

For Crusher Operation – Site
Engineer, Crusher Operator,
Electrician, Welder, Helper,
Rigger, Supervisor

EQUIPMENT/MATERIAL DETAILS

Work Platforms/Access

All access provided

- Accidental Hazards
(Fall, Trips, stuck ,
Cut etc.)

- Physical Hazards
Noise, Vibration, Heat,
Radiation

- Chemical Hazards
Dust

Associated Hazards
(Man/Machine/Environment)

Crane/Operators Competency
(If so attach document)

YES	NO	NA
☐	☐	☐
YES	NO	NA
☐	☐	☐

DOCUMENTATIONS

Any other specific documents required

Person Preparing the Risk Assessment

Name - Sankar Nandyal

Date 12/10/22

Signature



Navi Mumbai International Airport Pvt. Ltd

Project Environment, Health & Safety Department

Doc no.: NMIA\INT\HRA\05
Revision No.:00

Qualifications (Licenses/Work Permits)	Training (Completed/Required)	PPE Required for task (Helmets & Safety Shoes are mandatory)	Tools/Power tools (Chisel, Hammer, Grinder)	Area Illumination (Tower Lights, Pole lights)	Plant (Static & Mobile)	Necessary tools will be provided i.e Spanner, Hammers, Spade and Grinder	MATRIX	SEVERITY			
								1 Negligible	2 First Aid	3 < 2 days	4 Reportable
- Certified Electrician engaged, - Work Permits: HOT work Permit, Permit to work on Plant, Machinery, Work at Height (while maintenance) - EHS Induction to all - Job specific training for operators and Electrician.		Mandatory PPE's as per employer's requirement such as Safety Helmet, Reflective Jacket, Safety Shoes, Nose Mask, Ear Plug, Goggles			Static	Pole lights provided	1 Unlikely	Low 1	Low 2	Low 3	Medium 4
							2 Possible	Low 2	Low 4	Medium 6	Medium 8
							3 Very Likely	Low 3	Medium 6	High 9	High 12
							4 Certainly	Low 4	Medium 8	High 12	High 16

Person Preparing the Risk Assessment

Name - Sankar Narayan

Date 12/07/22

Signature [Signature]

Sensitivity: LNT Construction Internal Use



Navi Mumbai International Airport Pvt. Ltd

Project Environment, Health & Safety Department

Doc no.: NMIA\INT\HIRA\05
Revision No.:00

ACTIVITY		Crusher Operation		RISK Type of Harm	RISK RATING		CONTROLS	ACTION BY Person who will ensure this happens
Sl.No.	JOB STEP Break the Job Down into steps	POTENTIAL HAZARD What Can Harm You?			P X	S =		
1	Unloading the boulders into the dump hopper	- Vehicle fell inside the hopper during dumping - Boulders fell outside the hopper while unloading - Insufficient illumination during night - Hydraulic system failure during unloading - Lock pin not removed while unloading. - Use of Mobile phone - Dust Generation - Intoxication	- Run Over - Rear-End or Head-On Collisions. - Topping of vehicle - Dust Pollution	3	4	12	- Stopper provided in safe distance from the hopper - Speed limit is restricted to 10 km/ hr. - Safety Devices like Reverse horn, Horn, Mirror etc. are functioning. - Equipment fitness certification system is followed & Validation of Operator fitness is obtained. - Regular maintenance of equipment to done so that hydraulic system works properly. - Overloading should be strictly avoiding. Body height should be maintained proper and dumper capacity should be below mark. - Area shall be frequently cleaned of any stone /rock fallen from a plying dumper - Trained Flagman/signalman should be engaged at such area. - Proper illumination should be provided - Regular water sprinkling during crushing operation. - All workmen including visitors should have wear mandatory PPEs while working in Crusher plant. - Drink & drive should be prohibited in workplace. Regular alcohol testing should be done by concern person	Section In charge/ Site Engineer

Person Preparing the Risk Assessment

Name - Sankar Manojan

Date

Signature [Signature]



Navi Mumbai International Airport Pvt. Ltd
Project Environment, Health & Safety Department

Doc no.: NMIA\INT\HRA\05
Revision No.:00

2	Boulders feed to Jaw crusher to Surge hopper to cone (By Conveyor Operation)	- Rotating Belts - Fall of materials from conveyor - Dust Generation - Noise & Vibration	- Entanglement of body parts. - Hit Injuries - Health hazards	2 4 8	- All moving parts to be guarded and Work Permit system must be implemented while removing of any rotating part for maintenance purpose of Motors/Conveyors etc. - Pull cord / emergency stopper should be provided - Loose clothing must be avoided nearby moving/ rotating parts. - Person shall not be allowed to travel below conveyor while plant is operational. - Conveyor should be cover with water sprinkling during crushing operation. - Display cautionary, Mandatory and Informatory sign boards at designated location. - All workmen including visitors should have wear mandatory PPEs while working in Crusher plant. - Use Ear plugs or ear muffs if sound limit exceeds 85dB.	Section in charge/ Site Engineer
---	--	--	---	-------	---	----------------------------------

Person Preparing the Risk Assessment

Sensitivity: LNT Construction Internal Use

Name - Sankar Nayanar

Date 12/07/22

Signature [Signature]



Navi Mumbai International Airport Pvt. Ltd

Project Environment, Health & Safety Department

Doc no.: NMIA\LNT\HIRA\05
Revision No.:00

3	Heaping of Crushing Material by Loader/Excavator etc. Equipment	- Heavy Earth moving Machinery - Hydraulic system failure during unloading - Lock pin not removed while unloading - Insufficient illumination during night - Use of Mobile phone - Intoxication - Dust Generation	- Run Over - Rear-End or Head-On Collisions. - Toppling of vehicle - Dust Pollution	- Speed limit is restricted to 10 km/ hr. - Safety Devices like Reverse horn, Horn, Mirror etc. are functioning. - Equipment fitness certification system is followed & Validation of Operator fitness is obtained. - Regular maintenance of equipment to done so that hydraulic system works properly. - Overloading should be strictly avoiding. Body height should be maintained proper and dumper capacity should be below mark. - Area shall be frequently cleaned of any stone /rock fallen from a plying dumper - Trained Flagman/signalman should be engaged at such area. - Proper illumination should be provided - Regular water sprinkling during crushing operation. - All workmen including visitors should have wear mandatory PPEs while working in Crusher plant. - Drink & drive should be prohibited in workplace. Regular alcohol testing should be done by concern person	Section In charge/ Site Engineer
		1 4 3 2			

Person Preparing the Risk Assessment

Name - Santosh Nanavkar

Date 12/04/22

Signature [Signature]



Navvi Mumbai International Airport Pvt. Ltd
Project Environment, Health & Safety Department

Doc no.: NMIA\INT\HRA\05
Revision No.:00

4	Crusher Plant Maintenance	- Electrical works - Repairing of Motor - Removing of Conveyor belt. - Welding/ Gas Cutting - Oiling \Greasing	- Electrocution - Fall from Height - Fire - Land Pollution	3	4	12	• LOTO-lock out tag out permit system must be implemented for any maintenance or repair operations. • Provide RCCB for distribution boards & its monthly checking. • Use only IP55 DB for distribution. • Use HV rubber gloves during working for electrical lines. • SWP of plant Crusher Plant Operation should be implemented. • Safe work platform shall be provided for height work and safety harness should be use. • Workmen to be screened for working at height. • Adequate fall arrester arrangements to be made such as safety harness with Double lanyard, life line etc. • Welding and cutting hoses should be good condition. • Welding cable and cutting hoses should not mix-up. • Cylinders should be placed in trolley and positions to be maintained. • Mandatory PPE'S like leather Gloves, apron, proper face shield and mask to be used. • Use of fire bucket extinguisher in vicinity of welding/cutting work. • Hot work permit shall be taken before starting the work • Combustible material should be removed from the area and protect nearby combustible materials that cannot be moved • Use of funnel to fill the hydraulic / lubricating oil etc. • Contain the spillage by spill tray. • Oil soak Cotton waste shall be collected separately and disposed as per waste management plan.	Section In charge/ Site Engineer
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Person Preparing the Risk Assessment

Name - Sankar Narayan

Date 12/04/22

Signature [Signature]

Sensitivity: LNT Construction Internal Use



Navi Mumbai International Airport Pvt. Ltd

Project Environment, Health & Safety Department

Doc no.: NMIA\LNT\HRA\05
Revision No.:00

Sl. No.	Activity	Risk Rating	Control Measures	Responsible Person	Status
5	Weighbridge Operation	3	- Improper access - Poor Housekeeping - Fall of materials from dumpers - Toppling of vehicle - Rear-End or Head-On Collisions. - Slip and Trips	3	9
			- Access to the weighbridge should be simple and straightforward. - Handrails with clear signage should indicate where the weighbridge is and outline what drivers must do. - Traffic should always be controlled to ensure correct queuing. One-way traffic flow to be ensured to avoid confusion - Access barriers, traffic lights to be used as part of such a system to help control traffic flow, - Housekeeping need to be done regularly weighbridge surface should be kept clear of debris to avoid slips and trips.		
				Section In charge/ Site Engineer	
6	General	3	- Unauthorized Entry - Fire - Heavy wind (cyclone) - Extended work hours - Improper House keeping - Injury - Burn injuries - Loss of property - Fatigue - Person may Fall due to tripping from Scattering of materials, Improper laying of cables.	3	9
			- Security should be kept at entry and exit points to avoid unauthorized entry at Crusher Plant - Barrication provided to avoid unauthorized entry. - Don't smoke at plant premises. - Shut off engine when refueling. - When fueling ground the funnel to avoid static sparks. - Don't weld / cut nearby flammable materials. - Good housekeeping must be maintained. - Proper storage of oil & gas - Provide adequate fire extinguishers at oil & gas storage area and Hot works. - Work should be stopped during heavy wind and rain. - Operators are not allowed to work beyond 12 hrs. - Proper segregation of materials done, use of scrap bins/area/yard provided for various type of scraps.		
				Section In charge/ Site Engineer	

Person Preparing the Risk Assessment

Name - Sankar Narayan

Date 12/10/22

Signature

[Signature]



NIMI Mumbai International Airport Pvt. Ltd
Project Environment, Health & Safety Department

Ref: NMIL\INT\HIRA\05

The personnel listed below have been made aware of and understand the procedures, hazards and control measures outlined in this Risk Assessment. They will abide by the control measures outlined within this document, but not limited to. They have been instructed to report any accident/incident & Near Misses during work.

Sl.No.	Name	Id.No.	Signature	Sl.No.	Name	Id.No.	Signature
1	Kumaresan R	85899		11	Nandkumar	242607	
2	Sourav Naskar	137776		12	Ponnapan K	20045529	
3	Nitesh Kumar Mishra	20076888		13	Raj Kumar Kanoje	243883	
4	Sawant Shrikrishna Bhagwat	20098669		14			
5	Sankar Mani	20117118		15			
6	Ranganath Prasad Dwivedi	242659		16			
7	P G Pagare	241614		17			
8	Sinddamwar Ganesh Haridas	198075		18			
9	Ashok Kumar Shrivastav	20063261		19			
10	Pranab Palai	20165985		20			
TRAINING ACKNOWLEDGEMENT							
Toolbox talks given by ,		Site Engineer	Sinddamwar Ganesh, Ponnapan K, Nitesh Kumar Mishra, Sankar Mani, Pranab Palai,		Signature		Date
		Site Supervisor	Manoj Gudiva , Arvind , Venson				/ /
		Safety Officer/Representative	Md Rizwan , Jaskaran Singh				/ /

Person Preparing the Risk Assessment Name - Sankar Mani
Sensitivity: LNT Construction Internal Use

Signature [Signature]

Date/Time: 12/07/22 ; AM/PM



Navi Mumbai International Airport Project

Doc no.: NMIA\INT\HIRA\06
Revision No.:00

RISK ASSESSMENT

RA No.: LT/SR/8/006

Work Code	TI-SR/2022/001
Location of Work	South Runway
Work Activity/Task	Select Fill and GSB Activity
Duration of the activity	☐ day(s) ☐ Week(s) ☒ 6 Month(s) ☒ NIGHT
Date & time of activity being carried out	8:00 AM / 8:00 AM- 24 Hours

RISK ASSESSING TEAM

Sl.No.	Name	Designation	Signature
1	Mr. I Rajasekhar	Sr. Construction Manager	
2	Mr. Siva Raja	Construction Manager	
3	MR. Sarbeshwar Swain	Workmen Supervisor	

PERSONNEL DETAILS		EQUIPMENT/MATERIAL DETAILS		DOCUMENTATIONS	
No. of employees Required to do the work	20	Work Platforms/Access	NR	Crane/Operators Competency (If so attach document)	YES ☐ NO ☐ NA ☒
Occupations Trades/Skills required	Site- In charge, Site Engineer, Supervisor, Surveyor, Driver/Operator And unskilled worker, Electrician	Associated Hazards (Man/Machine/Environment)	Accidental: Fall, Trips, Cut, Noise, Vibration, Heat, Dust, Movement of Mobile plant and Equipment	Any other specific documents required	YES ☐ NO ☐ NA ☒
Qualifications (Licenses/Work Permits)	- For Drivers/Operators: Valid License + experience certificate - Electrician: License - Night work Permit	Tools/Power tools (Chisel, Hammer, Grinder)	Hammer, Crowbar, Auto level, peg rods		
		MATRIX		SEVERITY	
		Likelihood		1 Negligible 2 First Aid 3 < 2 days 4 Reportable	

S. Suresh

Date 30-08-22 Signature

Person Preparing the Risk Assessment Name -



Navi Mumbai International Airport Project

Doc no.: NMIA\INT\HRA\06
Revision No.:00

ACTIVITY SELECT FILL FILLING

Sl.No.	JOB STEP Break the Job Down into steps	POTENTIAL HAZARD What Can Harm You?	RISK Type of Harm	RISK RATING			CONTROLS What are you going to do to make the job as safe as possible	ACTION BY Person who will ensure this happens
				P x	S =	RR		
1	Survey work	• Hit by vehicle • Survey equipment Handling • Survey during adverse weather conditions • Use of paint • Continuous exposure to sun light • Threat from reptiles	• LTI • Cut injury • Eye irritation due to paint. • Heat related health issues. • Stings and bites	2	4	8	• Before commencing activity, TBT shall be conducted. • All required mandatory and job specific PPEs provided • Use the measuring staff which is made up of insulated material (fiber or wooden staff). • Drinking Water and umbrella with non-conductive handle shall be provided. • Lone working shall be avoided. • A trained and certified first-aiders shall be deployed with crew and a suitable means of transportation shall be available at all time.	Mr. Dilip Mishra Mr. Adhikrao Gore Mr. Sahil Darunde Mr. Abhishek Dey Mr. Sanatan Mete

Person Preparing the Risk Assessment

Name -

S. SHARMA

Date

30-08-22

Signature



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3	Dumping, Grading and Rolling	• Taking rest below parked equipment • Untrained and unauthorized operator • Fatigue • Reversing without a banks man • Fall of construction material on approach road.	3	4	12	• Before commencing activity, TBT shall be conducted • Prior to engaging any vehicles on site, it shall be inspected and fit for the purpose. • Defensive Driving Training shall be imparted for driver/Operator • Speed limit is restricted to 20 km/ hr. • As deemed necessary a proper route shall be identified highlighted by bollards. • Breakdown vehicles shall bear hazard / obstacle warning for the oncoming traffic. • Regular preventive maintenance of equipment will be conducted. • Overloading shall be strictly prohibited. • The access roads shall be kept clear from any obstacles. • Trained Flagman/signalman shall be engaged at hazardous areas (Dumping and Junctions) • Proper illumination shall be provided • Regular water sprinkling during operation. • Designated access/egress shall be marked and Zig-lag /Haphazard movements of vehicles shall be strictly prohibited. • All workmen/maintenance technicians shall be Inducted and provided with mandatory PPEs which shall be worn all time at site. • Regular monitoring of drivers and operators will be ensured to checked whether they are under the influence of alcohol while at work. Zero tolerance to such unsafe behaviors.	Mr. Shiv Raja, Mr. K Ramesh, Mr. Amol Savvashe, Mr Samir Swain, Mr. Subhendu Das, Mr. G Naveen
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S. SWARATA

Person Preparing the Risk Assessment Name -

Date 30-08-22

Signature



Navi Mumbai International Airport Project

Doc no.: NMIA\LT\HRA\07
Revision No.:00

RA No. - LT/SR/8/007

RISK ASSESSMENT

Work Code	TI-SR/2022/001
Location of Work	South Runway
Work Activity/Task	Box Culverts & Drain
Duration of the activity	☐ day(s) ☐ Week(s) ☒ 6 Month(s)
Date & time of activity being carried out	8:00 AM / 8:00 AM- 24 Hours ☒ DAY ☒ NIGHT

RISK ASSESSING TEAM

Sl.No.	Name	Designation	Signature
1	Mr. G.S Rao	Sr. Construction Manager	(Signature)
3	Mr. Pradeep Birla	Asst. Construction Manager	(Signature)

PERSONNEL DETAILS		EQUIPMENT/MATERIAL DETAILS		DOCUMENTATIONS	
No. of employees Required to do the work	500	Work Platforms/Access	NR	Crane/Operators Competency (If so attach document)	YES ☒ NO ☐ NA ☐
Occupations Trades/Skills required	Site- In charge, Site Engineer, Supervisor, Surveyor, Driver/Operator, skilled & unskilled worker	Associated Hazards (Man/Machine/Environment)	Accidental: Fall, Trips, Cut, Noise, Vibration, Heat, Dust, Movement of Mobile plant and Equipment	Any other specific documents required	YES ☒ NO ☐ NA ☐
Qualifications	Driving License for Driver, operator. Induction cards for	Tools/Power tools	Hammer, Crowbar, Auto level, Vibrator,	SEVERITY	

Person Preparing the Risk Assessment

Name - Pradeep Birla

Signature

Date/Time :

AM/PM



Navi Mumbai International Airport Project

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Revision No.:00

ACTIVITY Box Culverts & Drain

Sl.No. JOB STEP
Break the Job Down
into steps

POTENTIAL HAZARD
What Can Harm
You?

RISK

Type of Harm

RISK RATING

P x S = RR

CONTROLS

What are you going to do to make the job as safe as possible

ACTION BY
Person who
shall be ensure
this happens

- Before commencing activity, TBT shall be conducted.
- All required mandatory and job specific PPEs provided
- Use the measuring staff which is made up of insulated material (fiber or wooden staff).
- Drinking Water and umbrella with non-conductive handle shall be provided.
- Lone working shall be avoided.
- A trained and certified first-aiders shall be deployed with crew and a suitable means of transportation shall be available at all time.

Mr. Dilip
Mishra
Mr. Adhikrao
Gore
Mr. Sahil
Darunde
Mr. Abhishek
Dey
Mr. Sanatan
Mete

- Hit by vehicle
- Survey equipment Handling
- Survey during adverse weather conditions
- Use of paint
- Continuous exposure to sun light
- Threat from reptiles

LTI

Cut Injury

Eye Irritation due to paint.

Heat related health issues.

Stings and bites

2 4 8

Person Preparing the Risk Assessment

Name -

Signature

Date/Time

AM/PM



Navi Mumbai International Airport Project

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Revision No.:00

3.	Plain cement Concrete	- Unsafe Transportation - Concrete spillage over the road. - Exposed Rotating parts of Miller - Person standing between transit mixer and concrete boom placer - Extended working hours of operator	2	4	8	- Crush, - Hit by vehicle - Slippage of bike and land pollution - Entanglement Hazard - Fatigue	- As deemed necessary a proper route shall be identified highlighted by bollards. - Overloading shall be strictly prohibited - Revolution of back mixer drum should be 2 revolutions/ Min. - Concrete shall be loaded within the capacity of the mixer drum. - Always back chute shall be locked and cleaned properly before dispatching the vehicle from the loading or unloading point. - All rotating parts shall be properly guarded. - While placing the Transit Mixer with boom placer /concrete pump nobody shall be allowed to stand in between the TM and boom placer/concrete pump. - Prior to engaging any vehicles on site, it shall be inspected and fit for the purpose. - Flagman/ Helper shall guide the TM while placing with boom placer and concrete pump. - Before placing the vehicle, the operator shall be ensuring the surrounding of vehicle that no person is taking rest underneath the vehicle. - Ensure no worker shall be work beyond the prescribed limit for working hours as per laws - Ensure Job rotation for reducing fatigue. - All required mandatory and job specific PPEs provided	Mr. Nitin Thatte Mr. Hariharakumar Mr. Birla Mr. Ilyas

Person Preparing the Risk Assessment

Name -

Pradeep Birla

Signature

Date/Time

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AM/PM



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\07
Revision No.:00

• Shuttering

- Fall of shutters
- Failure of Lifting equipment
- Injury due to sharp edges/nails in old materials
- Fall of a person during fixing of shuttering
- Collapse of staging
- Fire due to shuttering oil used/ contact with any igniting material

- Fractures
- strains and sprains
- Cut injury to hand
- Serious Injury
- Burn Injury

5.

- Shutters shall be lifted by tested lifting tools and tackles.
- Before commencing activity, TBT shall be conducted
- Prior to engaging any vehicles on site, it shall be inspected and fit for the purpose
- Tagline shall be used for shifting of shuttering material.
- No worker shall be allowed below the suspended load.
- Crane shall be deployed after certification by a competent person.
- All the tools, tackles and accessories shall be inspected before taking into use.
- Crane shall be position in compacted & levelled ground.
- Avoid handling the material with a sharp edge side.
- Remove nails from shutters before reuse
- Stack & secure the shutters properly
- Provided working platform with handrail & mid rail
- Before erection, secured the shuttering.
- Barricade the area & display warning sign.
- Lifeline shall be provided where anchoring is not possible to rigid structure
- Standard method of staging shall be adopted.
- Use of full body harness with double lanyard shall be ensured
- Staging material shall be tied to fixed structure by using a tie member

Mr. Nitin
Thatte
Mr.
Harishakumar
Mr. Birla
Mr. Ilyas

Person Preparing the Risk Assessment

Name -

Parthiv Patel

Signature

Date/Time

/ /

AM/PM



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HRA\07
Revision No.:00

7	De-shuttering	• Fall of shutters • Failure of Lifting equipment • Injury due to sharp edges/nails in old materials • Fall of a person during fixing of shuttering • Collapse of staging • Fire due to shuttering oil used/ contact with any igniting material	• Fractures strains and sprains • Cut Injury to hand • Serious Injury • Burn Injury	3	4	12	• Shutters shall be dismantled by tested lifting tools and tackles. • Tagline shall be used for shifting of shuttering material. • No worker shall be allowed below the suspended load. • Crane shall be deployed after certification by a competent person • All the tools, tackles and accessories shall be inspected before taking into use. • Crane shall be position in compacted & levelled ground. • Avoid handling the material with a sharp edge side. • Provided working platform with handrail & mid rail • Barricade the area & display warning sign. • Lifeline shall be provided where anchoring is not possible to rigid structure • Standard method of staging shall be adopted. • Use of full body harness with double lanyard shall be ensured	Mr. Nitin Thatte Mr. Harharakumar Mr. Birla Mr. Ilyas
8	Nature Effects	Rain and wind	• Collapse of temporary structure causing Serious Injury.	2	4	8	• Work should be carried out in the presence of competent person. • Scaffold shall be inspected by authorized Inspector after wind • Weather forecast to be updated and decision to be made. • Movement and excavation at waterlogged area shall be avoided.	Mr. Nitin Thatte Mr. Harharakumar Mr. Birla Mr. Ilyas

Person Preparing the Risk Assessment

Name -

Signature

Date/Time :

AM/PM



Navi Mumbai International Airport Project

Doc no.: NMIA\LN\HIRA\07
Revision No.:00

To be completed prior to the commencement of the work activity/Task

The personnel listed below have been made aware of and understand the procedures, hazards and control measures outlined in this Risk Assessment. They shall abide by the control measures outlined within this document, but not limited to. They have been instructed to report any accident/incident & Near Misses during work.

Sl.No.	Name	Id.No.	Signature	Sl.No.	Name	Id.No.	Signature
1	Pradeep Bink	20041900		07			
2	GOWTHAM	20193430		08			
3				09			
4				10			
5				11			
6				12			

TRAINING ACKNOWLEDGEMENT		Name	Signature	Date
Toolbox talks given by :	Site Engineer	Pradeep Bink		/ /
	Site Supervisor			/ /
	Safety Officer/Representative			/ /

Person Preparing the Risk Assessment

Name -

Signature

Date/Time :

AM/PM



Navi Mumbai International Airport Pvt. Ltd
Project Environment, Health & Safety Department

Doc no.: NMIA\LNT\HIRA\08
Revision No.:00

RA No. LT/HMP/11/008

Work Code	TI-HMP/2022/002		
Location of Work	F-11 Batching Plant & WMM Plant Erection works		
Work Activity/Task	Batching Plant & WMM Plant Erection		
Duration of the activity	☐ day(s)	☐ Week(s)	☐ Month(s)
Date & time of activity being carried out	08:00 AM / 08:00 PM -12:00 Hours		
	☐ DAY	☒ NIGHT	

RISK ASSESSMENT

RISK ASSESSING TEAM

Sl.No.	Name	Designation	Signature
1	Mr. Soumen	Construction Manager	
2	Mr. Multa Mukhtar	Site Engineer	
3	Mr. Shashidhar Tripathy	Site Engineer	
4	Mr. Mohan Verma	WMM Plant Operator/Supervisor	
5	Mr. Indar Bhan Singh	Batching Plant Operator/ Supervisor	

PERSONNEL DETAILS

No. of employees
Required to do the work

10

EQUIPMENT/MATERIAL DETAILS

Work Platforms/Access

All access provided, Ladders etc.

DOCUMENTATIONS

Crane/Operators
Competency
(If so attach document)

YES

☒

NO

☐

NA

☐

Person Preparing the Risk Assessment

Sensitivity: LNT Construction Internal Use

Name - G. Soumen

Date 11/11/22

Signature



Navi Mumbai International Airport Pvt. Ltd
Project Environment, Health & Safety Department

Doc no.: NMIA\LNT\HIRA\08
Revision No.:00

ACTIVITY		Crusher Operation		RISK Type of Harm	RISK RATING			CONTROLS What are you going to do to make the job as safe as possible	ACTION BY Person who will ensure this happens
Sl.No.	JOB STEP Break the Job Down into steps	POTENTIAL HAZARD What Can Harm You?	P		S	R			

Person Preparing the Risk Assessment

Name- G. Saurer

Date 11/11/22

Signature [Signature]



Navi Mumbai International Airport Pvt. Ltd
Project Environment, Health & Safety Department

Doc no.: NMIA\LNT\HIRA\08
Revision No.:00

Sl.No.	Name	Id.No.	Signature	Sl.No.	Name	Id.No.	Signature
2	General			3	Unauthorized Entry		
					• Fire		
					• Heavy wind (cyclone)		
					• Extended work hours		
					• Improper House keeping		
					• Injury		
					• Burn injuries		
					• Loss of property		
					• Fatigue		
					• Person may Fall due to tripping from Scattering of materials, Improper laying of cables.		
				3			
				3			
				9			
					• Security should be kept at entry and exit points to avoid unauthorized entry at Crusher Plant		
					• Barricade provided to avoid unauthorized entry.		
					• Don't smoke at plant premises.		
					-Shut off engine when refueling.		
					-When fueling ground the funnel to avoid static sparks.		
					-Don't weld / cut nearby flammable materials.		
					-Good housekeeping must be maintained.		
					-Proper storage of oil & gas		
					-Provide adequate fire extinguishers at oil & gas storage area and Hot works.		
					• Work should be stopped during heavy wind and rain.		
					• Operators are not allowed to work beyond 12 hrs.		
					• Proper segregation of materials done, use of scrap bins/area/yard provided for various type of scraps.		

Section In charge/ Site Engineer

To be completed prior to the commencement of the work activity/Task

The personnel listed below have been made aware of and understand the procedures, hazards and control measures outlined in this Risk Assessment. They will abide by the control measures outlined within this document, but not limited to. They have been instructed to report any accident/incident & Near Misses during work.

Sl.No.	Name	Id.No.	Signature	Sl.No.	Name	Id.No.	Signature
1							
2							
3							
4							

Person Preparing the Risk Assessment

Name - G. Sauran

Date 11/11/22

Sensitivity: LNT Construction Internal Use

Signature

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Navi Mumbai International Airport Pvt. Ltd
Project Environment, Health & Safety Department

Doc no.: NMIA\LNT\HIRA\09
Revision No.:00

RA No. LT/HMP/02/009

RISK ASSESSMENT

Work Code	TI-HMP/2022/002		
Location of Work	F-11 Hot Mix Plant		
Work Activity/Task	Hot Mix Plant Erection		
Duration of the activity	☐ day(s)	☐ Week(s)	☒ DAY ☐ NIGHT
Date & time of activity being carried out	08:00 AM / 08:00 PM -12:00 Hours		

RISK ASSESSING TEAM

Sl.No.	Name	Designation	Signature
1	Mr. Soumen	Construction Manager	
2	Mr. Mulla Mukhtar	Site Engineer	
3	Mr. Amol Satpate	Supervisor	

PERSONNEL DETAILS		EQUIPMENT/MATERIAL DETAILS			DOCUMENTATIONS		
No. of employees Required to do the work	10	Work Platforms/Access	All access provided, Ladders etc.	Crane/Operators Competency (If so attach document)	YES	NO	NA
					☒	☐	☐

Person Preparing the Risk Assessment

Name - Soumen Mukhtar

Date - 05/08/23

Signature [Signature]



Navi Mumbai International Airport Pvt. Ltd **Project Environment, Health & Safety Department**

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Occupations Trades/Skills required	Associated Hazards (Man/Machine/Environment)	- Injury due to personnel due to overload / drop/trip/trike /fall of lifted material. - Injury due to damage lifting tools tackles, defective rigging. Or equipment failure. - Injury due to inadequate visibility, no communication between crane operator and signaler.	Any other specific documents required	YES. TPI Certificates of Crane and Lifting Tools and Tackles	NO	NA
For Erection Work – Site Engineer, Crane Operator, Rigger, Helper, Supervisor				☒	☐	☐
Qualifications (Licenses/Work Permits)	- Trained Crane Operator and Rigger - Work Permits: Lift Card Permit	Necessary tools will be provided i.e Spanner, Hammers, Spade and Grinder		MATRIX PROBABILITY (likelihood)		
Training (Completed/Required)	- EHS Induction to all - Job specific training for Erection crew	Pole lights provided (If required)	1 Unlikely	1 Low	2 Low	3 Low
PPE Required for task (Helmets & Safety Shoes are mandatory)	Mandatory PPE's as per employer's requirement such as Safety Helmet, Reflective Jacket, Safety Shoes, Nose Mask, Ear Plug, Goggles	Mobile Crane	2 Possible	2 Low	4 Low	6 Medium
			3 Very Likely	3 Low	6 Medium	9 High
			4 Certainly	4 Low	8 Medium	12 High

Person Preparing the Risk Assessment

Name _____

Date 05/02/2023

Signature _____

Sensitivity: LNT Construction Internal Use



Navi Mumbai International Airport Pvt. Ltd
Project Environment, Health & Safety Department

Doc no.: NMIA\LNT\HIRA\09
Revision No.:00

ACTIVITY		Crusher Operation		RISK		RISK RATING		CONTROLS		ACTION BY	
Sl.No.	JOB STEP	POTENTIAL HAZARD	RISK	P	S	X	R	What are you going to do to make the job as safe as possible	Person who will ensure this happens		
	Break the Job Down Into steps	What Can Harm You?	Type of Harm								

Person Preparing the Risk Assessment

Name - Santosh

Date 25/02/23

Signature [Signature]



Navi Mumbai International Airport Pvt. Ltd

Project Environment, Health & Safety Department

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Revision No.:00

1	Heavy lifting/use of cranes	- Overloading - Reversing/overturn - Fast movement - Outrigger movement - Crane being defective - Material fail - Hook failure - Crane collapse	3	3	9	Personnel injury, death, fatalities, loss of assets, accident, and collision.	- Only authorized workmen should be allowed while erection. Erection area shall be barricaded & warning boards to be displayed. - Pre-Deployment inspection to be carried out & Ensure Green card for crane. - Before starting the work TBT to be conducted, Briefing is provided to all workmen about day lifting plan & load details. Only Authorized operators should be allowed. - Verifying the weight of an object to be lifted against SWL of the crane with respect to boom length & horizontal angle by referring manufacturer load chart. - Trained Riggers, signal man and lifting supervisors are deployed. Provision of Tag line to control the load oscillations. Usage of right slinging method (hitches) with right lifting gears. - Crane hook must have hook latch. Over load, over hoist limit switch is provided and checked for effective functioning. Daily inspection by the operator. Lift Card should be taken before doing any lifting activity. - Sling and d shackle should have TC. Prior inspection to be carried out for slings and lifting tools, check for damage. Color coding of lifting tools and tackles shall be follow - Two tag lines shall be provided to stable the load while load lifting & shifting	Mr. Soumen, Mr. Mulla Mukhtar
---	-----------------------------	---	---	---	---	---	--	----------------------------------

Person Preparing the Risk Assessment

Sensitivity: LNT Construction Internal Use

Name - _____

Date 05/02/23

Signature _____



Navi Mumbai International Airport Pvt. Ltd

Project Environment, Health & Safety Department

Doc no.: NMIA\LNT\HRA\09
Revision No.:00

Sl.No.	Name	Id.No.	Signature	SL.No.	Name	Id.No.	Signature	Section in charge/ Site Engineer
2	General			3		3		
	- Unauthorized Entry - Fire - Heavy wind (cyclone) - Extended work hours - Improper House keeping				- Injury - Burn injuries - Loss of property - Fatigue - Person may Fall due to tripping from Scattering of materials, Improper laying of cables.			
					- Security should be kept at entry and exit points to avoid unauthorized entry at Crusher Plant - Barricade provided to avoid unauthorized entry. - Don't smoke at plant premises. - Shut off engine when refuelling. - When fuelling ground the funnel to avoid static sparks. - Don't weld / cut nearby flammable materials. - Good housekeeping must be maintained. - Proper storage of oil & gas - Provide adequate fire extinguishers at oil & gas storage area and Hot works. - Work should be stopped during heavy wind and rain. - Operators are not allowed to work beyond 12 hrs. - Proper segregation of materials done, use of scrap bins/area/yard provided for various type of scraps.			

To be completed prior to the commencement of the work activity/Task

The personnel listed below have been made aware of and understand the procedures, hazards and control measures outlined in this Risk Assessment. They will abide by the control measures outlined within this document, but not limited to. They have been instructed to report any accident/incident & Near Misses during work.

Sl.No.	Name	Id.No.	Signature	SL.No.	Name	Id.No.	Signature
1	Sud- Behem	20202020					
2							
3							
4							

Person Preparing the Risk Assessment

Name - Sud- Behem

Date - 05/02/23

Signature -



Navi Mumbai International Airport Pvt. Ltd
Project Environment, Health & Safety Department

Doc no.: NMIA\INT\HIRA\09
Revision No.:00

TRAINING ACKNOWLEDGEMENT			Name	Signature	Date
Toolbox talks given by ;	Site Engineer		<i>Amol Sahu</i>	<i>[Signature]</i>	/ /
	Site Supervisor		<i>Amol Sahu</i>	<i>[Signature]</i>	/ /
	Safety Officer/Representative			<i>[Signature]</i>	/ /

Person Preparing the Risk Assessment

Sensitivity: LNT Construction Internal Use

Name - _____

Date *05/02/23*

Signature _____



RISK ASSESSMENT

Work Code	Location of Work	Work Activity/Task	Duration of the activity	Date & time of activity being carried out
TI-GEN/2022/03	All Site	Welding & Gas Cutting	☐ _____ day(s)	8:00 AM / 8:00 AMM- 24 Hours

Date & time of activity being carried out
8:00 AM / 8:00 AMM- 24 Hours

Signature

p&M Foreman

Mr. N.B Goregaonkar

PPE Mandatory PPE's as per employer requirement such

Plant

PROBABILITY
(Likelihood)

SEVERITY

Any other specific documents required

	YES	NO	NA
1. Do you have a current driver's license?			
2. Do you have a current vehicle registration?			
3. Do you have a current insurance policy?			
4. Do you have a current title?			
5. Do you have a current sales tax certificate?			
6. Do you have a current license plate?			
7. Do you have a current title transfer fee?			
8. Do you have a current title transfer tax?			
9. Do you have a current title transfer fee and tax?			
10. Do you have a current title transfer fee and tax and title transfer fee and tax?			

	YES	NO	NA
--	------------	-----------	-----------

NA

N/A

Date 08/07/22

Signature 

Page 1 of 5



Navi Mumbai International Airport Project

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Revision No.:00

Required for task (Helmets & Safety Shoes are mandatory)	safety helmet, reflective jacket, safety shoe.	(Static & Mobile)	4 Certainly	Low 4	Medium 8	High 12	High 16
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ACTIVITY Crane Operation

Person Preparing the Risk Assessment

Name - Sandeep Verma

Date 08/04/22

Signature

Sensitivity: LNT Construction Internal Use



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\12
Revision No.:00

2	Gas cutting	• Fall of cylinder while unloading / carrying to the site • Rolling the cylinders on the ground • Leakage of gas cylinder near the valve • Gas cutting hose laid in haphazard manner • Blocking of gas cutting nozzle • Damaged hose • Sparks falling on combustible materials • Failure to use PPEs	• LTI • Explosion • Damaged to cylinder and its valve • Tripping hazard • Fire hazard • Flash back • Backfire • Arm/eye injury • Fatal	3	4	12	• Use of tyre / coir mat for unloading the cylinders from the vehicle. • Use cylinder trolley to transport to site. • Keep the leaking cylinder well away from the site, inform dealer to take away immediately. • Gas hose is not laid on the pathway. • Flashback arrestors is fitted in torch & cylinder • Store of filled & empty cylinders in separately Stored upright • Keeping the cylinders stock away from combustible materials • Condition of hoses is checked frequently. Damaged or tempered hoses are replaced then & there • Appropriate PPE's to be used
							• Welding and gas cutting to be done as per the need of the site in well ventilated place. • Welding butts are stored in small box and returned to store dept.
3	General	• Generation of toxic gases, fumes etc. • Throwing of welding butts at site	• Air Pollution • Land Pollution	2	2	4	

To be completed prior to the commencement of the work activity/Task

The personnel listed below have been made aware of and understand the procedures, hazards and control measures outlined in this Risk Assessment. They will abide by the control measures outlined within this document, but not limited to. They have been instructed to report any accident/incident & Near Misses during work.

Sl.No.	Name	P S.No.	Signature	Sl.No.	Name	P S.No.	Signature
1				11			
2				12			

Person Preparing the Risk Assessment Name - Sanjay ram Date 08/04/22 Signature [Signature]



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\12
Revision No.:00

Sl.No.	JOB STEP Break the Job Down Into steps	POTENTIAL HAZARD What Can Harm You?	RISK Type of Harm	RISK RATING			CONTROLS What are you going to do to make the job as safe as possible	ACTION BY Person who will ensure this happens
				P	X	S =		
1	Welding	- Loose cable - Improper earthing of the parts to be welded. - Machine overheating - Worn out / defective welding holders - Cables lying on access - Welding fumes generation - Sparks falling on combustible materials - Failure to use PPEs	- LTI - Overheating & burning of welding cables - Electrocution - Machine burnout - Tripping hazard - Health Hazard - Fire hazard	3	3	9	- Cable is checked for its tightness by the welder / helper before starting the job - Return earth is given through the welding lead only and no rebar to be used for return path. - All electrical connection is routed through RCCB. - Double earthing is provided. - Welding holders is replaced when found damaged. - HSE induction is given to workers, supervisors. - Experienced and trained welder is allowed for the welding job. - Cable routing is done away from the pathway. - Welding is performed in open or well-ventilated place. It is to be carried out along the wind direction - Welding cable should not be laid over electrical cable and gas cutting hose.	Site Engineer

Person Preparing the Risk Assessment

Name -

Sahay

Date

08/04/22

Signature

[Signature]

Sensitivity: LNT Construction Internal Use



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\12
Revision No.:00

	3	4	5	13	14	15	Name	Signature	Date
TRAINING ACKNOWLEDGEMENT									
Toolbox talks given by:							Site Engineer		
							Site Supervisor		

Person Preparing the Risk Assessment Name - Devin Kumar Date 08/08/22 Signature [Signature]



avi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\15
Revision No.:00

RA No.: LT/CO/15

RISK ASSESSMENT

Work Code: TI-GEN/2022/06
Location of Work: All Site
Work Activity/Task: Crane Operation
Duration of the activity: ☐ day(s) ☐ Week(s) ☒ 24 Month(s)
Date & time of activity being carried out: 8:00 AM / 8:00 AMM- 24 Hours ☒ DAY ☐ NIGHT

RISK ASSESSING TEAM

Sl.No.	Name	Designation	Signature
1	Mr. Soumen G	P&M Manager	<i>[Signature]</i>
2	Mr. Sudipta Ghosh	Sr. Construction Manager – P&M	
3	Mr. Kabal Singh	Crane Operator	<i>[Signature]</i>

PERSONNEL DETAILS

No. of employees Required to do the work: 15

Occupations: Site-In charge, Site Engineer, Supervisor, Driver/Operator, And unskilled worker, Electrician

Qualifications (Licenses/Work Permits):

- For Drivers/Operators: Valid License + experience certificate
- Electrician: License
- EHS Induction
- Job Specific Training for workmen crew

Training (Completed/Required)

EQUIPMENT/MATERIAL DETAILS

Work Platforms/Access: NR

Associated Hazards (Man/Machine/Environment)

Tools/Power tools (Chisel, Hammer, Grinder)

Area Illumination (Tower Lights, Pole lights)

DOCUMENTATIONS

Crane/Operators Competency (If so attach document): YES ☐ NO ☐ NA ☒

Any other specific documents required: YES ☐ NO ☐ NA ☒

MATRIX

PROBABILITY (Likelihood)		SEVERITY			
1 Unlikely	2 Possible	1 Negligible	2 First Aid	3 < 2 days	4 Reportable
Low 1	Low 2	Low 1	Low 2	Low 3	Medium 4
Medium 3	Medium 4	Medium 5	Medium 6	Medium 7	Medium 8

Person Preparing the Risk Assessment Name - Soumen

Date: 08/07/22

Signature: *[Signature]*

Sensitivity: LNT Construction Internal Use



1. LNT Mumbai International Airport Project

Doc no.: NMIA\LNT\HRA\15
Revision No.:00

PPE	Mandatory PPE's as per employer requirement such as safety helmet, reflective jacket, safety shoe.	Plant (Static & Mobile)	Very Likely 3	Low 3	Medium 6	High 9	High 12
Required for task (Helmets & Safety Shoes are mandatory)			4 Certainly	Low 4	Medium 8	High 12	High 16

ACTIVITY	Crane Operation	POTENTIAL HAZARD What Can Harm You?	RISK Type of Harm	RISK RATING P x S = RR	CONTROLS What are you going to do to make the job as safe as possible	ACTION BY Person who will ensure this happens
SL.No.	JOB STEP Break the Job Down into steps					
1	Pre-arrangement	• Soil / Road condition • Operating the Crane with Load at Slope • Presence of OH electrical lines in the approach • Parking the Crane at Slope	• LTI • Toppling of Mobile crane • Electric shock / Electrocutation	2 4 8	• Approach area development ensuring Compacting & Leveling to be done. • Pre-Inspection of Approach Road & Position area of Crane. • Crane with load at Slope is strictly prohibited. • For frequent operations goal post provision is made. • Trained Operator is deployed. • The Safe Bearing capacity of the soil is considered.	

Person Preparing the Risk Assessment Name - Suresh Date 08/08/22 Signature [Signature]



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\15
Revision No.:01

2	Lifting Operation	- Unauthorized Operation - Nonfunctioning of safety Device - Use of Mobile phone - Excessive working Hours - Inadequate illumination - Outriggers not fully extended / Supported - Defects in Lifting gears - Crane overloading - Wrong rigging practices - Failure to comply with legal requirements - Placing outrigger close to the excavation - Improper communication - Condition of man basket	• LTI • Fall of material • Struck against object • Crane Collapse • Crane toppling • Hit Injury • Fatal	3	4	12	- Only authorized operator to be allowed to operate the crane. - Prohibiting mobile phone usage by the crane operator & Signal man. - Operator to not be allowed to work for more than a shift. - System of providing Illumination of at least 52 Lux in practice. - ASLI, over hoist limit switch & -Boom Limit Switch are provided & checked for its function - Daily inspection by the Operator to be performed. - Weekly Maintenance by the P&M Engr - Provision of Tag line to control the load. - Extending the outriggers fully. Out rigger should rest on heavy planks - Positioning the outriggers min.2 m from the edge of an excavation / pit. - System of obtaining Test Certificate (TPI). - Monthly Inspection by P&M / EHS Dept. - Verifying the weight of an object to be lifted against the crane SWL (Safe Working Load) with respect to boom length and horizontal angle by referring manufacturer chart. - Pre assessing the erection methodology including rigging pattern - Trained Riggers to be deployed. - Restriction of Crane movement with load is limited to max. 200m - Ensure man basket should be inspected by competent person and have valid TPI certificate. - Ensure load should be lifted with all lifting hooks with requisite capacity of slings/lifting belts.
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Person Preparing the Risk Assessment Name - Saurav

Date 08/07/22

Signature [Signature]

Sensitivity: LNT Construction Internal Use



Navi Mumbai International Airport Project

Doc no.: NMIA/LNT/HIRA/1.5
Revision No.:01

3	General	Noise • CO2 Emission from Cranes • Waste oil (Lubrication & Engine Oil) • Discarded parts	Noise Pollution • Air Pollution • Land Pollution	2	2	4	Weekly maintenance by the P&M Engr • Pollution control check: and its recommended maintenance procedures. • Collected and handed over the disposing agency. • Discarded parts collected at P&M workshop
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to be completed prior to the commencement of the work activity/Task

he personnel listed below have been made aware of and understand the procedures, hazards and control measures out lined in this Risk Assessment. They will abide by the control measures outlined within this document, but not limited to. They have been instructed to report any accident/incident & Near Misses during work.

Sl.No.	Name	P S. No.	Signature	Sl.No.	Name	P S. No.	Signature
1				11			
2				12			
3				13			
4				14			
5				15			

TRAINING ACKNOWLEDGEMENT

Name		Signature	Date
Site Engineer			/ /
Site Supervisor			/ /

Toolbox talks given by;

Person Preparing the Risk Assessment Name - Saumen

Date 08/08/22

Signature [Signature]



Navi Mumbai International Airport Pvt. Ltd
Project Environment, Health & Safety Department

Doc no.: NIMIA\LNT\HIRA\21
Revision No.:00

RA No. LT/QAQC/021

Work Code: TI-QC/2022/02
Location of Work: All Site
Work Activity/Task: Plate Load Test
Duration of the activity: ☐ day(s)
Date & time of activity being carried out: 08:00 AM / 6:00 PM -10: 00 Hours

Month(s) ☐ DAY ☒ NIGHT

RISK ASSESSMENT

RISK ASSESSING TEAM

Sl.No.	Name	Designation	Signature
1	P. Shashi chandra	C.A/QC Manager	
2	C. Rajesh	C.A/QC Engineer	

PERSONNEL DETAILS

No. of employees Required to do the work: 15

Occupations
Trades/Skills required

For Plate load test – Site Engineer, QA/QC Engineer, Lab technician, Excavator Operator, Driver, Helper, Supervisor

EQUIPMENT/MATERIAL DETAILS

Work Platforms/Access

All access provided

- Accidental Hazards (Fall, Trips , stuck , Cut etc.)
- Physical Hazards Noise, Vibration, Heat, Radiation
- Chemical Hazards Dust

Associated Hazards
(Man/Machine/Environment)

Crane/Operators Competency (If so attach document)

YES ☐ NO ☐ NA ☐

Any other specific documents required

YES ☐ NO ☐ NA ☐

Person Preparing the Risk Assessment

Name - P. Shashi chandra

Date 11/05/22

Signature

Sensitivity: LNT Construction Internal Use



Navi Mumbai International Airport Pvt. Ltd

Project Environment, Health & Safety Department

Doc no.: NMIA\LNT\HIRA\21
Revision No.:00

		SEVERITY		MATRIX		PROBABILITY (Likelihood)
Qualifications (Licenses/Work Permits)	Authorized driver/Operator engaged, Work Permits: Work at Height (while maintenance)	1 Negligible	2 First Aid	3 < 2 days	4 Reportable	
Training (Completed/Required)	EHS Induction to all Job specific training for operators and Electrician.	Low 1	Low 2	Low 3	Medium 4	1 Unlikely
		Low 2	Low 4	Medium 6	Medium 8	
PPE Required for task (Helmets & Safety Shoes are mandatory)	Mandatory PPE's as per employer's requirement such as Safety Helmet, Reflective Jacket, Safety Shoes, Nose Mask, Ear Plug, Goggles	Low 3	Medium 6	High 9	High 12	3 Very Likely
		Low 4	Medium 8	High 12	High 16	4 Certainly

Necessary tools will be
provided i.e Spanner,
Hammers, Spad

Tools/Power tools
(Chisel, Hammer, Grinder)

Area Illumination
(Tower Lights, Pole lights)

Plant
(Static & Mobile)

Dumper, Excavator

ACTIVITY Plate Load Test

Person Preparing the Risk Assessment

Name -

P. Shashi Chandan

Date

11/05/22

Signature

[Signature]



Navi Mumbai International Airport Pvt. Ltd

Project Environment, Health & Safety Department

Doc no.: NMIA\LNT\HIRA\21
Revision No.:00

Sl.No.	JOB STEP Break the Job Down into steps	POTENTIAL HAZARD What Can Harm You?	RISK Type of Harm	RISK RATING			CONTROLS What are you going to do to make the job as safe as possible	ACTION BY Person who will ensure this happens
				P	X	S = R		
1	Mobilization of Personnel, Vehicles, Equipment & materials	• Vehicle/ Equipment movements • Adverse weather condition • Presence of flammable material • Manual Lifting • Fire. • Unsafe Driving • Poor visibility due to fog, dust, wind, rain • Road conditions • Insufficient clearance against overhead power lines resulting in contact with equipment during travel • Over speeding • Lack of proper inspection and maintenance.	• Personal Injury • Fatalities • Asset/facilities Damage • Heat Stress • Major /Minor injury to persons in close vicinity. • property damage	2	4	8	• Drivers and operators should possess a valid UAE driver license and operator license. • A valid certificate of mobile equipment, rigger, banks man from a third party should be available at the site. • Daily vehicle checklist to be conducted & available in the vehicle. • Safe journey management to be attached. • HSE induction for all the workers. • Appropriate signage must be displayed. • Mandatory & job-specific PPE and material management shall be ensured. • Make sure that everyone is involved in the manual lift and, those affected, are appropriately inducted. • The emergency procedure shall be communicated to all workforce • Fire Extinguisher & first aid box to be kept securely in the vehicle • Emergency standby vehicle shall be available at the site • Ensure competent Banks man for all vehicle movement • Secure loads and equipment properly with strap belts • The vehicle shall be reverse parked in the designated parking place at the site • Stop all vehicles if visibility is less than 100m. • Equipment handling shall comply with ISO 45001:2018/OSH/OSHAD CoP's & Standards. • All the crew must be provided mandatory PPE & worn all the time. • Ensure close and competent supervision. • Associated risk & control shall be communicated to the crew.	

Person Preparing the Risk Assessment

Sensitivity: LNT Construction Internal Use

Name - P. Shashu Chandha

Date 11/05/22

Signature



Navi Mumbai International Airport Pvt. Ltd

Project Environment, Health & Safety Department

Doc no.: NMIA\NNT\HRA\21
Revision No.:00

2	Manual Handling	• Back pain and back injuries. • Back pain and back injuries. • Fatigue. • Injury to neck, shoulders, arms or other body parts.	• Work to be accomplished by well trained and competent personnel • Adopt standard safe practice by conducting toolbox • Manual lifting does not exceed 20 kg • PPE to be used • Tools must be carried securely • Safety organizing manual handling tasks, with loads split into smaller ones, and proper rest periods provided. • Manual Handling practices shall comply with ISO 45001:2018/IOSH/OSHA/OSHA CoP's & Standards.
	Manual Lifting		

Person Preparing the Risk Assessment

Name -

Date 11/05/22

Signature

Sensitivity: LNT Construction Internal Use



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Project Environment, Health & Safety Department

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Revision No.:00

3	General	• Entanglement & material handling • Noise • Dust • Working in hot weather	• Property Damage. • Heat stress • Heatstroke • Major/Minor	2	3	6	• Materials must be secured at all times • Follow mechanical/ manual lifting procedure. • The work area must be clear free from any materials/obstructions. • Appropriate Mandatory PPE shall be worn by all personnel. • Use mechanical lifting where ever possible. • Use safe material handling methods. • All equipment, device or machinery with excessive noise must be enclosed where possible. • Appropriate signage must be displayed when / before entering the above areas. • All staff must wear the appropriate hearing protection when in and around identified excessive noise areas. • Continuous workplace supervision to identify any severe potential fatigue. • Spraying the water to control the dust from the stone. • TBT to be conducted before the task. • Mandatory eye protection must be worn by all personnel. • PPE (dust mask) must be made available. • Drink plenty of water-Isotonic • Provide shelters where workers can find shade & protection from the direct sunrise. • Ensure a work regimen where workers can be rotated, allowing short rest periods to prevent heat stress or heat stroke. • TBT to be conducted & all hazards associated discussed & each crew member responsibility to be defined and understood. • Provide adequate first-aid facility on-site and ventilated rest shelters
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To be completed prior to the commencement of the work activity/Task

The personnel listed below have been made aware of and understand the procedures, hazards and control measures outlined in this Risk Assessment. They will abide by the control measures outlined within this document, but not limited to. They have been instructed to report any accident/incident & Near Misses during work.

Sl.No.	Name	Id.No.	Signature	Sl.No.	Name	Id.No.	Signature
1							
2							
3							
4							
5							

Person Preparing the Risk Assessment

Name - P. Shashi Chandra

Date 11/05/22

Sensitivity: LNT Construction Internal Use

Signature



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\28
Revision No.:00

RA No.: LT/SR/28

RISK ASSESSMENT

TI-SR/2023/05

Work Code

Location of Work Concrete Drain Area Airside

Work Activity/Task Backfilling work of Concrete drain and /Box Culverts

Duration of the activity ☐ 1 day(s) ☒ 6 Month(s) ☒ DAY ☒ NIGHT

Date & time of activity being carried out 8:00 AM / 6:00 AM- 10 Hours

RISK ASSESSING TEAM

Sl.No.	Name	Designation	Signature
1	Mr. Amol Savvashe	Sr. Construction Manager	
2	Mr. Kshetrabashi Das	Sr. Engineer	
3	Mr. Piyush Sahoo	Workmen Supervisor	

PERSONNEL DETAILS		EQUIPMENT/MATERIAL DETAILS		DOCUMENTATIONS	
No. of employees Required to do the work	25	Work Platforms/Access	NR	Crane/Operators Competency (if so attach document)	YES ☐ NO ☐ NA ☒
Occupations Trades/Skills required	Site- In charge, Site Engineer, Supervisor, Surveyor, Driver/Operator And unskilled worker	Associated Hazards Man/Machine/Environment)	Accidentia : Noise, Heat, Dust, Movement of Equipment, traffic movement,	Any other specific documents required	YES ☐ NO ☐ NA ☒
Qualifications (Licenses/Work Permits)	- For Drivers/Operators: Valid License + experience certificate - Excavation Permit - EHS Induction - Job Specific Training for workmen crew - Defensive driving training for drivers	Tools/Power tools (Chisel, Hammer, Grinder)	Crowbar, Spade,	MATRIX	
Training (Completed/Required)		Area Illumination (Tower Lights, Pole lights)	N/A	SEVERITY	
		PROBABILITY (Likelihood)		SEVERITY	
		1 Unlikely	1 Negligible	1 First Aid	2 Reportable
		2 Possible	2 Low	2 Low	3 Medium
				3 Low	4 Medium
				4 Low	5 Medium
				5 Low	6 Medium
				6 Low	7 Medium
				7 Low	8 Medium

Date 18/04/23 Signature

Person Preparing the Risk Assessment Name

Sensitivity: LNT Construction Internal Use



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Doc no.: NMIA\LNT\HIRA\28
Revision No.:00

PPE	Mandatory PPE's as per employer requirement such as safety helmet, reflective jacket, safety shoe.	Plant (Static & Mobile)	- Dumpers /Tractor - Wheel Loader - Back hoe loader - Water Tanker	3 Very Likely	Low 5	Medium 8	High 9	High 12
Required for task (Helmets & Safety Shoes are mandatory)				4 Certainly	Low 5	Medium 8	High 12	High 16

Person Preparing the Risk Assessment Name -

Date 18/07/23

Signature

Sensitivity: LNT Construction Internal Use



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\28
Revision No.:00

ACTIVITY Road widening work near Entry Gate.

Sl.No.	JOB STEP Break the Job Down into steps	POTENTIAL HAZARD What Can Harm You?	RISK Type of Harm	RISK RATING			CONTROLS What are you going to do to make the job as safe as possible	ACTION BY Person who will ensure this happens
				P	X	S = RR		
1	Prepare work area	Unauthorized, untrained workers	- Cuts - Abrasions	3	3	9	- TBT to be conducted by the foreman/ site engineer before work commencement - Task-specific safety training to be provided - Authorized personnel to undertake the job - Erect warning signs to warn others for excavations or trenches and the associated risks. - Where pedestrian access is restricted by excavation or trenching works, provide safe and adequate marked walkways for use by pedestrians around the works. - New workers on site must check with Site Supervisor for locations of all excavations. - Any lifting tasks shall be carried out by persons physically capable to do so - No employee should be asked to carry loads above his capacity and in any case, no-load shall exceed 30kg per man. - Mass of the load is more than to be equally shared - Deploy enough number of personnel for lifting task depending upon the type of load to be lifted. - Use the easy mode of transport like trolley etc. - Load not to be lifted above your shoulder height - Keep your fingers away from pinch point while placing the load - Proper personal protective equipment's to be used while manual handling of materials and loads.	Mr. Amol Savvashe/ Mr. Kshetrabasi Das/Mr. Mahipat Pimpale
2	Manual Handling	- Incorrect lifting of loads - Sharp edges. - Placing the object while fingers underneath. - Slip/trip/fall (same level) - Unsafe posture	- Back Injuries - Cut to finger - Strain - Musculoskeletal injuries	3	3	9		Mr. Amol Savvashe/ Mr. Kshetrabasi Das/Mr. Mahipat Pimpale

Person Preparing the Risk Assessment Name -

Date 19/07/23

Signature



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\28
Revision No.:00

3	Dumping, levelling and Rolling	• Taking rest below parked equipment • Untrained and unauthorized operator • prolonged working hours of operator • Reversing without banks man / reverse horn • Spillage of construction material on service road	3	4	12	• Providing rest shelter to take rest. • Avoid prolonged working hours • Delay start device provided for the roller / grader. • Wheel chocks provided while parking equipment. • Operator fitness and experience certificate ensured. • Ensured through induction operator card. • Prolonged working activities is being identified and two operators is ensured. • Dynamic entry point shall be fixed to enter the vehicle and separate exit point shall be planned to make movement One way and avoid reversing. • Trained Bank men shall be deployed at all sites. • Overloading of vehicle is checked at weigh bridge & those vehicle are overloaded are not allow at site. • Defensive driving training shall be imparted.	Mr. Amol Savvashe/ Mr. Kshetrabasi Das/Mr. Mahipat Pimpale
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Person Preparing the Risk Assessment

Name -

Date 18/07/23

Signature

Sensitivity: LNT Construction Internal Use



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\28
Revision No.:00

4	Equipment movement on site. (Loading of Material)	- Unauthorized operation - Vehicle reversing - Deployment of unfit vehicles - Drunk & Drive - Use of Mobile phone - Intoxication - Dust Generation - Fire in equipment	3	4	12	- Injuries to workers and others: Traffic and moving plant - impact and crushing injuries - Hit by falling objects - Slips, trips and falls Access and egress Property damage	- All workers must wear mandatory PPEs while working at site - Before commencing activity, TBT shall be conducted - Prior to engaging any vehicles on site, it shall be inspected and fit for the purpose. - Provide clear access for vehicles to enter, exit and move on site. - Erect warning signs, barricades and traffic controllers if required; - The access roads shall be kept clear from any obstacles. - Trained Flagman/signalman shall be engaged at hazardous areas (Loading point and junctions) to direct vehicles and do not stand on the downhill side or directly behind a moving or unloading truck; - Make sure the operator has seen you if you are nearby; and make sure trucks can exit from sites when material loaded in that. - Regular water sprinkling during operation. - All workmen/maintenance technicians shall be inducted and provided with mandatory PPEs which shall be worn all time at site. - Regular monitoring of drivers and operators will be ensured to checked whether they are under the influence of alcohol while at work. Zero tolerance to such unsafe behaviors.	Mr. Amol Sawashe/ Mr. Kshetrabasi Das/Mr. Mahipat Pimpale
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Person Preparing the Risk Assessment Name -

Date 18/07/23

Signature



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Revision No.:00

5	General	- Unauthorized Entry - Fire - Heavy wind (cyclone) - Extended work hours - Improper House keeping	- Injury - Burn injuries - Loss of property - Fatigue - Person may Fall due to tripping from Scattering of materials.	3	3	9	- Unauthorized entry will be restricted at work area. - Barriation provided to avoid unauthorized entry. - Don't smoke at workplace premises. -Shut off engine when refueling. -Don't weld / cut nearby flammable materials. - Good housekeeping must be maintained. -Provide adequate fire extinguishers in equipment's. - Work shall be stopped during heavy wind and rain. - Operators are not allowed to work beyond 12 hrs.	Mr. Amol Savvashe/ Mr. Kshetrabasi Das/Mr. Mahipat Pimpale
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To be completed prior to the commencement of the work activity/Task

The personnel listed below have been made aware of and understand the procedures, hazards and control measures out lined in this Risk Assessment. They will abide by the control measures outlined within this document, but not limited to. They have been instructed to report any accident/incident & Near Misses during work.

Sl.No.	Name	P.S.No.	Signature	Sl.No.	Name	P.S.No.	Signature
1				11			
2				12			
3				13			
4				14			
5				15			

TRAINING ACKNOWLEDGEMENT

Toolbox talks given by;

Site Engineer

Site Supervisor

Name

Signature

Date

Person Preparing the Risk Assessment Name -

Date 08/04/23

Signature

Sensitivity: LNT Construction Internal Use



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\25
Revision No.:00

RISK ASSESSMENT

RA No.: LT/RW/12/25

Work Code TI-SR/2022/04

Location of Work Apron Pipe Drain (East Apron Site)

Work Activity/Task Pipe Drain Excavation work

Duration of the activity ☐ day(s) ☐ Week(s) ☐ 6 Month(s) ☒ DAY ☐ NIGHT

Date & time of activity being carried out 8:00 AM / 6:00 AM- 10 Hours

RISK ASSESSING TEAM

Sl.No.	Name	Designation	Signature
1	Mr. Abhijith Mathew	Sr. Construction Manager	<i>Abhijith Mathew</i>
2	Mr. KHANESH Kumar	Sr. Engineer	<i>Khanesh</i>
3	Mr. Piyush Sahoo	Workmen Supervisor	<i>Piyush Sahoo</i>

PERSONNEL DETAILS		EQUIPMENT/MATERIAL DETAILS		DOCUMENTATIONS	
No. of employees Required to do the work	12	Work Platforms/Access	NR	Crane/Operators Competency (If so attach document)	YES ☐ NO ☐ NA ☒
Occupations Trades/Skills required	Site- In charge, Site Engineer, Supervisor, Surveyor, Driver/Operator And unskilled worker	Associated Hazards Man/Machine/Environment	Accidental: Noise, Heat, Dust, Movement of Equipment, traffic movement,	Any other specific documents required	YES ☐ NO ☐ NA ☒

Qualifications (Licenses/Work Permits)	Training (Completed/Required)	Tools/Power tools (Chisel, Hammer, Grinder)	Area Illumination (Tower Lights, Pole lights)	Crowbar, Spade , Motor Pan	MATRIX		SEVERITY		
					PROBABILITY (Likelihood)	1 Unlikely	2 Possible	1 Negligible	2 First Aid
- For Drivers/Operators: - Valid License + experience certificate - Excavation Permit - EHS Induction - Job Specific Training for workmen crew - Defensive driving training for drivers									

Person Preparing the Risk Assessment Name - *Abhijith Mathew* Date *10/10/22* Signature *Abhijith Mathew*



Doc no.: NMIA\LNT\HIRA\22
Revision No.:00

	Site Supervisor			/
	Safety Officer/Representative			/

Person Preparing the Risk Assessment

Name -

Date 18/02/22

Signature:

Sensitivity: LNT Construction Internal Use



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\22
Revision No.:00

To be completed prior to the commencement of the work activity/Task

The personnel listed below have been made aware of and understand the procedures, hazards and control measures outlined in this Risk Assessment. They will abide by the control measures outlined within this document, but not limited to. They have been instructed to report any accident/incident & Near Misses during work.

Sl.No.	Name	Id.No.	Signature	Sl.No.	Name	Id.No.	Signature
1	Mr. Anand S L	20050215		11			
2	Mr. Saurab Iyengar	20144933		12			
3	Mr. Kiran B Koli			13			
4	Mr. Atanu Paul	20143910		14			
5	HARIKARANAN.G	20098605		15			
6				16			
7				17			
8				18			
9				19			
10				20			

TRAINING ACKNOWLEDGEMENT

Toolbox talks given by ;

Site Engineer

Mr. Saurab Iyengar, Mr. Kiran B Koli, Mr. Atanu Paul

Signature

Date

Person Preparing the Risk Assessment Name -



Date 16/03/22

Signature





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10	General	• Generation of Waste concrete/aggregates. • Electrical Consumption • Generation of wastewater • Tested Cube (Compressive test) • Generation of empty drums of Admixtures	Land Pollution/Flourafound Resource Depletion Water Pollution	2	3	6	1. waste concrete used for other small Construction work at camp/ office area 2. Aggregates reused in Pathways construction / making boundaries etc. 3. Safety Poles can be prepared. 4. No Idle Operation 5. Power factor is being monitored & maintained 6. Display of Awareness poster for energy Conservation	Mr. Guruprasad Mr. Anand SL Mr. Vijay M Mr. Jeevan f, Mr. Saurabh Iyenger Mr. Srinivas S
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Person Preparing the Risk Assessment

Name -

Anand.

Date 19/03/22

Signature

ASL

Sensitivity: LNT Construction Internal Use



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9	QAQC operation	- Critical Unsafe behavior of persons involved in the activity (e.g interaction with running equipment, taking rest in work area, bypassing safety devices, not following permit or LOTO system etc.) - Extended working hours of worker	- Result into injury or immense impact - Environmental impact - Fatigue causing incident resulting into serious injury	3	4	12	1. Ensure no worker is working beyond the prescribed limit for working hours as per laws 2. Ensure Job rotation for reducing fatigue. 3. Ensure use of PPE's for the worker/operators i.e safety shoes, safety helmet, reflective jacket and seat belt etc 4. Eat healthy diet that promotes longer-lasting energy. Avoid fatty and junk foods. 5. Adopt a steady exercise that includes cardiovascular muscle strengthening, and flexibility workouts. 6. Avoid excessive noise, dim lighting and toasty temperature. 7. Stay positive, not to be overwhelmed by negative circumstances	Mr. Guruprasad Mr. Ananad SL Mr. Vijay M Mr. Jeevan f, Mr. Saurabh Iyenger Mr. Srinivas S
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Name - Anand.

Date 18/03/22

Signature [Signature]

Person Preparing the Risk Assessment

Sensitivity: LNT Construction Internal Use



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\22

Revision No.:00

7	Handling of heavy lab equipment's and weight	Chance of falling of heavy lab equipment	Can cause minor / major injury to personnel.	3	3	9	- All Equipment's required to be shifted is fitted with wheel for smooth movement and proper approach ramp is prepared at all probable locations - Use of necessary PPE.	Mr. Guruprasad Mr. Ananad SL Mr. Vijay M Mr. Jeevan f, Mr. Saurabh Iyenger Mr. Srinivas S
8	Handling of Admixtures for trial mixes	Handling In use of Admixtures for trial mixes	Can cause skin problem i.e. dermatitis, skin burns				All job specific PPEs (hand gloves) has been given	Mr. Guruprasad Mr. Ananad SL Mr. Vijay M Mr. Jeevan f, Mr. Saurabh Iyenger Mr. Srinivas S

Person Preparing the Risk Assessment

Name -

Anand

Date

18/03/22

Signature

Sensitivity: LNT Construction Internal Use.



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\22
Revision No.:00

Working with Electrically operated Equipment's

- Loose and open connections causing electric shocks.
- Moving parts of the machine
- Loose Contact of battery terminal and fuse connection.
- Direct contact between positive and negative wires
- electrocution leading to burns or fatality.
- trapping of hands in moving parts leading to cut, amputation.
- Dangerous occurrence/Fire injury/Serious injury/Fatal

1. All connection is taken through SDB, proper plug top
2. Continuous cables are being used
3. All joints are made through male-female connector
4. All electrical equipment's to be properly earthed.
5. Connections should be routed through ELCB [30 mA]
6. Use of proper PPE's
7. All moving parts of equipment's is ergonomically protected (guarded).
8. LOTO system is in place
9. Use job specific PPEs (hand gloves)
10. Pre deployment fitness system(age bar limit & joint inspection by P&M and EHS Dept) is being followed.
11. To ensure fitness periodic inspection is being followed through Green card system being followed.
12. Auto electric physical safety checks for cable overheating, loose contacts and rubbing of wire should be done during pre-deployment and daily by operator.

Mr. Guruprasad
Mr. Anand SL
Mr. Vijay M
Mr. Jeevan f,
Mr. Saurabh
Iyenger
Mr. Srinivas S

Person Preparing the Risk Assessment

Name -

Anand

Date

18/03/22

Signature

Byl



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\22
Revision No.:00

4.	Concrete cube testing	cube testing by compression machine leading to flying particles	cube flakes may harm eye or body	2	3	6	1. Use of safety goggles along with other PPE's	Mr. Guruprasad Mr. Ananad SL Mr. Vijay M Mr. Jeevan f, Mr. Saurabh Iyenger Mr. Srinivas S
5.	Working with Hot air Oven	The hot temperature in Oven	Can cause burning to Personnel	3	3	9	1. Adequate training is given to the users 2. Use of High temperature resistant Hand gloves	Mr. Guruprasad Mr. Ananad SL Mr. Vijay M Mr. Jeevan f, Mr. Saurabh Iyenger Mr. Srinivas S

Person Preparing the Risk Assessment Name - Anand.

Date 18/03/22

Signature [Signature]

Sensitivity: LNT Construction Internal Use



Navi Mumbai International Airport Project

Doc no.: NMIA\LNT\HIRA\22
Revision No.:00

1.	Mixing of concrete in concrete mixer	- Electric shock due to wet conditions - Cleaning or maintenance of mixer in running condition leading to trapping of Body Parts into the revolving blades	Burns, may causes minor injury due to electrocution or fall on ground Cut, Amputation, fractures.	2	3	- Supply to be routed through ELCB (30 MA)/RCCB - Dual earthing of the equipment is done - Strict supervision - Area should be kept dry. - Use of Hand gloves, Safety shoes - LOTO system in place. - Cleaning activities carried out under strict supervision.	Mr. Guruprasad Mr. Ananad SL Mr. Vijay M Mr. Jeevan f, Mr. Saurabh lyenger Mr. Srinivas S
2.	Preparation of concrete cubes for testing	- Manual handling of wet concrete - Noise hazard due to vibrating table and concrete mixer	May cause skin diseases Can cause hearing loss	2	3	- Use of proper hand tools for cube preparation. - Use Personal protective equipment - Job rotation in regular interval - Use of suitable personal protective equipment's	Mr. Guruprasad Mr. Ananad SL Mr. Vijay M Mr. Jeevan f, Mr. Saurabh lyenger Mr. Srinivas S
3.	Handling and storing of cubes	During handling of cubes chance of falling of cube	May cause injuries to foot and Back Pain and other muscular skeletal disorders due to improper work posture	3	3	- Use of kinematic Principles of manual Handling. - Use of hand gloves & safety shoes.	Mr. Guruprasad Mr. Ananad SL Mr. Vijay M Mr. Jeevan f, Mr. Saurabh lyenger Mr. Srinivas S

Person Preparing the Risk Assessment

Name -

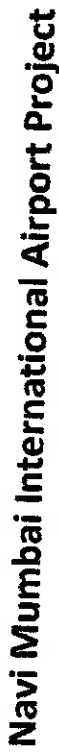
Anand.S.L

Date

18/03/22

Signature

ASL



Revision NO.: 00		Revision NO.: 00				
PPE	workmen crew	2	Low 2	Low 4	Medium 6	Medium 8
Required for task (Helmets & Safety Shoes are mandatory)	Mandatory PPE's as per employer requirement such as safety helmet, reflective jacket, safety shoe.	Possible	Low 3	Medium 6	High 9	High 12
		Very Likely	Low 4	Medium 8	High 12	High 16
		Certainly				

Person Preparing the Risk Assessment Name - Aravind. Date 29/03/22 Signature [Signature]

Sensitivity: LNT Construction Internal Use



4.3.1 - Environmental Aspects and Hazards Identification
A-2.2/11-47(19) - Initial Occupational Health & Safety Review/ Initial Environmental Review
Health Safety & Environment Management

RISK ASSESSMENT FOR ACTIVITY NAME:- SURVEYING ACTIVITY

Ref. No.: SPCPLUSHPL01
Assessment Dt.: 29.01.2026
Rev. Dt.:
Next Rev. Dt.:
Dept. / Sec./Project: Civil / CSD Addani, New Mumbai
Activity/Area/Equipment: Surveying activity
Assessor(s): Mr. Kundan Das
Subcontractor/Workers Representative: Mr. Rajesh Gaikwad
Reviewed By: Mr. Ganesh Mote

To Carry out an activity safely									
Final Risk Rating should be reduced to 10 or below. Exemption: Work Covered by Permit To Work (PTW) and Vehicle driving.									
S.NO	SUB-ACTIVITY NAME	HAZARD(S)/ASPECTS	DIRECT (Immediate)	Routine (R)/Non Routine (NR)	RISK/IMPACT	SCALE OF IMPACT/RISK	Legal/Other Requirement to be Complied (Yes/No)	Existing Control Measure(s) with mechanism from hierarchy of control for each identified hazard/Aspect	Risk/Inact Score Likelihood Severity
1	Manpower Deputation	Untrained worker	D	R	Personal Injury	Moderate	Y	1. Only instructed worker shall be deployed at the work place. 2. Give Tool Box Talk to all workers.	3 3 9
2	Shifting of instrument by manually	Slip & Fall of instrument, Sharp edges.	D	R	Personal Injury, Cut injury, Equipment damage	Moderate	Y	01. Train persons deployed for the work. 02. Required PPE's like cotton hand gloves etc use by workers. 03. Supervision for monitoring the work.	3 3 9
3	Set up (Assembly) and use of instrument	Sharp edge, material handling, up and trip hazards	D	R	Cut injury, Property damage	Moderate	Y	Only train person deployed for the handling of instruments, Use of PPE's.	3 2 6
4	Holding staff at points at outer side of building	Slip, Trip, uneven surface, Open edge	D	R	Personal Injury	Moderate	Y	1. Only train person deployed for the task. 2. Ensure person standing on plane surface with sufficient visibility & light. 3. Ensure use of PPE. Safety Shoes, helmet and reflective jacket.	3 3 9
5	Shifting of material and Making pillar for Temporary Bench Mark	Slip and Fall of material, sharp edges, material handling, dust, Heat stroke, Skin irritation due to contact and concrete material	D	R	Personal Injury, Skin Dermatitis	Moderate	Y	1. Safe access and egress provided to movement of worker. Required PPE's should be provided. Material should be stacked properly at work place. 2. Cement, bricks shall be carried from the source by using tractor trolley. Only inspected vehicle shall use for this purpose. Noise mask and other PPE's provided to all worker. 3. Safety measures should be taken as per MSDS as Use of Safety hand gloves, safety shoes and helmet as PPE.	3 3 9
Remember Hierarchy of control									PPE's
									Engineering Control Reduction Exclusion
									Substitution
									For the heat stroke, shelters shall be provided for the rest in summer season. Use proper PPE

Assessor's Reviewer's Signature
Mr. Ganesh Mote

Project Incharge Mr. Kishan Anand



Initial Occupational Health & Safety Review (IOSHR /HIRA)

IOSHR For Tower Crane Erection, (5 Ton)									
Location : Adani CSO Project 1A									
Assessor(s) name including Subcontractor/Workers Representative : Ankur Naik, Swapnil Rajesh Narayan Rao									
Date : 28.03.2023									
Revision No : 00									
Sl. No.	Task/Activity	Hazard/Identified Hazard	Severity (S)	Frequency (F)	Consequence (C)	Risk Rating (R)	Control Measures / Mitigation	Residual Risk Rating (R)	Action By
1	Manpower Deputation	Untrained worker, lack of skill awareness	D		Personal Injury	R	1. Only inducted worker shall be deputed at the work place. 2. Given Tool Box Talk to all workers.	3 3 9 Low	Nil
2	Shifting and Stacking of Tower Mast/ Cabin counter weight by forklift	Improper shifting of material, Improper communication	D		Personal Injury, Property damage	R	1. For proper shifting of material proper communication equipment should be provided for proper communication. 2. Only inspected tools & tackles to be used. 3. Operator having valid driving license. 4. Horn & Light of the crane should be in working condition. 5. Proper housekeeping should be maintained at work area. 6. Hand tools should be inspected for any damage before they are used & kept in proper location. 7. Banks men should be provided for giving signal. 8. No work and worker should be deployed under suspended load. 9. Work area should be barricaded to avoid unauthorized entry. 10. Only inspected (Third party) tools & tackles shall be used for erection work. 11. Crane shall be inspected before in use by PNM dept. 12. Work area shall be barricaded, restrict unauthorized entry. 13. Ground surface shall be levelled.	3 3 9 Low	1. Signal men should be guide property by use of guide rope. 2. Work area should be clean & clear.
3	Erection of Tower Mast by 80 T crane	1. Faulty hand tools 2. Swing of crane, Topple of crane, Fall of hanging material 3. Inappropriate rigging method 4. Uninspected PESH	D		1. Personal Injury, Property damage 2. Fall of material	R	1. Work supervisor to be check all hanging part fix property before removing removing sling 2. Work supervisor arrange training for workers before work procedure commence, including manual material handling. 3. Work shall be carried out under supervision. 4. Experience person/ Erector shall be carry out rigging & lifting operations.	3 2 6 Low	Nil

Dept./Sec./Project: CSD Admin, West Mumbai
Activity/Area/Equipment: Shuttering & Scaffolding for beam & slab / CSD
Assessor(s): Mr. Kishore, Mr. Niranjan, Mr. Kishore
Subcontractor/Workers Representative: Mr. Niranjan & Mr. PK Construction/ Mr. Rahul, Mr. Parag
Reviewed By: Gaurish Mehta

RISK ASSESSMENT FOR ACTIVITY NAME: Shuttering & Construction of Slab & Beam

Ref. No: SP/CLSD/05
Assessment Dt: 03.03.2026
Rev. Dt:
Next Rev.Dt:

S.NO	SUB-ACTIVITY NAME	HAZARD(S)/ASPECT(S)	DIRECT CONSEQUENCE (R)	Residual Risk (R)	SCALE OF IMPACT/RISK	Residual Risk (R)	Final Risk Rating should be reduced to 10 or below. Exemption: Work Covered by Permit To Work (PTW) and Vehicle driving.	Existing Control Measure(s) with mechanism from hierarchy of control for each identified hazard/aspect	Residual Risk	Severity	Final Risk	Additional Control Measure(s) required with mechanism from hierarchy of control for each identified hazard/aspect
1	Manpower Deployment	Untrained worker	D	R	Personal Injury	Medium	Yes	1. Only instructed worker shall be deployed at the work place. 2. Given Tool Box Talk to all workers & maintain a record.	3	3	3	1. Only if workers will be deployed (per work). 2. Only inspected tools, ladders, ladders shall be used for material shifting. 3. Valid documents & competent person certificate shall be available.
2	Shifting of scaffolding material	Fall of the material, fall of person	D	R	Personal Injury	Moderate	Yes	1. Trained people to be used for loading/unloading the scaffolding material. Use PPEs. 2. Scaffolding / standing / platform material should be stored properly. 3. Access and egress must be clear from obstacle. 4. Use mandatory PPE like Safety shoes, helmet, reflective jacket and gloves. Shoulder cast 3. 5. e.g. 6. Conduct JST for material shifting by crane & manual shifting. 7. Close supervision should be required.	3	3	3	1. Only if workers will be deployed (per work). 2. Only inspected tools, ladders, ladders shall be used for material shifting. 3. Valid documents & competent person certificate shall be available. 4. Material shall be free from obstruction & in proper level. 5. Good communication shall be required while shifting material by manual material & crane. 6. Material shall be unloaded near to work location.
3	Scaffolding frame shifting for shuttering	Fall of the material, fall of person	D	R	Personal Injury	Substantial	Yes	1. Trained people to be used for loading/unloading the scaffolding material. 2. Scaffolding erection area should be level. 3. Material should be inspected & remove damaged material. 4. Conduct JST & allow only trained person (competent) on work. 5. Scaffolding / standing / platform to be secured & provide hand railing to platform. 6. Scaffolding shall be clear from obstacle. 7. Use mandatory PPE like Safety shoes, helmet, reflective jacket, FRSH and gloves. 8. 8. Take required work permit 9. Conduct JST before work start.	4	3	12	1. Approved scaffolding system shall be available. 2. Good communication shall be required. 3. Authorized scaffolding shall be inspected scaffolding. 4. Use good quality platform / plants for erection scaffolding. 5. Material shall be secured properly & not obstructed to access.
3	Use of Ladder	Fall from Height (ladder)	D	R	Personal Injury	Medium	Yes	1. Use of standard certified ladder. 2. Angle of ladder shall be maintain 4:1 3. Ladder to rest against the stable surface. 4. Use PPEs 5. Use of PPE such as safety shoes, helmet, PVC hand gloves, safety goggles and shoulder pad. 6. Work shall be carried out by competent person under proper supervision of foreman / in charge. 7. Access and egress must be clear from obstacle. 8. Mandatory transport of scaffolding material under proper PPE. 9. Working area shall be clear from obstacle. 10. Only inspected tools shall be used. 11. Only trained person shall be allowed to work on any other m/c. 12. Use of Safety Goggles, Mask during any cutting. 13. Conduct JST for new worker. 14. Use proper tools. 15. Check hammer head properly fixed with handle before in use. 16. Maintain proper housekeeping. 17. Maintain proper housekeeping.	3	3	6	1. Ladder shall be at both the end. 2. Check defects of hammer face before in use. 3. Only skilled & trained person shall be deployed. 4. Hand barricading shall be provided for edge protection. 5. Supply cable shall be overhead & not free.
4	Making of Shuttering frame	Sharp object, Manually material, 3. Loading of material, 4. Loading of material, 5. Use of hammer, 6. Faying of nails	D	R	Personal Injury	Substantial	Yes	1. Proper housekeeping/standing of material. 2. Use head gloves & safety goggles. 3. Work safety as per MSDS should be followed and take a precaution as per MSDS. Take a special precaution against usage of oil. 4. Work shall be carried out by competent person under proper supervision of foreman / in charge. 5. Use of Safety Goggles. 6. Use of Safety Goggles. 7. Use of Safety Goggles. 8. Use of Safety Goggles. 9. Use of Safety Goggles. 10. Use of Safety Goggles. 11. Use of Safety Goggles. 12. Use of Safety Goggles.	4	3	12	1. Check defects of hammer face before in use. 2. Only skilled & trained person shall be deployed. 3. Hand barricading shall be provided for edge protection. 4. Supply cable shall be overhead & not free.
5	Application of shuttering oil to the shuttering frame.	Oil spill, oil on the frame, oil on the frame	D	R	Slip, tripping, fall, Personal Injury	Moderate	Yes	1. Proper housekeeping/standing of material. 2. Use head gloves & safety goggles. 3. Work safety as per MSDS should be followed and take a precaution as per MSDS. Take a special precaution against usage of oil. 4. Work shall be carried out by competent person under proper supervision of foreman / in charge. 5. Use of Safety Goggles. 6. Use of Safety Goggles. 7. Use of Safety Goggles. 8. Use of Safety Goggles. 9. Use of Safety Goggles. 10. Use of Safety Goggles. 11. Use of Safety Goggles. 12. Use of Safety Goggles.	3	3	9	1. Avoid work near of hot work area. 2. Use bucket for handling oil to avoid spillage.
6	Shuttering work	Fall of material / Collapse of shuttering frame, 2. Fall of material	D	R	Personal Injury, Eye Injury	Substantial	Yes	1. Use of standard certified ladder. 2. Angle of ladder shall be maintain 4:1 3. Ladder to rest against the stable surface. 4. Use PPEs 5. Use of PPE such as safety shoes, helmet, PVC hand gloves, safety goggles and shoulder pad. 6. Work shall be carried out by competent person under proper supervision of foreman / in charge. 7. Access and egress must be clear from obstacle. 8. Mandatory transport of scaffolding material under proper PPE. 9. Working area shall be clear from obstacle. 10. Only inspected tools shall be used. 11. Only trained person shall be allowed to work on any other m/c. 12. Use of Safety Goggles, Mask during any cutting. 13. Conduct JST for new worker. 14. Use proper tools. 15. Check hammer head properly fixed with handle before in use. 16. Maintain proper housekeeping. 17. Maintain proper housekeeping.	4	3	12	1. Check defects of hammer face before in use. 2. Only skilled & trained person shall be deployed. 3. Hand barricading shall be provided for edge protection. 4. Supply cable shall be overhead & not free.

7	Constructing work	1 Fall of material / Collapse of shoring 2 Flying of Nail	D	R	1 Personal injury Property damage 2 Personal injury	Moderate	Yes	1 Use of loose PPE, all tools used be inspected on before work for its damage 2 Before removal of items, required to be inspected for use. 3 Do not keep loose material 4 Below work area shall be barricade 5 Proper housekeeping/clearing of material in an isolated area. 6 Access and egress must be clear from obstacle. 7 Only train workers deployed for the work. 8 Work shall be carried out by competent person under proper supervision of foreman / Engineer. 9 All nail should be removed from site. Used nails keep in wooden boxes. 10 Use safety cage for eye protection & other PPE's should be used. 11 Take regular work permit and conduct TBT	3	3	1 Use proper lock 2 Check hammer head properly fixed with handle before it use. 3 Keep maintain good house keeping on work location. 4 Supply cable shall be overhead & joint free 5 Ensure proper platform for working to prevent slip, fall	3	2	6	
8	Placing of ply wood sheets	1 Fall of material / Breaking of ply/Fall of person	D	R	Personal injury	Substantial	Yes	1 Platform for ply wood shall be confirmed for its existence & same shall be supported by other wooden timber or couplet vertical & ledger 2 Adequate thickness of ply shall be used & same shall be tested against its suitability viz for load & same shall be confirmed by competent person 3 Proper standing of ply & movement on site during shoring shall be restricted & gathering of persons shall be avoided at one point to minimize the load on the ply 4 Ensure close supervision	3	12	1 Provide life line for safety belt anchoring 2 Do not move on loose ply & ensure ply shall be fixed by nails	4	2	6	
9	Work during dark hours	Darkness, fall of person, fall of machinery	D	R	Personal injury, Damage to property	Moderate	Yes	1 Night work shall be taken from concern engg and safety dept. 2 Illumination during dark hours. 3 Personnel shall be provided with 2 m height. No exposed electrical wire / anything & Close 4 Ensure that the Area is safe 5 Inspector should be available	3	3	1 Only authorized person shall handle supply cable, light, light post / cable shall be not obstruct material shifting	3	2	6	
Assessor's / Reviewer's Signature -		Mr. Ganesh Mose		Date		Location		Inspection		Engineering Control		Administrative Control		PPE's	
Project Incharge: Mr. Krishna Anand															

27/08/2024
27/08/2024

NEW ASSESSMENT FOR ACTIVITY MONITORING: Enforcement activity

To Carry out an activity safely

Original plate Return should be reduced to 10 or below. Exemption: Work Covered by Permit To Work (PTW) and Vehicle driving.

Final Risk Rating should be reduced to 10 or below. Example: Work Covered by Permit To Work (PTW) and Vehicle Driving.										
S.NO	SUB-ACTIVITY NAME	HAZARD(S)/ASPECTS	DIRECT (Individual)	ROUTINE (Person / Routine)	RISK/IMPACT	SCALE OF IMPACT/RISK	Legal & Other Requirements to be Complied (Year/No)	Existing Control Measure(s) with mechanism from Hierarchy of Control for each identified hazard/Aspect	Additional Control Measure(s) Required with mechanism from Hierarchy of Control for each identified hazard/Aspect	Final Risk/Impact Score
IOHSR										
1	Manpower Deputation	Untrained worker	D	R	Personal Injury	Moderate	Y	1. Only indicated worker shall be deputed at the work place. 2. Give Tool Box Talk to all workers.	Health checkup to be done as per Govt. rules of COVID-19, before deputation. TBT to be done before start of work	3 3 3
2	Transportation of Reinforcement Steel	a) Injury to personnel due to hit of protruding rods beyond the truck deck.	D	R	Personal Injury, Property damage	Moderate	Y	01. Provide red flags at the end of protruding rods. 02. Speed of the trailer/truck should be kept minimum. 03. Load material in stable condition	Access and egress should be marked and safe for person movement.	3 3 3
		b) Spillage of rods from the trailer bed c) Fall of the load	D	R	Personal Injury, Property damage body injury/ Property damage	Moderate	Y	1. Side stoppers should be ensured in the trailer truck. 2. Wooden planks shall be used between the bed of trailer and the rods. 3. Bars should be tied with trailer body	Regular maintenance of lifting tools and tackles.	3 3 3
3	Lifting/Unloading	a) Fall of the load b) Hitting of personnel due to way.	D	R	body injury/ Property damage body injury/ Property damage	Moderate	Y	1. The Crane capacity should be tested before lifting the load. 2. The weight being lifted should be less than crane capacity.	Regular maintenance of crane, tarama, lifting tools and tackles, guide rope provided.	2 3 3
		a) Fall of the steel bar b) Hitting of personnel due to way.	D	R	body injury/ Property damage body injury/ Property damage	Moderate	Y	1. The ends of the load should be tied with rope to control the sway. 2. The workman should use proper PPE.	1. The work should be carried out under proper supervision. 2. Stack material on sleeper after loading.	2 3 3
4	Placing of Reinforcement Steel	a) Fall of the steel bar b) Hitting of personnel due to way.	D	R	body injury/ Property damage body injury/ Property damage	Moderate	Y	1. The weight being lifted should be less than men capacity. 2. The workman should use proper PPE.	1. Follow SOP 2. The work should be carried out under proper supervision.	2 3 3
		a) Fall of the steel bar b) Hitting of personnel due to way.	D	R	body injury/ Property damage body injury/ Property damage	Moderate	Y	1. The ends of the load should be tied with rope to control the sway. 2. The workman should use proper PPE.	1. The work should be carried out under proper supervision. 2. Stack material on sleeper after loading.	2 3 3
5	Working at height	Slip, Trip, uneven surface, Fall of person, Fall of material	D	R	body injury	Moderate	Y	1. Only train person deployed for the task. 2. Ensure person standing on plane surface with sufficient visibility & light. 3. Ensure use of PPE. Safety Shoes, helmet and reflective jacket. 4. Ensure full protection such as vertical safety net & horizontal provided	1. Ensure FBSS use while working at height 2. Ensure use of Modified steel while working at outer edge.	3 3 3

To Carry out an activity safely									
Final Risk Rating should be reduced to 10 or below. Exemption: Work Covered by Permit To Work (PTW) and Vehicle driving.									
S.NO	SUB-ACTIVITY NAME	HAZARD(S)/ASPECTS	DIRECT (D)/Indirect (I)	Result (D/Direct Result) (R)	SEVERITY (S)	SCALE OF IMPACT/RISK	Legal & Other Requirements to be Complied (Yes/No)	Existing Control Measure(s) with mechanism from Hierarchy of Control for each identified hazard/aspect	Final Risk Rating
6	Operation of Reinforcement cutting & bending Machine	Failure of Safety Guard/ Incompetence of Guard/ Unattended Operator	D	R	body injury	Moderate	Y	1. Use of basic PPE. 2. Train worker in bar cutting operation. 3. Only authorised persons should carry out Cutting and bending operation. 4. Ensure proper housekeeping is maintained around work area. Scrap shall be segregated in isolated area. 5. Checking of Emergency switch, panel board, Starter, guard, earthing, RCCB	Severity 3 Likelihood 2 Final Risk Rating 6
7	Handling of Reinforcement bar/ Scrap	Hazardously scattered Reinforcement bar/ Scraps	D	R	Cut Injury Trip Hazard Log Injury	Moderate	Y	1. Use of basic PPE 2. Segregation of Reinforcement bar according to size and shape 3. Marking of First compartments for stacking of steel	Severity 3 Likelihood 2 Final Risk Rating 6
8	Work during dark hours	Darkness, fall of person, fall of machinery	D	R	body injury Property damage	Moderate	Y	1. Night work permit to be taken from concern engg and safety dept. 2. Ensure proper illumination during dark hours. 3. Electrical cable should lead min 2 m height. No exposed electrical wire.	Severity 3 Likelihood 2 Final Risk Rating 6
Remember Hierarchy of control									Final Risk Rating
Engineering Control Substitution Isolation									Final Risk Rating
Additional Control Measure(s) Required with mechanism from Hierarchy of Control for each identified hazard/aspect.									Final Risk Rating
1. Regular checks & obtaining fitness certificate of the cutting and bending machine. 2. Ensure display equipment inspection tag on cutting and bending machine. 3. Ensure display of bar size and quantity on cutting/bending machine and strictly follow the same. Only trained operators should operate. 1. Proper Housekeeping at Yard 2. Demarcated Pathway for movement of operators/Fitters 3. Avoid night operations 1. Route shall be illuminated.									Severity 2 Likelihood 2 Final Risk Rating 4

Assessor's Signature

Assessor's /Reviewer's Signature-Ganesh Mole

Project Incharge
K. Srinivas Aravali



4.3.1 - Environmental Aspects and Hazards Identification
A-2.2/11-47(B) - Initial Occupational Health & Safety Review
Health, Safety & Environment Management

RISK ASSESSMENT FOR PCC WORK

Dept. / Sec./Project: Civil / CSD Adani, Navi Mumbai										Ref. No.: SFCPLJSHPL/03 Assessment Dt.: 03.02.2028									
Activity/Area/Equipment: PCC work										Rev. Dt: Next Rev.Dt:									
Assessor(s): Mr. Kundan, Mr. Nerenra, Mr. Krishna																			
Subcontractor/Workers Representative - M.r. Anod																			
Reviewed By: Mr. Ganesh Mote																			
Final Risk Rating should be reduced to 10 or below. Exemption: Work Covered by Permit To Work (PTW) and Vehicle driving. <th colspan="10">To Carry out an activity safely</th>										To Carry out an activity safely									
SR. ACTIVITY NO.	SUB ACTIVITY NAME	HAZARD(S)/ASPECT(S)	DIRECT EXISTING CONTROL MEASURE(S) (NR)	Person(s) at Risk/IMPACT	Scale of Impact/Risk	Legal/ Other Requirement to be Complied with (Provision of Statute)	Existing Control Measure(s) with mechanism from Hierarchy of Control for each identified hazard/Aspect			Risk Impact Score		Final Risk Score							
							Severity	Likelihood	Risk	Severity	Likelihood	Severity	Likelihood						
IOSHR																			
1	Manpower Mobilization	Untrained worker mobilization	D	Personal Injury / Spread of Pandemic	Moderate	Yes	(A) Conduct physical fitness test of worker before his employment from authorised Practitioner. (B) Visually check the physical fitness of worker before start of work. (C) Provide close and continues supervision. (D) Use language which most of worker easily know. (E) Take feedback from worker about what they know. (F) Provide continues supervision. (A) Inspected Ladder shall be use and SOP of ladder to be followed. (B) One person should be hold ladder while ascending and descending. (C) Ladder should be tied to firm / heavy structure. (D) Ladder always be placed minimum 1 meter above to ground level. (E) Ladder should be placed in 1:4 ratio. (F) Ensure the structure is not damaged. (G) Ladder should be used only for its intended purpose. (H) Ensure the structure is not damaged. (I) Ensure the structure is not damaged. (J) Ensure the structure is not damaged.	3	3	9	(A) Ask Medical and travel history respective to covid 19. (B) Conduct screening and check symptoms of COVID 19 from Authorised Practitioner. (C) If Identified any symptoms of COVID 19, Immediate send him to the nearest hospital for testing and quarantine the all person in contact with him. (D) Maintained social distance. (E) Wash your hands frequently, wear mask continuously and record in. (F) Only Damaged Access to be use. (G) Trained labour to be deployed. (H) Wear cotton hand gloves for better grip.	3	2	6					
2	Provision of access	Improper Access & Egress to pit Slip, Trip & Fall Protruding nails while Shifting & Disturbance of material	D	Personal Injury	Moderate	Yes	(A) Ensure the structure is not damaged. (B) Ensure the structure is not damaged. (C) Ensure the structure is not damaged. (D) Ensure the structure is not damaged. (E) Ensure the structure is not damaged. (F) Ensure the structure is not damaged. (G) Ensure the structure is not damaged. (H) Ensure the structure is not damaged. (I) Ensure the structure is not damaged. (J) Ensure the structure is not damaged.	3	3	9	(A) Use proper PPE to avoid injury. (B) Regular Housekeeping to be done after completion of work. (C) Use proper hand tools. (D) Provide barricade to every excavated pit. (E) Traffic wardens to be placed at every intersections. (F) Close supervision shall be required for the activity. (G) Every Equipment shall be inspected by competent person & maintain record. (H) Regular Housekeeping to be done after completion of work. (I) Use proper hand tools. (J) TBT To be done before start of work. (K) Avoid open ended Electrical Connection. (L) Display hazard signages near Electric equipment. (M) Every equipment should be earthed.	3	1	3					
3	Material Handling	Exposure to PCC material	D	Skin Irritation	Moderate	Yes	(A) Only inspected vehicle with inspection tags allowed for work. (B) Marked the path of vehicle and ensure while reversing the vehicle the bankman will be available. (C) Ensure bankman will not stand at the exact back side center of vehicle. (D) Ensure TM stopper used for Transit mixer while concrete work.	4	3	12	(A) Provide barricade to every excavated pit. (B) Traffic wardens to be placed at every intersections. (C) Close supervision shall be required for the activity. (D) Every Equipment shall be inspected by competent person & maintain record. (E) Regular Housekeeping to be done after completion of work. (F) Use proper hand tools. (G) TBT To be done before start of work. (H) Avoid open ended Electrical Connection. (I) Display hazard signages near Electric equipment. (J) Every equipment should be earthed.	4	2	8					
4	Illumination	Improper Electrical connections Poor illumination while working in darkness Dark, wet slippery surface	D	Electrical Shock Personal Injury Skin Irritation Lungs Infection	Moderate	Yes	(A) Ensure regular collection of Nails or store in box. (B) Only inspected vehicle with inspection tags allowed for work. (C) Marked the path of vehicle and ensure while reversing the vehicle the bankman will be available. (D) Ensure bankman will not stand at the exact back side center of vehicle. (E) Ensure TM stopper used for Transit mixer while concrete work. (F) Ensure regular collection of Nails or store in box. (G) Only inspected vehicle with inspection tags allowed for work. (H) Marked the path of vehicle and ensure while reversing the vehicle the bankman will be available. (I) Ensure bankman will not stand at the exact back side center of vehicle. (J) Ensure TM stopper used for Transit mixer while concrete work.	2	3	6	(A) Provide barricade to every excavated pit. (B) Traffic wardens to be placed at every intersections. (C) Close supervision shall be required for the activity. (D) Every Equipment shall be inspected by competent person & maintain record. (E) Regular Housekeeping to be done after completion of work. (F) Use proper hand tools. (G) TBT To be done before start of work. (H) Avoid open ended Electrical Connection. (I) Display hazard signages near Electric equipment. (J) Every equipment should be earthed.	2	2	4					
Remember Hierarchy of control																			
PPC's																			
Others																			

Assessor's/Reviewer's Signature -
Mr. Ganesh Mote

Project Incharge - Mr. Krishna Aiyar

4.3.1- Environmental Aspects and Hazards Identification
A.2.2(14)(b)- Initial Occupational Health & Safety Review
Health, Safety & Environment Management

Dept./Sec./Project : Civil /CSD Adani Navi Mumbai
Activity/Asset/Equipment: Excavation by bucket / Back hoe loader
Assessor(s): Mr. Alay Pali
Subcontractor/Workers Representative -
Reviewed By: Mr. Ganesh Mohan



Ref. No.: SPCU/HSPI/02
Assessment Dt.: 01.02.2028
Rev. Dc
Next Rev. Dc

To Carry out an activity safely
Exemption: Work Covered by Permit To Work (PTW) and Vehicle driving.

SR.NO.	SUB ACTIVITY NAME	HAZARD(S)/ASPECT(S)	DIRECT (O/Individuals)	Routine (PTW/ Routine () at HAZIMPACT)	Personal Injury / Potential	Scale of Impact/Risk	Legal/Other Requirements (Priority)	Existing Control Measure(s) with mechanism from Ministry of Control for each identified hazard/aspect	Risk Score Likelihood Severity	Final Risk Likelihood Severity	Additional Control Measure(s) Required with mechanism from Ministry of Control for each identified hazard/aspect
IOSNR											
1	Manpower Mobilization	Untrained worker mobilization	D	R	Personal Injury / Potential	Moderate	Yes	A) Conduct physical fitness test of worker before his employment from authorized Positioner. B) Visually check the physical fitness of worker before start of work. C) Provide close and constant supervision. D) Use frequent verbal communication with worker easily known. E) Take breaks in a manner which is not too long. F) Take breaks in a manner which is not too long. G) Take breaks in a manner which is not too long. H) Take breaks in a manner which is not too long. I) Take breaks in a manner which is not too long. J) Take breaks in a manner which is not too long. K) Take breaks in a manner which is not too long. L) Take breaks in a manner which is not too long. M) Take breaks in a manner which is not too long. N) Take breaks in a manner which is not too long. O) Take breaks in a manner which is not too long. P) Take breaks in a manner which is not too long. Q) Take breaks in a manner which is not too long. R) Take breaks in a manner which is not too long. S) Take breaks in a manner which is not too long. T) Take breaks in a manner which is not too long. U) Take breaks in a manner which is not too long. V) Take breaks in a manner which is not too long. W) Take breaks in a manner which is not too long. X) Take breaks in a manner which is not too long. Y) Take breaks in a manner which is not too long. Z) Take breaks in a manner which is not too long.	3 3	3 3	
2	Inspection of vehicle, underground utilities	Uninspected Equipment, Vehicle mobilization	D	R	Personal Injury- body injury	Moderate	Yes	A) Inspect vehicle before use without having any defect. B) Inspect vehicle before use without having any defect. C) Inspect vehicle before use without having any defect. D) Inspect vehicle before use without having any defect. E) Inspect vehicle before use without having any defect. F) Inspect vehicle before use without having any defect. G) Inspect vehicle before use without having any defect. H) Inspect vehicle before use without having any defect. I) Inspect vehicle before use without having any defect. J) Inspect vehicle before use without having any defect. K) Inspect vehicle before use without having any defect. L) Inspect vehicle before use without having any defect. M) Inspect vehicle before use without having any defect. N) Inspect vehicle before use without having any defect. O) Inspect vehicle before use without having any defect. P) Inspect vehicle before use without having any defect. Q) Inspect vehicle before use without having any defect. R) Inspect vehicle before use without having any defect. S) Inspect vehicle before use without having any defect. T) Inspect vehicle before use without having any defect. U) Inspect vehicle before use without having any defect. V) Inspect vehicle before use without having any defect. W) Inspect vehicle before use without having any defect. X) Inspect vehicle before use without having any defect. Y) Inspect vehicle before use without having any defect. Z) Inspect vehicle before use without having any defect.	3 3	3 3	
3	Shifting movement	Shifting by the swing movement of the arm	D	R	Personal Injury	Moderate	Yes	A) No person shall be allowed to stand in the path of the swing. B) No person shall be allowed to stand in the path of the swing. C) No person shall be allowed to stand in the path of the swing. D) No person shall be allowed to stand in the path of the swing. E) No person shall be allowed to stand in the path of the swing. F) No person shall be allowed to stand in the path of the swing. G) No person shall be allowed to stand in the path of the swing. H) No person shall be allowed to stand in the path of the swing. I) No person shall be allowed to stand in the path of the swing. J) No person shall be allowed to stand in the path of the swing. K) No person shall be allowed to stand in the path of the swing. L) No person shall be allowed to stand in the path of the swing. M) No person shall be allowed to stand in the path of the swing. N) No person shall be allowed to stand in the path of the swing. O) No person shall be allowed to stand in the path of the swing. P) No person shall be allowed to stand in the path of the swing. Q) No person shall be allowed to stand in the path of the swing. R) No person shall be allowed to stand in the path of the swing. S) No person shall be allowed to stand in the path of the swing. T) No person shall be allowed to stand in the path of the swing. U) No person shall be allowed to stand in the path of the swing. V) No person shall be allowed to stand in the path of the swing. W) No person shall be allowed to stand in the path of the swing. X) No person shall be allowed to stand in the path of the swing. Y) No person shall be allowed to stand in the path of the swing. Z) No person shall be allowed to stand in the path of the swing.	3 3	3 3	
4	Excavation	Collision of slings	D	R	Personal Injury	Moderate	Yes	A) Provide supervision to a person excavated at. B) Close supervision shall be required for the activity. C) No person shall be allowed to work near excavated pit. D) No person shall be allowed to work near excavated pit. E) No person shall be allowed to work near excavated pit. F) No person shall be allowed to work near excavated pit. G) No person shall be allowed to work near excavated pit. H) No person shall be allowed to work near excavated pit. I) No person shall be allowed to work near excavated pit. J) No person shall be allowed to work near excavated pit. K) No person shall be allowed to work near excavated pit. L) No person shall be allowed to work near excavated pit. M) No person shall be allowed to work near excavated pit. N) No person shall be allowed to work near excavated pit. O) No person shall be allowed to work near excavated pit. P) No person shall be allowed to work near excavated pit. Q) No person shall be allowed to work near excavated pit. R) No person shall be allowed to work near excavated pit. S) No person shall be allowed to work near excavated pit. T) No person shall be allowed to work near excavated pit. U) No person shall be allowed to work near excavated pit. V) No person shall be allowed to work near excavated pit. W) No person shall be allowed to work near excavated pit. X) No person shall be allowed to work near excavated pit. Y) No person shall be allowed to work near excavated pit. Z) No person shall be allowed to work near excavated pit.	3 3	3 3	
5	Maintenance	Shut by moving vehicle / Equipment, Improper Traffic Management	D	R	Personal Injury	Moderate	Yes	A) Signage shall be displayed to clearly demarcate the safe traffic movement. B) Signage shall be displayed to clearly demarcate the safe traffic movement. C) Signage shall be displayed to clearly demarcate the safe traffic movement. D) Signage shall be displayed to clearly demarcate the safe traffic movement. E) Signage shall be displayed to clearly demarcate the safe traffic movement. F) Signage shall be displayed to clearly demarcate the safe traffic movement. G) Signage shall be displayed to clearly demarcate the safe traffic movement. H) Signage shall be displayed to clearly demarcate the safe traffic movement. I) Signage shall be displayed to clearly demarcate the safe traffic movement. J) Signage shall be displayed to clearly demarcate the safe traffic movement. K) Signage shall be displayed to clearly demarcate the safe traffic movement. L) Signage shall be displayed to clearly demarcate the safe traffic movement. M) Signage shall be displayed to clearly demarcate the safe traffic movement. N) Signage shall be displayed to clearly demarcate the safe traffic movement. O) Signage shall be displayed to clearly demarcate the safe traffic movement. P) Signage shall be displayed to clearly demarcate the safe traffic movement. Q) Signage shall be displayed to clearly demarcate the safe traffic movement. R) Signage shall be displayed to clearly demarcate the safe traffic movement. S) Signage shall be displayed to clearly demarcate the safe traffic movement. T) Signage shall be displayed to clearly demarcate the safe traffic movement. U) Signage shall be displayed to clearly demarcate the safe traffic movement. V) Signage shall be displayed to clearly demarcate the safe traffic movement. W) Signage shall be displayed to clearly demarcate the safe traffic movement. X) Signage shall be displayed to clearly demarcate the safe traffic movement. Y) Signage shall be displayed to clearly demarcate the safe traffic movement. Z) Signage shall be displayed to clearly demarcate the safe traffic movement.	3 3	3 3	
6	Vehicle Movement	Dust, greasy surface	D	R	Personal Injury- Lung infection	Moderate	Yes	A) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. B) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. C) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. D) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. E) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. F) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. G) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. H) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. I) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. J) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. K) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. L) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. M) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. N) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. O) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. P) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. Q) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. R) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. S) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. T) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. U) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. V) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. W) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. X) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. Y) In dry conditions, frequent watering or the mist spraying of dust roads and working areas. Z) In dry conditions, frequent watering or the mist spraying of dust roads and working areas.	2 3	2 3	
Remainder Ministry of control											
Others											

Assessor's Reviewer's Signature - Mr. Ganesh Mohan

Project Incharge - Mr. Ganesh Mohan

ANNEXURE 4 –
WATER SUPPLY LETTER
RECEIVED FROM CIDCO



CITY AND INDUSTRIAL DEVELOPMENT CORPORATION OF MAHARASHTRA LIMITED

Ref.: CIDCO/EE (Hetawane)/2025/219 (CIN - U99999 MH 1970 SGC - 014574)

Date: 19/03/2025

To,
M/s. Navi Mumbai International Airport Pvt. Ltd.,
517-C, New Project Office,
Near Ulwe Gaothan Bus Stop,
Amara Marg, Ulwe, Navi Mumbai - 410 206

Subject: - Granting of Permanent Commercial Water Connection to Navi Mumbai International Airport Pvt. Ltd.

Ref.: - 1) CIDCO/EE(Hetawane)/2024/553, Dtd. 31.07.2024
2) CIDCO/EE(Hetawane)/2024/687, Dtd. 11.09.2024
3) Your Letter No. NMIAL/CIDCO/GEN/1051, dated 18/03/2025

Sir/Madam,

Pursuant to reference letter on the above subject, this is to inform you that, your application for Permanent Commercial Water Supply Connection of 200 mm dia at Commercial rate has been sanctioned vide above referred letter at Sr. No. (1) & (2). The Calibration Report of water meter calibrated by M/s. G. G. Consultant & Contractor on 12/03/2025 submitted vide letter at Ref. No. (3) is reviewed and found in order. The initial water meter reading at the time of calibration of water meter is 12.716 cum and the same would be considered for future billing purposes. As per your request, it is to inform that the Commercial water supply connection sanctioned to NMIAL would be operational from 19/03/2025 adhering to all the terms and conditions of the agreement. Any subsequent changes or additional requirements as per policy decision will be communicated to you from time to time.

Thanking you.

Yours faithfully,

(V. B. Patil)

Executive Engineer (Hetawane)

CIDCO Ltd., 5th Floor, Raigad Bhavan,
CBD-Belapur, Navi Mumbai 400614

ANNEXURE 5–
PHOTOGRAPHS OF EV CHARGING
STATIONS

ANNEXURE 5 – EV Charging Stations.



ANNEXURE 6 –
CTE & CTO for Phase I & II
(20 MPPA)

MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/24010437
Fax: 24023516
Website: <http://mpcb.gov.in>
Email: cac-cell@mpcb.gov.in



Kalpataru Point, 2nd, 3rd
and 4th floor, Opp. Cine
Planet Cinema, Near Sion
Circle, Sion (E),
Mumbai-400022

RED/L.S.I (R23)/ Rev. ORANGE/I.D.S./(2)
No:- Format1.0/CAC/UAN No.MPCB-
CONSENT-0000257169/CO/2510000523

Date: 07/10/2025

To,
Navi Mumbai International Airport Pvt. Ltd.,
Villages Vadghar (Chinchpada), Kopar, Pargaon
(Kohli), Pargaon-Dungi, Owale (Upper and Lower
Owale + Waghivali Wada), Ulwe (Ulwe + Ganeshpuri),
Targhar (Targhar + Kombadbhuje), Waghivali-Khar,
Tal. Panvel, Dist. Raigad.



Sub: 1st Consent to Operate (Part)

- Ref:**
1. Consent to Establish obtained from Board Vide UAN No. Format1.0/CAC/UAN No.MPCB-CONSENT-0000128221/CE/2206000673 dtd. 15/06/2022.
 2. Environmental Clearance (EC) obtained from IA.III Section of the Ministry of Environment, Forest and Climate Change (MoEF&CC) of the Government of India vide File No. - 21-60/2021-IA-III dtd. 01/12/2021
 3. Minutes of Engg & Others 9th CAC Meeting of 2025-26 (Booklet No. 9) held on dtd. 23.09.2025.

Your application No.MPCB-CONSENT-0000257169 Dated 11.08.2025

For: Grant of Consent to Operate under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6 and Rule 18(7) of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules 2016 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

1. **The consent to operate is granted for a period up to 31/08/2027**
2. **The capital investment of the project is Rs.19646 Crs. (As per undertaking submitted by pp)**

3. **Consent is valid for Airport Activity:**

Sr No	Product	Maximum Quantity	UOM
Products			
1	Operation of Airport : Phase-I & II with passenger capacity of 20 MPPA and cargo capacity of 0.57 MTPA with Terminal Building, Terminal Hotel, Reserved housing & Apartments for staff of AAI, CISF Barracks, Control Tower ATC Building, South runway (3.7 Kms), Air Cargo Building, access roads, associated apron, taxi way, parking area, MLCP, Fuel farm area, Drainage system, Compound wall, Security fence & Utilities such as power supply, water supply & sanitation STP, Solid waste management facility on part Built-Up Area (BUA) -	607174.796	Sq.M

On total plot area of 1,16,00,000 Sq. Mtr., i.e. 1160 Ha and applied part operate on BUA 607174.796 Sq. Mtr against total proposed BUA 627335.678 Sq. Mtr.

4. **Conditions under Water (P&CP), 1974 Act for discharge of effluent:**

Sr No	Description	Permitted (in CMD)	Standards to	Disposal Path
1.	Trade effluent	0.0	As per Schedule-I	Not Applicable
2.	Domestic effluent	4190	As per Schedule-I	Recycle 100% to achieve ZLD

5. **Conditions under Air (P& CP) Act, 1981 for air emissions:**

Sr No.	Stack No.	Description of stack / source	Number of Stack	Standards to be achieved
1	S1 to S27	DG Sets	27	As per Schedule -II

6. **Non-Hazardous Wastes:**

Sr No	Type of Waste	Quantity	UoM	Treatment	Disposal
1	Food Waste & Garbage from Terminal & PTB	7.671	Ton/D	Bio-gas plant for Bio-gas generation followed by composting facility	The waste generated from Biogas will be used as manure
2	Waste from Flight Catering Facilities	2.192	Ton/D	Bio-gas plant for Bio-gas generation followed by composting facility	The waste generated from Biogas will be used as manure
3	Cargo Handling Waste	5.000	Ton/D	Segregation	Sale to authorized vendor for further treatment & disposal

Sr No	Type of Waste	Quantity	UoM	Treatment	Disposal
4	Waste from Aircraft Maintenance	3.557	Ton/D	Segregation	Sale to authorized vendor for further treatment & disposal
5	Waste from GSE Workshop	0.356	Ton/D	Segregation	Sale to authorized vendor for further treatment & disposal
6	STP Sludge	3.335	Ton/D	Drying	Used as manure for gardening
7	Other Solid Waste	5.750	Ton/D	Segregation	Sale to authorized vendor for further treatment & disposal

7. **Conditions under Hazardous & Other Wastes (M & T M) Rules 2016 for Collection, Segregation, Storage, Transportation, Treatment and Disposal of hazardous waste:**

Sr No	Category No./ Type	Quantity	UoM	Treatment	Disposal
1	5.1 Used or spent oil	10	Ton/Y	Recycle	Sale to authorised party
2	3.3 Sludge and filters contaminated with oil	2	Ton/Y	Incineration	CHWTSDF
3	5.2 Wastes or residues containing oil	110	Ton/D	Incineration	CHWTSDF
4	23.1 Wastes or residues (not made with vegetable or animal materials)	200	Ton/Y	Incineration	CHWTSDF
5	21.1 Process wastes, residues and sludges	47	Ton/Y	Incineration	CHWTSDF
6	33.1 Empty barrels /containers /liners contaminated with hazardous chemicals /wastes	5	Ton/Y	Recycle	Sale to authorised party / CHWTSDF

8. **Conditions under Batteries (Management & Handling) Rules, 2001:**

Sr No	Type of Waste	Quantity	UoM	Disposal Path
1	Battery Waste	10.00	Ton/Y	Authorized Re-processor.

Specific Conditions for used Batteries:

- The applicant shall ensure that used batteries are not disposed of in any manner other than by depositing with the authorized dealer/ manufacturer/ registered recycler/ importer/ re-conditioner or at the designated collection center.
- The applicant shall file half-yearly return in Form VIII to the M.P.C. Board.
- Bulk consumers to their user units may auction used batteries to registered recyclers only.

9. **Conditions under E-Waste Management:**

Sr No	Type of Waste	Quantity	UoM	Disposal Path
1	E-waste	25.00	Ton/Y	Authorized Re-processor.

10. **Treatment and Disposal of Biomedical Waste generated to CBMWTSDf:**

Sr.No	Category	Type of Waste	Quantity not to exceed (Kg/M)	Segregation Color coding	Treatment & Disposal
1	Yellow	a) Soiled Waste	250.00	Yellow colored non- chlorinated plastic bags or containers	CBMWTSDf
2	Red	Contaminated waste (Recyclable)	100.00	Red colored non chlorinated plastic bags or containers	CBMWTSDf
3	White (Translucent)	Waste sharps including Metals	100.00	Puncture proof, Leak proof, tamper proof container	CBMWTSDf
4	Blue	a) Glassware	50.00	Puncture proof & leak proof boxes or containers with blue colored marking.	CBMWTSDf

11. The Board reserves the right to review, amend, suspend, revoke this consent and the same shall be binding on the industry.
12. This consent should not be construed as exemption from obtaining necessary NOC/ permission from any other Government authorities.
13. The industry shall obtain necessary permission from the Directorate of Industrial Safety and Health (DISH).
14. The applicant shall comply with Board circular for D.G. Set bearing No. MPCB/JD(APC)/NCAP/DG Set/B-0090 dtd. 02/06/2023.
15. PP shall provide separate treatment facility for the treatment of wastewater generated from the aircraft maintenance hangers including for the contaminated surface runoff from the airport area containing oils, grease, etc.
16. PP shall ensure proper Operation and Maintenance of Sewage Treatment Plant (STP) to achieve the consented prescribed standards.
17. PP shall provide and operate organic waste digester followed by composting facility/bio-digester followed by composting facility for the treatment of biodegradable waste.
18. PP shall comply with Plastic Waste Management Rules, 2016 and Maharashtra hereby amends the Maharashtra Plastic and Thermocol Products (Manufacture, Uses, Sale, Transport, Handling and Storage) Notification, 2018 & its amendments thereafter

19. PP shall comply with Environmental Clearance (EC) obtained from IA.III Section of the Ministry of Environment, Forest and Climate Change (MoEF&CC) of the Government of India vide File No. - 21-60/2021-IA-III dtd. 01/12/2021
20. PP shall not carry out any trade effluent-generating activity until an Effluent Treatment Plant (ETP) is provided and a valid Consent to Operate for the said activity is obtained from MPCB Board.
21. This consent is issued pursuant to the decision of the 9th CAC Meeting of 2025-26 (Booklet No. 9) held on dtd. 23.09.2025.
22. The applicant shall make an application for renewal of consent 60 days prior to date of expiry of the consent.
23. The industry shall create an Environment Cell by appointing an Environmental Engineer OR Expert for looking after day-to-day activities related to Environment OR Pollution control.

This consent is issued on the basis of information/documents submitted by the Applicant/Project Proponent, if it has been observed that the information submitted by the Applicant/Project Proponent is false, misleading or fraudulent, the Board reserves its right to revoke the consent & further legal action will be initiated against the Applicant/Project Proponent.



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Signed by: **Dr. Avinash Dhakne**
Member Secretary
For and on behalf of,
Maharashtra Pollution Control Board
ms@mpcb.gov.in
2025-10-07 16:38:38 IST

Received Consent fee of -

Sr.No	Amount(Rs.)	Transaction/DR.No.	Date	Transaction Type
1	39292000.00	MPCB-DR-36412	03/09/2025	NEFT

Copy to:

1. Regional Officer, MPCB, Raigad and Sub-Regional Officer, MPCB, Raigad I
- They are directed to ensure the compliance of the consent conditions.
2. Chief Accounts Officer, MPCB, Sion, Mumbai
3. CAC Desk - for record & updation purposes.

SCHEDULE-I

Terms & conditions for compliance of Water Pollution Control:

1. A] Generation - As per your application the treated effluent generation is Nil.
B] Treatment - NA
C] Disposal - NA
2. A] As per your application, you have provided Sewage Treatment Plant for the treatment of 4190.0 CMD of sewage.
B] The Applicant shall operate the sewage treatment system to treat the sewage so as to achieve the following standards.

Sr.No	Parameters	Standards (mg/l)	
1	Suspended Solids	Not to exceed	20
2	BOD 3 days 27°C	Not to exceed	10
3	COD	Not to exceed	50
4	NH4 N	Not to exceed	5
5	N-total	Not to exceed	10
6	Fecal Coliform	Not to exceed	less than 100

- C] The treated effluent/sewage shall be 60% recycled for secondary purposes such as toilet flushing, air conditioning, cooling tower makeup, firefighting, etc., and remaining shall be discharged on land for gardening within premise after confirming above standards. In no case, effluent shall find its way outside premises.
3. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
 4. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
 5. The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and as amended, by installing water meters and other provisions as contained in the said act:

Sr. No.	Purpose for water consumed	Water consumption quantity (CMD)
1.	Industrial Cooling, spraying in mine pits or boiler feed	130.00
2.	Domestic purpose	4327.00
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	0.00
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	0.00

<i>Sr. No.</i>	<i>Purpose for water consumed</i>	<i>Water consumption quantity (CMD)</i>
5.	Gardening	00.00

6. The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance/ CREP guidelines.



SCHEDULE-II**Terms & conditions for compliance of Air Pollution Control:**

1. As per your application, you have provided the Air pollution control (APC) system and erected following stack (s) to observe the following fuel pattern:

Stack No.	Source	APC System provided/proposed	Stack Height(in mtr)	Type of Fuel	Sulphur Content(in %)	Pollutant	Standard
S1 to S2	DG Sets 62.50 KVA x 2	Stack	6.00	HSD 24 Kg/Hr	1.0	SO2	11.52 Kg/Day
S3 to S4	DG Set (400 KVA x 2)	Stack	8.00	HSD 166 Kg/Hr	1.0	SO2	79.68 Kg/Day
S5 to S7	DG Set (500 KVA x 3)	Stack	8.00	HSD 304 Kg/Hr	1.0	SO2	145.92 Kg/Day
S8	DG Set 650 KVA	Stack	8.00	HSD 125 Kg/Hr	1.0	SO2	60 Kg/Day
S9-S10	DG Sets 1010 KVA x 2	Stack	30.00	HSD 402 Kg/Hr	1.0	SO2	192.96 Kg/Day
S11	DG Set 1500 KVA	Stack	30.00	HSD 302 Kg/Hr	1.0	SO2	144.96 Kg/Day
S12-S13	DG Sets 2000 KVA x 2	Stack	30.00	HSD 756 Kg/Hr	1.0	SO2	362.88 Kg/Day
S14-S16	DG Sets 3000 KVA x 3	Stack	27.00	HSD 1830 Kg/Hr	1.0	SO2	878.40 Kg/Day
S17 to S22	DG Sets 750 KVA x 6	Stack	8.00	HSD 974 Kg/Hr	1.0	SO2	467.52 Kg/Day
S23 to S27	DG Sets 250 KVA x 5	Stack	8.00	HSD 268 Kg/Hr	1.0	SO2	128.64 Kg/Day

2. The Applicant shall provide Specific Air Pollution control equipments as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance / CREP guidelines.
3. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
4. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).

SCHEDULE-III

Details of Bank Guarantees:

Sr. No	Consent (C2E/C2O/C2R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
1	C2O	Rs. 25.0 Lakhs	15 days/To be extended	Towards Compliance of Consent Conditions and O&M PCS	31/08/2027	31/08/2028

****Existing BG obtained for above purpose if any, may be extended for period of validity as above.**

If the above Bank Guarantee is not submitted within stipulated period, then 12% interest will be levied as a penalty as per circular dtd 29/02/2024 No. BO/MPCB/AS(T)/Circular/B-240229FTS0122

BG Forfeiture History

Srno.	Consent (C2E/C2O/C2R)	Amount of BG Imposed	Submission Period	Purpose of BG	Amount of BG Forfeiture	Reason of BG Forfeiture
NA						

BG Return details

Srno.	Consent (C2E/C2O/C2R)	BG Imposed	Purpose of BG	Amount of BG Returned
NA				



SCHEDULE-IV
General Conditions:

1. Consumers or bulk consumers of electrical and electronic equipment listed in Schedule I shall ensure that e-waste generated by them is channelised through collection centre or dealer of authorised producer or dismantler or recycler or through the designated take back service provider of the producer to authorised dismantler or recycler
2. Bulk consumers of electrical and electronic equipment listed in Schedule I shall maintain records of e-waste generated by them in Form-2 and make such records available for scrutiny by the concerned State Pollution Control Board
3. Consumers or bulk consumers of electrical and electronic equipment listed in Schedule I shall ensure that such end-of-life electrical and electronic equipment are not admixed with e-waste containing radioactive material as covered under the provisions of the Atomic Energy Act, 1962 (33 of 1962) and rules made there under;
4. Bulk consumers of electrical and electronic equipment listed in Schedule I shall file annual returns in Form-3, to the concerned State Pollution Control Board on or before the 30th day of June following the financial year to which that return relates. In case of the bulk consumer with multiple offices in a State, one annual return combining information from all the offices shall be filed to the concerned State Pollution Control Board on or before the 30th day of June following the financial year to which that return relates.
5. Specific Conditions for storage, Handling and Disposal of Waste from Electrical & Electronic equipment (WEEE):
 1. **Collection of WEEE** - The applicant must provide appropriate and dedicated vehicles duly identified as per the norms for transportation of Hazardous Waste. The applicant shall obtain all the required permits for transportation of WEEE from competent authority. The applicant shall ensure the safe transport of the WEEE without any spillage during transportation.

Storage for disassembled parts: The applicant must provide appropriate storage for disassembled spare parts from WEEE. Some spare parts (e.g. motors and compressors) will contain oil and/or other fluids. Such part must be appropriately segregated and stored in containers that are secured such that oil and other fluids cannot escape from them. These containers must be stored on an area with an area with an impermeable surface and a sealed drainage system.
 2. **Storage for other components and residues:** Other components and residues arising from the treatment of WEEE will need to be contained following their removal for disposal or recovery. Where they contain hazardous substances they should be stored on impermeable surface and in appropriate containers or bays with weatherproof covering. Containers should be clearly labelled to identify their contents and must be secured so that liquids, including rain water cannot enter them. Components should be segregated having regard to their eventual destinations and the compatibility of the component types. All batteries should be handled and stored having regard to the potential fire risk associated with them.
 3. **Balances :** WEEE Guidelines also requires that sites for handling of WEEE have "balances to measure the weight of the segregated waste". The objective is to ensure that a record of weights can be maintained of WEEE entering a facility and components and materials leaving each site (together with their destinations). The nature of the weighing equipment should be appropriate for the type and quantity of WEEE being processed.

4. Plastic, which cannot be recycled and is hazardous in nature, is recommended to be land filled in nearby CHWTSDf.
 5. Ferrous and nonferrous metal recycling facilities fall under the purview of existing environmental regulations for air, water, noise, land and soil pollution and generation of hazardous waste and the same should be followed.
 6. CFCS should be either reused or incinerated in common hazardous waste Incineration facilities at CHWTSDf.
 7. Waste Oil should be either reused or incinerated in common hazardous waste incineration facilities.
 8. PCB's containing capacitors shall be incinerated in common hazardous waste incineration facilities at CHWTSDf.
 9. Mercury recovery and lead recycling facilities from batteries fall under the Hazardous & Other Wastes (M & TM) Rules, 2016.
 10. Existing environmental regulations for air; water; noise, land and soil pollution and generation of hazardous waste and the same should be followed. In case Mercury or lead recovery is very low, they can be temporarily stored at e-waste recycling facility and later disposed in TSDF.
 11. The industry shall maintain records of the e-waste purchased, processed in Form-2 and shall file annual returns of its activities of previous year in Form-3 as per Rules 11(9) & 13(3)(vii) of the E-Waste(M) Rules, 2016; on or before 30th day of June of every year.
6. The Energy source for lighting purpose shall preferably be LED based
 7. The PP shall harvest rainwater from roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial applications within the plant
 8. Conditions for D.G. Set
 - a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
 - b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
 - c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
 - d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
 - e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
 - f) D.G. Set shall be operated only in case of power failure.
 - g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
 - h) The applicant shall comply with the notification of MoEFCC, India on Environment (Protection) second Amendment Rules vide GSR 371(E) dated 17.05.2002 and its amendments regarding noise limit for generator sets run with diesel.

9. The applicant shall maintain good housekeeping.
10. The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
11. The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
12. The industry shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
13. The industry shall submit quarterly statement in respect of industries obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can downloaded from MPCB official site).
14. The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
15. The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification No. B-29016/20/90/PCI-L dated. 18.11.2009 as amended.
16. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
17. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
18. The PP shall provide personal protection equipment as per norms of Factory Act
19. Industry should monitor effluent quality, stack emissions and ambient air quality monthly/quarterly.
20. Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
21. The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
22. The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the Hazardous and Other Wastes (M & TM) Rules 2016, which can be recycled /processed /reused /recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc. should go for that purpose, in order to reduce load on incineration and landfill site/environment.

23. An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
24. Industry shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website (www.mpcb.gov.in).
25. Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.
26. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
27. The industry should not cause any nuisance in surrounding area.
28. The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
29. The industry shall create the Environmental Cell by appointing an Environmental Engineer, Chemist and Agriculture expert for looking after day to day activities related to Environment and irrigation field where treated effluent is used for irrigation.
30. The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
31. The industry should comply with the Hazardous and Other Wastes (M & TM) Rules, 2016 and submit the Annual Returns as per Rule 6(5) & 20(2) of Hazardous and Other Wastes (M & TM) Rules, 2016 for the preceding year April to March in Form-IV by 30th June of every year.
32. The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
33. The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end.
34. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions.
35. The firm shall submit to this office, the 30th day of September every year, the Environment Statement Report for the financial year ending 31st March in the prescribed FORM-V as per the provisions of Rule 14 of the Environment (Protection) (second Amendment) Rules, 1992.

36. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
37. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
38. The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.

This certificate is digitally & electronically signed.

MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010706/24010437
Fax: 24023516
Website: <http://mpcb.gov.in>
Email: cac-cell@mpcb.gov.in



Kalpataru Point, 2nd and
4th floor, Opp. Cine Planet
Cinema, Near Sion Circle,
Sion (E), Mumbai-400022

RED/L.S.I (R23)

Date: 15/06/2022

No:- Format1.0/CAC/UAN No.MPCB-
CONSENT-0000128221/CE/2206000673

To,
Navi Mumbai International Airport Pvt. Ltd.,
Villages Vadghar (Chinchpada), Kopar, Pargaon
(Kohli), Pargaon-Dungi, Owale (Upper and Lower
Owale + Waghivali Wada), Ulwe (Ulwe + Ganeshpuri),
Targhar (Targhar + Kombadbhuje), Waghivali-Khar,
Tal. Panvel, Dist. Raigad.



Sub: Grant consent to establish for revised construction built up area, under RED category.

Ref:

1. Previous Environment & CRZ Clearance accorded vide dated 22.11.2010.
2. Previous Consent to Establish granted by Board vide dated 05.10.2021.
3. Revalidation of Environment & CRZ Clearance accorded vide dated 20.12.2017 which is transferred vide dated 17.08.2020.
4. Revalidation of Environment & CRZ Clearance accorded vide 28.11.2021
5. Minutes of 3rd CAC meeting held on 24.05.2022.

Your application No.MPCB-CONSENT-0000128221 Dated 23.12.2021

For: grant of Consent to Establish under Section 25 of the Water (Prevention & Control of Pollution) Act, 1974 & under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and Authorization under Rule 6 of the Hazardous & Other Wastes (Management & Transboundary Movement) Rules 2016 is considered and the consent is hereby granted subject to the following terms and conditions and as detailed in the schedule I, II, III & IV annexed to this order:

1. **The consent to establish is granted for a period up to 05/10/2026**
2. **The capital investment of the project is Rs.19647 Crs. (As per undertaking submitted by pp Existing - 16250 + Expansion - 3397. Total CI - 19647)**
3. Construction of Airport of Phase-I & II with passenger capacity of 20 MPPA and cargo capacity of 0.57 MTPA., on total plot area of 1,16,00,000 Sq. Mtr., i.e. 1160 Ha & Construction BUA 6,27,335.678 Sq. mtr., for land development of Terminal Building, Terminal Hotel, Reserved housing & Apartments for staff of AAI, CISF Barracks, Control Tower ATC Building, South runway (3.7 Kms), Air Cargo Building, access roads, associated apron, taxi way, parking area, MLCP, Fuel Farm, area. Drainage system, Airport maintenance hangers, Compound wall, Security fence & Utilities such as power supply, water supply & sanitation STP, Solid waste management facility.

4. **Conditions under Water (P&CP), 1974 Act for discharge of effluent:**

Sr No	Description	Permitted (in CMD)	Standards to	Disposal Path
1.	Trade effluent	400	As per Schedule-I	The overflow of ETP outlet will be further treated in STP
2.	Domestic effluent	4210	As per Schedule-I	60% Recycle for secondary purposes & remaining on land for gardening

5. **Conditions under Air (P& CP) Act, 1981 for air emissions:**

Sr No.	Stack No.	Description of stack / source	Number of Stack	Standards to be achieved
1	S-1 to S-2	DG Set (14 x 880 KVA)- 12,320 KVA	2	As per Schedule -II

6. **Non-Hazardous Wastes:**

Sr No	Type of Waste	Quantity	UoM	Treatment	Disposal
1	Food Waste & Garbage from Terminal & PTB	7.671	Ton/D	Bio-gas plant for Bio-gas generation followed by composting facility	The waste generated from Biogas will be used as manure
2	Waste from Flight Catering Facilities	2.192	Ton/D	Bio-gas plant for Bio-gas generation followed by composting facility	The waste generated from Biogas will be used as manure
3	Cargo Handling Waste	5.000	Ton/D	Segregation	Sale to authorized vendor for further treatment & disposal
4	Waste from Aircraft Maintenance	3.557	Ton/D	Segregation	Sale to authorized vendor for further treatment & disposal
5	Waste from GSE Workshop	0.356	Ton/D	Segregation	Sale to authorized vendor for further treatment & disposal
6	STP Sludge	3.335	Ton/D	Drying	Used as manure for gardening
7	Other Solid Waste	5.750	Ton/D	Segregation	Sale to authorized vendor for further treatment & disposal

7. Conditions under Hazardous & Other Wastes (M & T M) Rules 2016 for treatment and disposal of hazardous waste:

Sr No	Category No./ Type	Quantity	UoM	Treatment	Disposal
1	5.1 Used or spent oil	10	Ton/Y	Recycle	Sale to authorised party
2	3.3 Sludge and filters contaminated with oil	2	Ton/Y	Incineration	CHWTSDF
3	5.2 Wastes or residues containing oil	310	Ton/D	Incineration	CHWTSDF
4	21.1 Process wastes, residues and sludges	47	Ton/Y	Recycle	CHWTSDF
5	33.1 Empty barrels /containers /liners contaminated with hazardous chemicals /wastes	5	Ton/Y	Recycle	CHWTSDF

8. Conditions under Batteries (Management & Handling) Rules, 2001:

Sr No	Type of Waste	Quantity	UoM	Disposal Path
1	Battery Waste	10.00	Ton/Y	Authorized Re-processor.

Specific Conditions for used Batteries:

- The applicant shall ensure that used batteries are not disposed of in any manner other than by depositing with the authorized dealer/ manufacturer/ registered recycler/ importer/ re-conditioner or at the designated collection center.
- The applicant shall file half-yearly return in Form VIII to the M.P.C. Board.
- Bulk consumers to their user units may auction used batteries to registered recyclers only.

9. Conditions under E-Waste Management:

Sr No	Type of Waste	Quantity	UoM	Disposal Path
1	E-waste	25.00	Ton/Y	Authorized Re-processor.

10. Treatment and Disposal of Biomedical Waste generated to CBMWTSDf:

Sr.No	Category	Type of Waste	Quantity not to exceed (Kg/M)	Segregation Color coding	Treatment & Disposal
1	Yellow	a) Soiled Waste	500.00	Yellow colored non-chlorinated plastic bags or containers	CBMWTSDf

- The Board reserves the right to review, amend, suspend, revoke this consent and the same shall be binding on the industry.
- This consent should not be construed as exemption from obtaining necessary NOC/ permission from any other Government authorities.
- PP shall comply with the conditions stipulated in EC/CRZ clearance & consent.
- PP shall provided STP of adequate capacity to achieve the consented parameter BOD - 10 mg/l.

15. PP shall provide separate treatment facility for the treatment of wastewater generated from the aircraft maintenance hangers including for the contaminated surface runoff from the airport area containing oils, grease, etc.
16. The treated effluent shall be 60% recycled for secondary purposes such as toilet flushing, air conditioning, cooling tower makeup, firefighting, etc., and remaining shall be utilized on land for gardening with water metering system.
17. PP shall provide organic waste digester followed by composting facility/bio-digester followed by composting facility for the treatment of biodegradable waste.
18. PP shall carryout carbon audit & submit the report.
19. PP shall submit the plan for plastic recycling before 1st Operate.
20. PP shall submit the management plan towards the disposal of cargo waste disposal.
21. PP shall submit the plan/commitment towards adoption of E-Vehicle policy.
22. PP shall submit BG of Rs. 25.0 Lakh towards compliance of EC & consent conditions.
23. PP shall comply with revalidation of Environment Clearance conditions obtained on 28.11.2021
24. This consent is issued with the overriding effect to earlier consider issued vide No.:- Format1.0/CAC/UAN No.0000100222/CE-2110000162 dated 05.10.2021
25. This consent is issued pursuant to the decision of the 3rd Consent Appraisal Committee Meeting held on 24.05.2022.
26. The applicant shall obtain Consent to Operate from Maharashtra Pollution Control Board before actual commencement of the Unit/Activity.



Received Consent fee of -

Sr.No	Amount(Rs.)	Transaction/DR.No.	Date	Transaction Type
1	6794000.00	MPCB-DR-9776	13/01/2022	RTGS

Copy to:

1. Regional Officer, MPCB, Raigad and Sub-Regional Officer, MPCB, Raigad I
- They are directed to ensure the compliance of the consent conditions.
2. Chief Accounts Officer, MPCB, Sion, Mumbai
3. CAC Desk - for record & updation purposes.

SCHEDULE-I

Terms & conditions for compliance of Water Pollution Control:

1. A] As per your application, you have proposed to provide ETP comprising primary treatment of capacity 400 CMD to treat the effluent generated to the tune of 400 CMD. This primary treated effluent further treated in STP of combine capacity 5500 CMD.
- B] The Applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time, whichever is stringent:

Sr.No	Parameters	Limiting concentration not to exceed in mg/l, except for pH
(1)	pH	6.0 -8.5
(2)	BOD (3 days 27°C)	10
(3)	COD	50
(4)	TSS	20
(5)	Oil & Grease	10
(6)	TDS	2100
(7)	Chloride	600
(8)	Sulphate	1000

- C] The treated effluent shall be 60% recycled for secondary purposes such as toilet flushing, air conditioning, cooling tower makeup, firefighting, etc., and remaining shall be discharged on land for gardening within premise after confirming above standards. In no case, effluent shall find its way outside premises.
2. A] As per your application, you have proposed to provide 2 Nos of Sewage Treatment Plants of designed capacity 4500 CMD & 1000 CMD with SBR technology for the treatment of 4210 CMD of sewage.
- B] Industry shall comply prescribed standards & disposal path as prescribed at Sr. No. 1 B & C of schedule I.
3. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification there of & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.

4. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
5. The Applicant shall comply with the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and as amended, by installing water meters and other provisions as contained in the said act:

Sr. No.	Purpose for water consumed	Water consumption quantity (CMD)
1.	Industrial Cooling, spraying in mine pits or boiler feed	1972.00
2.	Domestic purpose	4880.00
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	430.00
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	0.00
5.	Gardening	0

6. The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance/ CREP guidelines.

SCHEDULE-II

Terms & conditions for compliance of Air Pollution Control:

1. As per your application, you have proposed to provide the Air pollution control (APC) system and also to erect following stack (s) to observe the following fuel pattern:

Stack No.	Source	APC System provided/pro posed	Stack Height(in mtr)	Type of Fuel	Sulphur Content(in %)	Pollutant	Standard
S-1 to S-2	DG Set (14 x 880 KVA)	Stack	6.00	HSD 135 Kg/Hr	1.0	SO2	64.8 Kg/Day

2. The Applicant shall provide Specific Air Pollution control equipments as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance / CREP guidelines.
3. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
4. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).

SCHEDULE-III

Details of Bank Guarantees:

Sr. No.	Consent (C2E/C2O/C2R)	Amt of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
1	C2E	Rs. 25.0 Lakh	15 days/To be extended	Towards compliance of EC & consent conditions	31.05.2026	30.11.2026

The above Bank Guarantee(s) shall be submitted by the applicant in favour of Regional Officer at the respective Regional Office within 15 days from the date of issue of Consent.

BG Forfeiture History

Srno.	Consent (C2E/C2O/C2R)	Amount of BG Imposed	Submission Period	Purpose of BG	Amount of BG Forfeiture	Reason of BG Forfeiture
NA						

BG Return details

Srno.	Consent (C2E/C2O/C2R)	BG Imposed	Purpose of BG	Amount of BG Returned
NA				

SCHEDULE-IV

General Conditions:

1. Consumers or bulk consumers of electrical and electronic equipment listed in Schedule I shall ensure that e-waste generated by them is channelised through collection centre or dealer of authorised producer or dismantler or recycler or through the designated take back service provider of the producer to authorised dismantler or recycler
2. Bulk consumers of electrical and electronic equipment listed in Schedule I shall maintain records of e-waste generated by them in Form-2 and make such records available for scrutiny by the concerned State Pollution Control Board
3. Consumers or bulk consumers of electrical and electronic equipment listed in Schedule I shall ensure that such end-of-life electrical and electronic equipment are not admixed with e-waste containing radioactive material as covered under the provisions of the Atomic Energy Act, 1962 (33 of 1962) and rules made there under;
4. Bulk consumers of electrical and electronic equipment listed in Schedule I shall file annual returns in Form-3, to the concerned State Pollution Control Board on or before the 30th day of June following the financial year to which that return relates. In case of the bulk consumer with multiple offices in a State, one annual return combining information from all the offices shall be filed to the concerned State Pollution Control Board on or before the 30th day of June following the financial year to which that return relates.

5. Specific Conditions for storage, Handling and Disposal of Waste from Electrical & Electronic equipment (WEEE):

1. **Collection of WEEE** - The applicant must provide appropriate and dedicated vehicles duly identified as per the norms for transportation of Hazardous Waste. The applicant shall obtain all the required permits for transportation of WEEE from competent authority. The applicant shall ensure the safe transport of the WEEE without any spillage during transportation.

Storage for disassembled parts: The applicant must provide appropriate storage for disassembled spare parts from WEEE. Some spare parts (e.g. motors and compressors) will contain oil and/or other fluids. Such part must be appropriately segregated and stored in containers that are secured such that oil and other fluids cannot escape from them. These containers must be stored on an area with an area with an impermeable surface and a sealed drainage system.

2. **Storage for other components and residues:** Other components and residues arising from the treatment of WEEE will need to be contained following their removal for disposal or recovery. Where they contain hazardous substances they should be stored on impermeable surface and in appropriate containers or bays with weatherproof covering. Containers should be clearly labelled to identify their contents and must be secured so that liquids, including rain water cannot enter them. Components should be segregated having regard to their eventual destinations and the compatibility of the component types. All batteries should be handled and stored having regard to the potential fire risk associated with them.
 3. **Balances :** WEEE Guidelines also requires that sites for handling of WEEE have "balances to measure the weight of the segregated waste". The objective is to ensure that a record of weights can be maintained of WEEE entering a facility and components and materials leaving each site (together with their destinations). The nature of the weighing equipment should be appropriate for the type and quantity of WEEE being processed.
 4. Plastic, which cannot be recycled and is hazardous in nature, is recommended to be land filled in nearby CHWTSDF.
 5. Ferrous and nonferrous metal recycling facilities fall under the purview of existing environmental regulations for air, water, noise, land and soil pollution and generation of hazardous waste and the same should be followed.
 6. CFCs should be either reused or incinerated in common hazardous waste incineration facilities at CHWTSDF.
 7. Waste Oil should be either reused or incinerated in common hazardous waste incineration facilities.
 8. PCB's containing capacitors shall be incinerated in common hazardous waste incineration facilities at CHWTSDF.
 9. Mercury recovery and lead recycling facilities from batteries fall under the Hazardous & Other Wastes (M & TM) Rules, 2016.
 10. Existing environmental regulations for air; water; noise, land and soil pollution and generation of hazardous waste and the same should be followed. In case Mercury or lead recovery is very low, they can be temporarily stored at e-waste recycling facility and later disposed in TSDF.
 11. The industry shall maintain records of the e-waste purchased, processed in Form-2 and shall file annual returns of its activities of previous year in Form-3 as per Rules 11(9) & 13(3)(vii) of the E-Waste(M) Rules, 2016; on or before 30th day of June of every year.
6. The Energy source for lighting purpose shall preferably be LED based

7. The PP shall harvest rainwater from roof tops of the buildings and storm water drains to recharge the ground water and utilize the same for different industrial applications within the plant
8. Conditions for D.G. Set
 - a) Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the room acoustically.
 - b) Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 dB (A) insertion loss or for meeting the ambient noise standards, whichever is on higher side. A suitable exhaust muffler with insertion loss of 25 dB (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
 - c) Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements by proper siting and control measures.
 - d) Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
 - e) A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
 - f) D.G. Set shall be operated only in case of power failure.
 - g) The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
 - h) The applicant shall comply with the notification of MoEFCC, India on Environment (Protection) second Amendment Rules vide GSR 371(E) dated 17.05.2002 and its amendments regarding noise limit for generator sets run with diesel.
9. The applicant shall maintain good housekeeping.
10. The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed of scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from civic authorities for disposal of solid waste.
11. The applicant shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/emissions or hazardous wastes or control equipments provided for without previous written permission of the Board. The industry will not carry out any activity, for which this consent has not been granted/without prior consent of the Board.
12. The industry shall ensure that fugitive emissions from the activity are controlled so as to maintain clean and safe environment in and around the factory premises.
13. The industry shall submit quarterly statement in respect of industries obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can downloaded from MPCB official site).
14. The industry shall submit official e-mail address and any change will be duly informed to the MPCB.
15. The industry shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification No. B-29016/20/90/PCI-L dated. 18.11.2009 as amended.
16. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or establish any treatment and disposal system or an extension or addition thereto.
17. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.
18. The PP shall provide personal protection equipment as per norms of Factory Act

19. Industry should monitor effluent quality, stack emissions and ambient air quality monthly/quarterly.
20. Whenever due to any accident or other unforeseen act or even, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith Reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
21. The applicant shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to **abide** by terms and conditions of this consent.
22. The industry shall recycle/reprocess/reuse/recover Hazardous Waste as per the provision contain in the Hazardous and Other Wastes (M & TM) Rules 2016, which can be recycled /processed /reused /recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/reprocessed etc. should go for that purpose, in order to reduce load on incineration and landfill site/environment.
23. An inspection book shall be opened and made available to the Board's officers during their visit to the applicant.
24. Industry shall strictly comply with the Water (P&CP) Act, 1974, Air (P&CP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website (www.mpcb.gov.in).
25. Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipes/sewers downstream of the terminal manholes. No effluent shall find its way other than in designed and provided collection system.
26. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the factory.
27. The industry should not cause any nuisance in surrounding area.
28. The industry shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise to less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned in between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
29. The industry shall create the Environmental Cell by appointing an Environmental Engineer, Chemist and Agriculture expert for looking after day to day activities related to Environment and irrigation field where treated effluent is used for irrigation.
30. The applicant shall provide ports in the chimney/(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection to/and for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be painted/ displayed to facilitate identification.
31. The industry should comply with the Hazardous and Other Wastes (M & TM) Rules, 2016 and submit the Annual Returns as per Rule 6(5) & 20(2) of Hazardous and Other Wastes (M & TM) Rules, 2016 for the preceding year April to March in Form-IV by 30th June of every year.

32. The applicant shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of chemicals used for treatment shall be maintained.
33. The applicant shall bring minimum 33% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end.
34. The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of waterworks for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions.
35. The firm shall submit to this office, the 30th day of September every year, the Environment Statement Report for the financial year ending 31st March in the prescribed FORM-V as per the provisions of Rule 14 of the Environment (Protection) (second Amendment) Rules, 1992.
36. The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof or alteration or replacement/alteration well before its life come to an end or erection of new pollution control equipment.
37. The Board reserves its rights to vary all or any of the condition in the consent, if due to any technological improvement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
38. The applicant shall provide facility for collection of environmental samples and samples of trade and sewage effluents, air emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.

This certificate is digitally & electronically signed.

ANNEXURE 7 –
MSEDCL POWER SUPPLY
APPROVAL



(A Govt. of Maharashtra Undertaking)
CIN: U40109MH12005SGC153645)
Phone.No.(O):022-022-2789 6730 278
FaxNo.2789 3012



Office of Superintending Engineer, Vashi Circle,
Vidhut', 1st Floor, Plot No.5, Secto
Maharashtra State Electricity Distribution Co. Ltd
Vashi, Navi Mumbai - 400703
Email ID:-sevashi@gmail.com

No. SE / VC / TECH / VASHI/2023-24 /

02910

Date 02 MAY 2024

To,
M/s Navi Mumbai International Airport Pvt. Ltd.(NMIAPL),
Ulwe, Tal-Panvel,
Dist. Raigad,

Sub:- Execution of work by you by paying 1.3% supervision Charges to the M.S.E.D.C.L. CD-7000 KVA, CL-19200 KW on 2 no's of U/G 33 KV feeder in respect of M/s Navi Mumbai International Airport Pvt. Ltd. Ulwe, Tal-Panvel, Dist. Raigad, ConsumerNo.028429054710

- Ref: 1. Applicant's application Dt. 11.06.2018 Office IW no .8047 Application ID 14667266
2. Applicant's application Dt. 11.06.2018 Office IW no .8048 Application ID 14666588
3. TOL No. SE/VC/T/HT-NSC/NMIA/11795089/2018-19/4055 Dtd. 21.06.2018.
4. TOL No. SE/VC/T/HT-NSC/NMIA/11795089/2018-19/005533 Dtd.06.09.2018
5. TOL No. SE/VC/T/HT-NSC/NMIA/11795089/2018-19/008171 Dtd. 14.12.2018
6. TOL No. SE/VC/T/HT-NSC/NMIA/11795089/2018-19/000663 Dtd. 28.01.2019
7. TOL No. SE/VC/T/HT-NSC/NMIA/11795089/2018-19/003513 Dtd. 27.05.2019
8. TOL No. SE/VC/T/HT-NSC/NMIA/11795089/2018-19/004155 Dtd. 19.06.2019.
9. TOL No. SE/VC/T/HT-NSC/NMIA/11795089/2019-20/00463 Dtd. 20.01.2020.
10. CE/EHV/PC O&M/Zone/VSH/Grid.Co./No.00301 Dt.05.02.2020
11. TOL No. SE/VC/T/HT-NSC/NMIA/11795089/2019-20/00987 Dtd. 10.02.2020
12. Applicant letter dtd. 19.07.2022
13. SE/VC/T/HT-NSC/NMIA/11795089/005267 Dt. 19.09.2022
14. Application letter dtd 21.10.2022
15. TOL No. SE/VC/T/HT-NSC/NMIA/11795089/06406 Dtd. 21.11.2022
16. Applicant letter IW No.17518 dtd. 09.12.2022 (Enclosed copy of CE EHV Letter 8213 dtd. 21.11.2023 and CE (STU) Grid connectivity letter 13379 dtd. 27.12.2018)
17. TOL No. SE/VC/T/HT-NSC/NMIA/11795089/007175 Dtd. 30.12.2022
18. SE(TQA) email dtd. 05.01.2023, 22.02.2023
19. T.O. Email dtd. 22.02.2023 to applicant.
20. Applicant email Dtd. 28.02.2023 to SE(TQA) and others
21. NMIAL Letter IW No. 9634 dtd. 18.09.2023
22. T.O. Email dtd. 18.09.2023
23. Consumer email dtd. 20.09.2023(regarding provision of land for 220KV EHV substation inside NMIA premises)
24. T.O.L SE/VC/Tech/2023-24/05356 Dtd.21.09.2023
25. CE/EHV/PC O&M/Zone/EHV/VSH/02604 Dtd.05.10.2023
26. SE/TC/KR/Vashi/NMIA/33KV/00458 Dtd. 09.10.2023
27. SE/EHV(O&M) Circle/PNL/Tech/ORC/02126 Dtd. 13.10.2023
28. Approval of point of supply vide letter SE/TC/KR/Vashi/NMIA/33KV/00468 Dtd. 16.10.2023
29. SE/EHV (O&M)/Circle/PNL/Tech/T-16A/02233 Dtd.30.10.2023
30. CE/EHV/PC O&M /Zone/ORC/VSH/Tech/02840 Dtd.30.10.2023
31. AEE/CBD/T/1012 Dtd.31.10.2023
32. CE EHV email dtd. 01.11.2023
33. EE/Nerul/Tech/Feasibility/01605 dtd.01.11.2023
34. EE/EHV/O&M/DIVN/PNL/T/00107 Dtd. 31.01.2024
35. NMIA Letter IW No.2864 dtd.12.03.2024 Application ID-54692216
36. T.O.L /SE/VC/2023-24/02032 Dtd.18.03.2024
37. SE/TC/KR/Vashi/NMIA/33KV/00203 Dtd.20.03.2024
38. EE/Nerul/Tech/Feasibility/402 Dtd.22.03.2024
39. CE/EHV/PC O&M/ZONE/VSH/TECH/No. 00856 dtd.27.03.2024
40. T.O.L SE/VC/TECH/VASHI/2023-24/ 02286 Dtd.28.03.2024
41.CE(Test)/HTC/Navi Mumbai International Airport/Ulwe/Raigad/18528 dtd.18.04.2024
42. ON Dtd. 01.11.2023
43 SE/VC/Tech/1.3%DDF/HT Load sanction new connection/2024-25/07 dtd.19.04.2024

This has reference to your above cited letter, wherein you have requested to permit to execute the work involved in releasing fresh HT power supply on express feeder at above

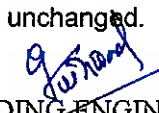
plot by paying 1.3 % supervision charges on the estimated cost to the Company. In view of your request permission is hereby granted to execute the works by engaging LEC, subject to following conditions.

1. The work should be carried out as per the requirement and specification of M.S.E.D.C.L. & as per the approved drawing (As per new method of construction only).
2. The work should be got executed through licensed and experienced Electrical Contractor only.
3. The material to be used should be got approved by our SE(TQA) Kalyan and Ex. Engineer (T) Vashi Dn. before taking them to the site.
4. The work should be carried out under the supervision of M.S.E.D.C.L. Engineer nominated by the Executive Engineer, Nerul Dn.
5. The material to be used should be of good quality & having M.S.E.D.C.L. specifications.
6. Before commencement of work concerned Sub-division officer should be informed and at every stage of work prior intimation should be given to our Executive Engineer Nerul division
7. The work should be carried out at your own risk only.
8. I.E. Rules should be observed.
9. You will have to use crimped joints where ever necessary.
10. The work is liable for rejection if the same is not found up to the standard.
11. After completion of work you will have to intimate a sketch alongwith bill of material used for above work in three copies.
12. Permission for charging the line & equipment from Electrical Inspector is required to be obtained by you at your end.
13. If difference in estimated cost and actual cost is observed necessary additional charges will have to be paid by you before release of connection.
14. You will have to take guarantee of transformer, H.T. breaker, HT cables etc. for 5 years, and for other materials one year.

If the above terms & conditions are acceptable to you, it is requested to arrange to pay following charges Rs. 1530133/- (Rs Fifteen Lakhs Thirty Thousand One Hundred Thirty three only) towards 1.3 % supervision charges on estimated cost (Rs. 99747881.02/-) & Rs. NIL/- towards Charges for inspection, sealing, approval etc. on metering cubical to be procured at your cost.

All above is non refundable please note. The other charges remain unchanged. There is no change in terms and conditions mentioned in our earlier letter.

Thanking you.


SUPERINTENDING ENGINEER
MSEDCL, Vashi Circle,

COPY TO:

1. The Executive Engineer, MSEDCL, C.C.O & M Dn. Nerul

As per request of consumer he is being permitted to execute the work as mentioned above. Necessary detailed guidelines may be issued to consumer from your end. The arrangement for Supervising above work may be made from your end.

The actual cost of work should be informed to this office for recovery of balance due if any as per condition No.13 above. He should also ensure that the work as carried out as per estimate and as per standard method of construction. The asset Charging permission should be taken from this office.

2. The Executive Engineer, MSEDCL, Testing Div., Vashi.
3. The Addl. Exe. Engr. MSEDCL, CBD Sub - division.
4. The Sr. Manager (F & A), Vashi Circle, Vashi.
5. The Junior Manager, MSEDCL, Nerul Div., Nerul.

ANNEXURE 8 -
PESO APPROVAL FOR DIESEL
STORAGE



भारत सरकार
Government of India
वाणिज्य और उद्योग मंत्रालय
Ministry of Commerce & Industry
पेट्रोलियम तथा विस्फोटक सुरक्षा संगठन (पेसो)
Petroleum & Explosives Safety Organisation (PESO)
ए-1 और ए-2 विंग, पांचवां तल, केन्द्रीय कार्यालय परिसर, सी.बी.डी. बेलपुर
नवी मुंबई (मह.)- 400614
A1 & A2 wing, 5th Floor,
C.G.O. complex, CBD Belapur, Navi Mumbai (M.S.),
Mumbai - 400614

E-mail jtcemumbai@explosives.gov.in
Phone/Fax No 022 - 27575946, 27573881

दिनांक /Dated 23/10/2025

संख्या /No PWC/MH/15/2579 (P631889)
सेवा में /To,

M/s. NAVI MUMBAI INTERNATIONAL AIRPORT PRIVATE LIMITED,
11th Floor, V Times Square, Plot No. 3, Sector 15,,
CBD Belapur,
Belapur,
Mumbai,
Taluka: Mumbai,
District: MUMBAI,
State: Maharashtra
PIN: 400614

विषय Sub Survey No, 64 4(Part), Ulwe, Ulwe, Panvel, Taluka: Panvel, District: RAIGAD, State: Maharashtra, PIN: 410206 में पेट्रोलियम वर्ग B का अधिष्ठापन -अनुज्ञापि जारी करने के बारे में ।
Petroleum Class B Installation at Survey No, 64 4(Part), Ulwe, Ulwe, Panvel, Taluka: Panvel, District: RAIGAD, State: Maharashtra, PIN: 410206 Grant of License regarding.

महोदय
/Sir(s),

कृपया आपके पत्र क्रमांक OIN2118078 दिनांक 17/10/2025 का भ्रवलोचन करें ।
Please refer to your letter No OIN2118078 dated 17/10/2025

विषयान्तर्गत अधिष्ठापन में निम्नलिखित पेट्रोलियम पदार्थों के वर्ग तथा मात्रा के भंडारण के लिए पेट्रोलियम नियम, 2002 के अधीन प्ररूप - XV में स्वीकृत. दिनांक 31/12/2027 तक वैध अनुज्ञप्ति संख्या PWC/MH/15/2579 (P631889) दिनांक 23/10/2025 भेजी जा रही है ।

Licence No PWC/MH/15/2579 (P631889) dated 23/10/2025 granted in Form XV under the Petroleum Rules, 2002 and valid till 31/12/2027 for the storage of the following kinds and quantities of Petroleum at the subject installation is forwarded herewith

पेट्रोलियम का विवरण /Description of Petroleum	किलोलीटरों में अनुज्ञप्त क्षमता /Quantity licenced in KL
वर्ग क प्रपुज पेट्रोलियम /Petroleum Class A in bulk	NIL
वर्ग क प्रपुज पेट्रोलियम से भिन्न /Petroleum Class A, otherwise than in bulk	NIL
वर्ग ख प्रपुज पेट्रोलियम /Petroleum Class B in bulk	30.00 KL
वर्ग ख प्रपुज पेट्रोलियम से भिन्न /Petroleum Class B, otherwise than in bulk	NIL
वर्ग ग प्रपुज पेट्रोलियम /Petroleum Class C in bulk	NIL
वर्ग ग प्रपुज पेट्रोलियम से भिन्न /Petroleum Class C, otherwise than in bulk	NIL
कुल क्षमता /Total Capacity	30.00 KL

कृपया पेट्रोलियम नियम 2002 के अधीन बनाए गए नियम 148 में दी गई प्रक्रिया का कड़ाई से पालन करें और अनुज्ञप्ति के नवीकरण हेतु समस्त दस्तावेजों को अनुज्ञप्ति की वैधता समाप्ती की तारीख या उससे पूर्व इस कार्यालय को प्रेषित करें ।

Please follow the procedure strictly as laid down in rule 148 of the Petroleum Rules, 2002 and submit complete documents for further renewal of the licence to this office so as to reach on or before the date on which licence expires

यह अनुमोदन/ अनुमति अन्य प्राधिकारियों से आवश्यक अनुमति/क्लीयरन्स प्राप्त करने से या यथा लागू अन्य विधियों से छूट नहीं देती है ।

This approval/permission, however, does not absolve from obtaining necessary permission/clearance from other authorities or under other statutes as applicable

भवदीय /Yours faithfully,

((अमित कुमार))
(Amit Kumar)
विस्फोटक नियंत्रक
Controller of Explosives
कृते संयुक्त मुख्य विस्फोटक नियंत्रक
For Jt. Chief Controller of Explosives
नवी मुंबई (मह.)/Mumbai

Copy forwarded to :-

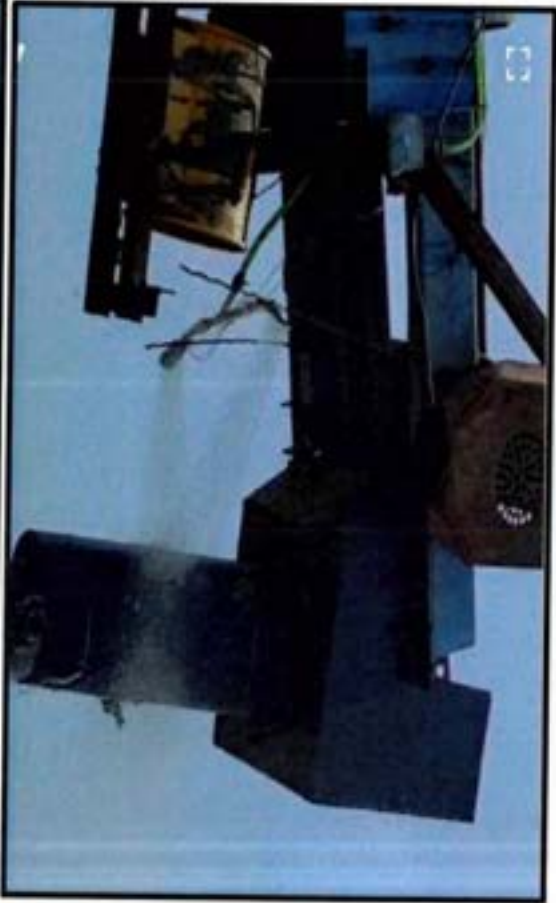
1 The Commissioner of Police, RAIGAD(Maharashtra) with reference to his NOC No P/MH/RGD/NA/8/(N12630) Dated 14/10/2025

For Jt. Chief Controller of Explosives
Mumbai

(अधिक जानकारी जैसे आवेदन की स्थिति, शुल्क तथा अन्य विवरण के लिए हमारी वेबसाइट <http://peso.gov.in> देखें)
(For more information regarding status, fees and other details please visit our website <http://peso.gov.in>)
Note:-This is system generated document does not require signature.

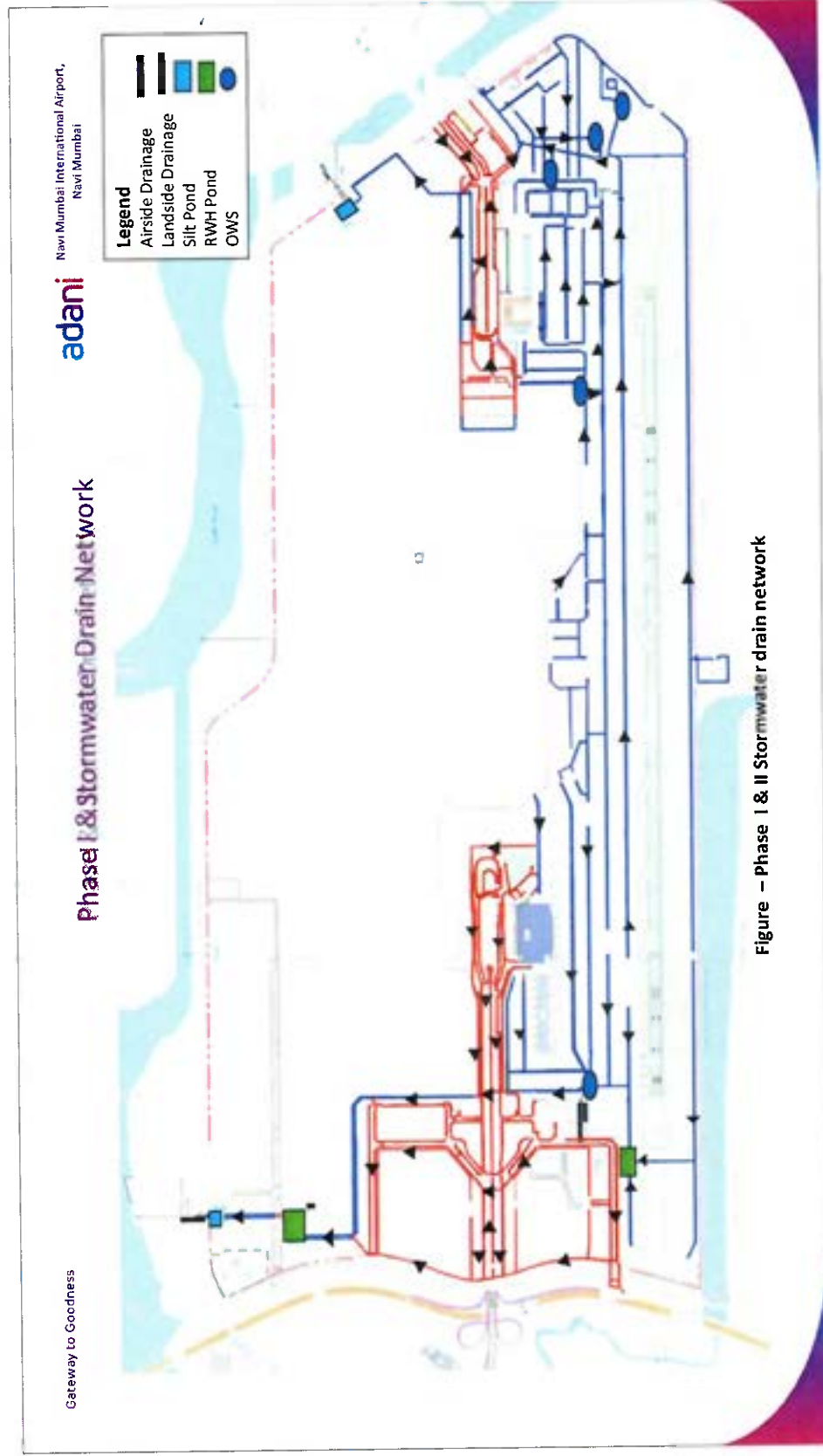
ANNEXURE 9 -
PHOTOGRAPHS OF DUST
SUPPRESSION
FOR FUGITIVE DUST EMISSION
CONTROL



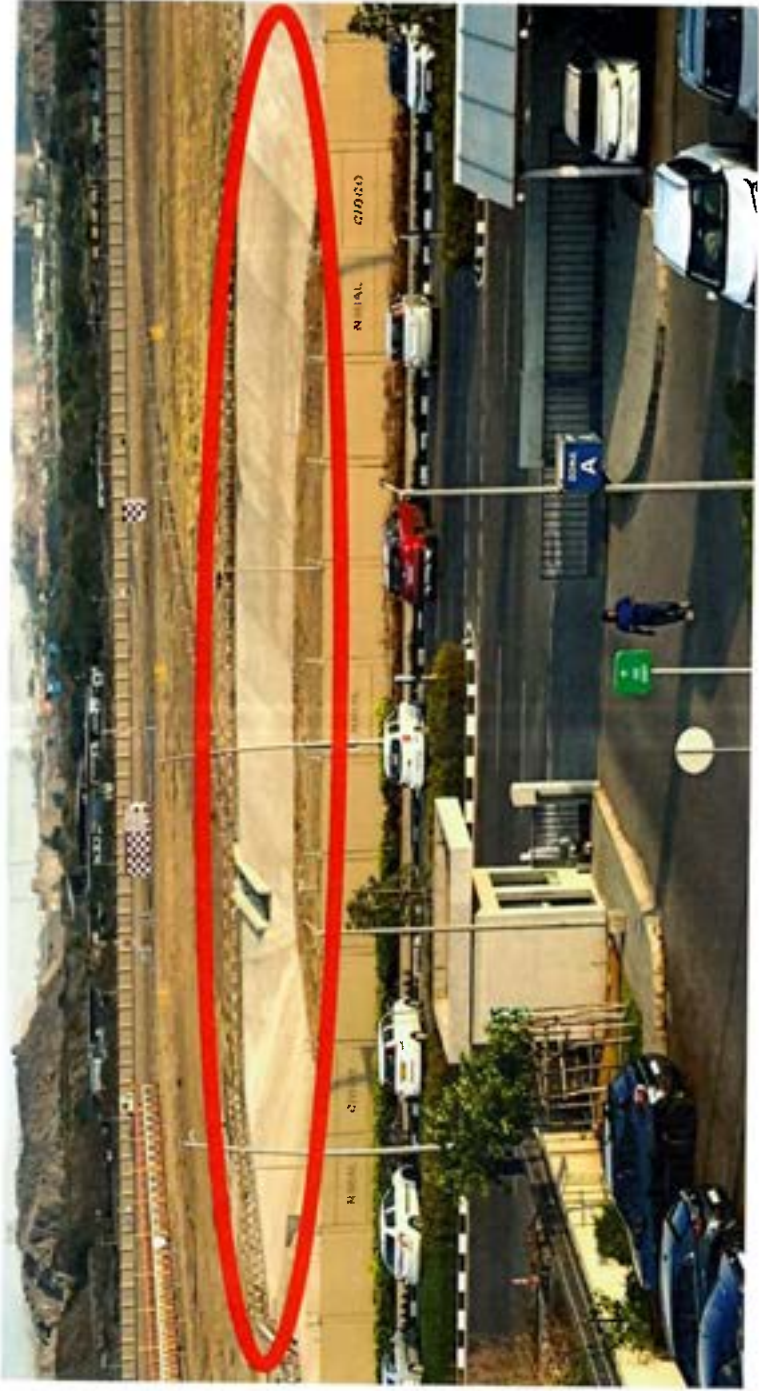


ANNEXURE 10 –
LAYOUT OF RAINWATER
HARVESTING POND

ANNEXURE 10 - STORMWATER DRAINAGE PLAN WITH RWH AND OWS



Rainwater Harvesting Pond South -East Side of Airport



ANNEXURE 11 –
PHOTOGRAPHS OF SOLID WASTE
FACILITY & BIOGAS PLANT

ANNEXURE 11 –Solid Waste Facility for segregation and storage of Solid Waste



BIOGAS PLANT FOR TREATMENT OF WET WASTE-



ANNEXURE 12 -
PHOTOGRAPHS OF METAL SHEET
BARRICADING FOR
CONSTRUCTION AREA

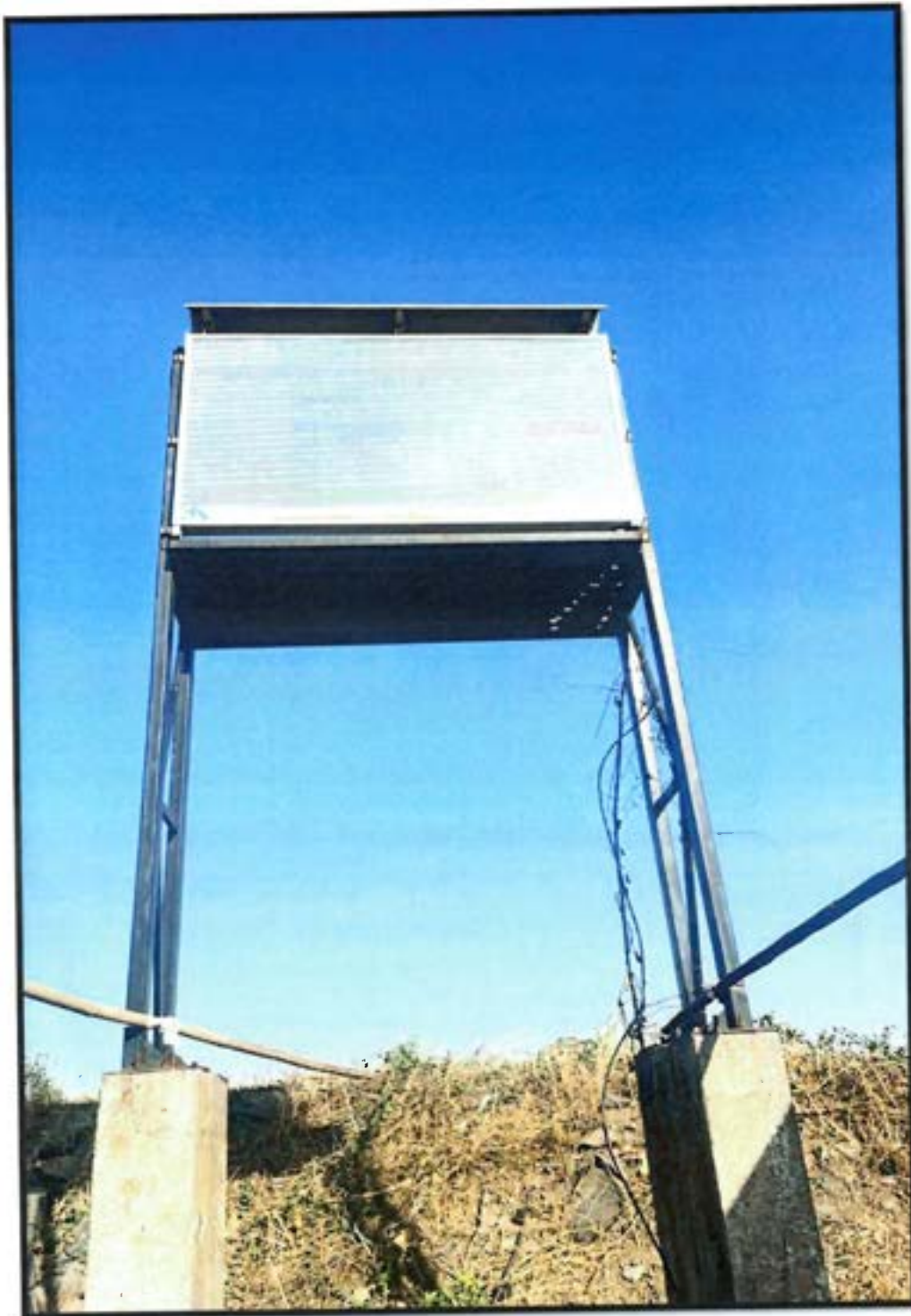
ANNEXURE-12 - PHOTOGRAPHS OF METAL BARRICADING FOR CONSTRUCTION AREA





ANNEXURE 13 -
PHOTOGRAPHS ENVIRONMENTAL
MONITORING DISPLAY BOARD

ANNEXURE 13 –
MONITORING DATA DISPLAY AT THE ENTRANCE



ANNEXURE 14

ENVIRONMENTAL & CRZ CLEARANCE
ENHANCEMENT OF AIRPORT CAPACITY
RECEIVED FROM STATE LEVEL ENVIRONMENT
IMPACT ASSESSMENT AUTHORITY (SEIAA)

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY

No. SIA/MH/INFRA2/556803/2025
Environment & Climate Change
Department
Room No. 217, 2nd Floor,
Mantralaya, Mumbai- 400032.
Date- 02.04.2026

To
M/s. Navi Mumbai International Airport Pvt. Ltd.
At Ulwe, Panvel, Taluka, Raigad,
District, Maharashtra

Subject : Environmental & CRZ Clearance granted by SEIAA for Enhancement of
Airport Capacity of Navi Mumbai International Airport (NMIA) at Ulwe,
Panvel, Taluka, Raigad, District, Maharashtra

Reference : EC Letter vide no. EC25C2902MH5775862N dated 12.02.2026

This has reference to your communication on the above-mentioned subject. Your Proposal was considered in 318th (Day-1) meeting of State Level Environment Impact Assessment Authority (SEIAA) held on 19th January, 2026 and SEIAA decided to grant Environment Clearance. The Environmental clearance for proposed project issued on PARIVESH portal. PP requested to made correction in EC letter. The correction in EC letter as below-

EC page No./Topic	As per EC granted dated 12.02.2026	Corrections shall be read as
Subject line of EC	EC- Page Nos. 1 & 6 – EC subject mentions only 'Environment Clearance' instead of Environment & CRZ Clearance.	EC subject shall be read as below: "Environment & CRZ Clearance for Enhancement of Airport Capacity of Navi Mumbai International Airport at Ulwe, Panvel Taluka, District Raigad, Maharashtra by Navi Mumbai International Airport Pvt. Ltd."
Inclusion of Built-up Area /construction area details in the EC letter	The Built-up area/construction area details as mentioned in MoM of 318 th Meeting of SEIAA held on 19 th January 26 (MoM Page No. 211) need to be included in the EC letter.	Area shall be read in the EC: "Construction Activity: • Built-up Area for Proposed Enhancement (90 MPPA)"

EC page No./Topic	As per EC granted dated 12.02.2026.	Corrections shall be read as
		• The total built-up/FSI area component for the proposed 90 MPPA enhancement is 52,82,719.083 sq. m, inclusive of 33,34,474.240 sq. m of BUA/FSI for the Landside Commercial Development. • Total Proposed Construction The total proposed construction area at NMIA in the final phase is 13,778,895.354 sq.m, covering all buildings, structures, pavements, runways, taxiways, aprons, and associated facilities.
EC Page No. 3 & 12- CTE Requirement from MPCB	As per the EC Condition (Page No. 3) A. Standard Conditions -I. Statutory Compliance - iv. "The PP shall obtained Consent to Establish/operate under the provision of Air Act, 1981 and Water Act, 1974 from the concerned SPCB". As per the EC Condition (Page No. 12) C. General EC Conditions -II. "If applicable Consent to Establishment (CTE) shall be obtained from MPCB under Air Act and Water Act and copy shall be submitted to the Environment Department before start of any construction work at the Site"	CTE requirement condition shall be amended as below: "As per MoEF&CC OM Vide File No. Q-15012/2/2022-CPW-Part(1)/e-240741 dated January 14, 2025, Consent to Establishment from Concerned SPCB is not applicable and Environment safeguards from SPCB has been taken into consideration."
EC- Page No. 9; SEIAA Conditions	Serial No. 5 is left blank.	Renumbering of the Conditions from 1-13

EC page No./Topic	As per EC granted dated 12.02.2026	Corrections shall be read as
EC page No. 2 Serial No. 7	The Serial No. 7 States that "The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) notification 2006 & further amendments thereto and after the recommendations of the State Environment Impact Assessment Authority (SEIAA) Appraisal Committee hereby decided to grant EC for instant proposal of M/s. Charudatta Deshmukh under the provision of EIA Notification 2006 and as amended thereof:	The Serial No. 7 shall be read as below: "The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) notification 2006 & further amendments thereto and after the recommendations of the State Environment Impact Assessment Authority (SEIAA) Appraisal Committee hereby decided to grant EC for instant proposal of M/s. Navi Mumbai International Airport Pvt. Ltd under the provision of EIA Notification 2006 and as amended thereof."

All the other terms and conditions mentioned in the EC letter dated 12.02.2026 shall remain the same.


Jayashree Bhoj (IAS)
(Member Secretary, SEIAA)



सत्यमेव जयते

File No: SIA/MH/INFRA2/556803/2025
Government of India
Ministry of Environment, Forest and Climate Change
(Issued by the State Environment Impact Assessment
Authority(SEIAA), MAHARASHTRA)



Dated: 12/02/2026



To,

Charudatta Deshmukh
 NAVI MUMBAI INTERNATIONAL AIRPORT PRIVATE LIMITED
 Navi Mumbai International Airport Private Limited, S17-C, New Project Office, Near Ulwe Gaothan
 Bus Stop, Amara Marg, Ulwe, Navi Mumbai, Taluka Panvel, RAIGAD, MAHARASHTRA, , 400702
 charudatta.d@adani.com

Subject: Grant of EC under the provision of the EIA Notification 2006-regarding.

Sir/Madam,

This is in reference to your application for Grant of EC under the provision of the EIA Notification 2006-regarding in respect of project Enhancement of Airport Capacity of Navi Mumbai International Airport (NMIA) at Ulwe, Panvel, Taluka, Raigad, District, Maharashtra by Navi Mumbai International Airport Private Limited (NMIAL) submitted to Ministry vide proposal number SIA/MH/INFRA2/556803/2025 dated 07/11/2025.

2. The particulars of the proposal are as below:

(i) EC Identification No.	EC25C2902MH5775862N
(ii) File No.	SIA/MH/INFRA2/556803/2025
(iii) Clearance Type	EC
(iv) Category	B2
(v) Project/Activity Included Schedule No.	7(a) Airports Enhancement of Airport Capacity of Navi Mumbai International Airport (NMIA) at Ulwe, Panvel, Taluka, Raigad, District, Maharashtra by Navi Mumbai International Airport Private Limited (NMIAL)
(vii) Name of Project	NAVI MUMBAI INTERNATIONAL AIRPORT PRIVATE LIMITED
(viii) Name of Company/Organization	RAIGAD, MAHARASHTRA
(ix) Location of Project (District, State)	SEIAA
(x) Issuing Authority	no
(xi) Applicability of General Conditions	no
(xii) Applicability of Specific Conditions	

Plot/Survey Khasra Nos.:

3. In view of the particulars given in the Para 1 above, the project proposal interalia including Form-1(Part A and B) were submitted to the Ministry for an appraisal by the State Environment Impact Assessment Authority(SEIAA) Appraisal Committee (SEIAA) in the Ministry under the provision of EIA notification 2006 and its subsequent amendments.
4. The above-mentioned proposal has been considered by State Environment Impact Assessment Authority(SEIAA) Appraisal Committee of SEIAA in the meeting held on 21/01/2026. The minutes of the meeting and all the Application and documents submitted [(viz. Form-1 Part A, Part B, Part C EIA, EMP)] are available on PARIVESH portal which can be accessed by scanning the QR Code above.
5. The brief about configuration of plant/equipment, products and byproducts and salient features of the project along with environment settings, as submitted by the Project proponent in Form-1 (Part A, B and C)/EIA & EMP Reports/presented during SEIAA are annexed to this EC as Annexure (1).
6. The SEIAA, in its meeting held on 21/01/2026, based on information & clarifications provided by the project proponent and after detailed deliberations recommended the proposal for grant of EC under the provision of EIA Notification, 2006 and as amended thereof subject to stipulation of specific and general conditions as detailed in Annexure (2).
7. The SEIAA has examined the proposal in accordance with the Environment Impact Assessment (EIA) Notification, 2006 & further amendments thereto and after accepting the recommendations of the State Environment Impact Assessment Authority(SEIAA) Appraisal Committee hereby decided to grant EC for instant proposal of M/s. Charudatta Deshmukh under the provisions of EIA Notification, 2006 and as amended thereof.
8. The Ministry reserves the right to stipulate additional conditions, if found necessary.
9. The EC to the aforementioned project is under provisions of EIA Notification, 2006. It does not tantamount to approvals/consent/permissions etc. required to be obtained under any other Act/Rule/regulation. The Project Proponent is under obligation to obtain approvals /clearances under any other Acts/ Regulations or Statutes, as applicable, to the project.
10. This issues with the approval of the Competent Authority.

Annexure 1

Specific EC Conditions for (Airports)

1. Specific Conditions

S. No	EC Conditions
1.1	<u>Specific Conditions:</u> 1. 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. 2. NMIA should carry out detailed study on the impact of fishing and livelihood of people depending on local fishing folks supposed to be affected by the project directly or indirectly. 3. The Environmental and CRZ Clearance to the project is primarily under provision 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. 4. PP shall explore the use of non-ozone depleting substances in air conditioning systems 5. Hazardous identification and risk assessment for the project shall be carried out and adequate mitigation measures shall be adopted to ensure that all the safety issues addressed. The documentation shall be reviewed periodically and shall be submitted to the Regional Office MoEF, Govt of India along with six-monthly compliance report.

S. No	EC Conditions
	6. Green belt development shall be undertaken along the boundaries, away from the landing funnel as proposed. The landscape planning should include plantation of native species. 7. The project proponent will ensure exploitation of maximum possible potential of solar energy generation in the proposed project area and prefer to use it instead of conventional electricity in order to reduce the Green House Gas Emission causing climate change. 8. Project proponent is advised to explore the possibility and getting the cement in a closed container rather through the plastic bag to prevent dust emissions at the time of loading/unloading. 9. Used LEDs should be properly collected and disposed off/ sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination. A. 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 and 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 and Control of Pollution) Act, 1981 and the Water (Prevention and 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 safely 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. 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 to PM 2.5 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. ii. Diesel power generating sets proposed as source of backup power should be on 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.

S. No	EC Conditions
	III. 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 fresh water use shall not exceed the proposed requirements 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. IV. 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, car 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. V. Energy Conservation measures : i. Energy Conservation measures like installation of LED/CFLs/ 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. VI. 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. 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.

S. No	EC Conditions
	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 TFLs should be properly collected and disposed off / sent for recycling as per the prevailing guidelines / rules of the regulatory authority to avoid mercury contamination. VII. 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. ii. Top soil shall be separately stored and used in the development of green belt. VIII. 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 gets. 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 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, creche 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.

Annexure 2

Details of Products & By-products

Name of the product /By-product	Product / By-product	Existing	Proposed	Total	Unit	Mode of Transport / Transmission
cargo capacity	cargo capacity	1.5	0.75	2.25	MTPA	Aircraft
Passenger handling capacity	Passenger handling capacity	60	30	90	MPPA	Aircraft

STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY

No. SIA/MH/INFRA2/556803/2025
Environment & Climate
Change Department
Room No. 217, 2nd Floor,
Mantralaya, Mumbai- 400032.

To
Navi Mumbai International Airport Private Limited (NMIAL)
Ulwe, Panvel, Taluka, Raigad, District.

Subject: Environmental Clearance for Enhancement of Airport Capacity of Navi Mumbai International Airport (NMIA) at Ulwe, Panvel, Taluka, Raigad, District, Maharashtra by Navi Mumbai International Airport Private Limited (NMIAL)

Reference : Application no. SIA/MH/INFRA2/556803/2025

This has reference to your communication on the above-mentioned subject. The proposal was considered by the SEAC-I in its 341st meeting under screening category B2 as per EIA Notification, 2006 and recommend to SEIAA. Proposal then considered in 318th (Day-1) meeting of State Level Environment Impact Assessment Authority (SEIAA) held on 19th January, 2026.

2. Brief Information of the project submitted by you is as below: -

1	Location/ Town: Ulwe,	Taluka/ District: Panvel, District Raigad
2	Plot Area: (sq/mts/ Ha) – 1160 Ha	Category:(A/B/B1/B2): B2
3	TOR Details:	Not Applicable
4	CRZ NoC requires:	CRZ NOC Requires: Yes
5	Details:	F. No. IA/MH/CRZ/551605/2025 (29.10.2025)
6	Layout plan approval authority:	CIDCO Mumbai Competent Authority 06.10.2025
7	Approved Construction area:	Plot Area: 1160 Hectare
8	Existing Green Belt area (Sq.Mtrs/Ha.)	Area: 356.268 Ha.
9	Proposed Green belt area (Sq.Mtrs./Ha/%): No. of Trees:	Area:390.132 Ha. Nos. of proposed trees: 3703

1.	Existing Capacity (As per EC): Passenger Handling Capacity : 60 Million Passengers Per Annum (MPPA) and Cargo Handling Capacity : 1.5 Million Metric Tones per Annum (MMTA)
2	Proposed Capacity: 30 Million Passengers Per Annum (MPPA) and Cargo Handling Capacity of 0.75 MMTA
3	Total Capacity: 90 Million Passengers Per Annum (MPPA) and Cargo Handling Capacity of 2.25 MMTA

4	Approving authority (Name): CIDCO
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Proposed NMIA Development Plan – (Passenger Capacity)

Phase	Development Period	Pax Terminal	Existing Handling Capacity (MPPA)	Pax Capacity	Proposed Handling Capacity (MPPA)	Pax Capacity
Phase 1 & 2	2021–2025	T1	20		20	
Phase 3	2026–2029	T2	20		30	
Phase 4	2030–2032	T3	20		20	
Phase 5	2034–2036	T4	—		20	
Total			60		90	

Proposed NMIA Development Plan – (Cargo Capacity)

Phase	Development Period	Cargo Terminal	Existing Cargo Capacity (MMTA)	Proposed Cargo Capacity (MMTA)
Phase 1 & 2	2021–2025	T1	0.57	0.57
Phase 3	2026–2029	T2	0.58	0.70
Phase 4	2030–2032	T3	0.35	0.60
Phase 5	2034–2036	T4	—	0.38
Total			1.5	2.25

Project Land Use Details

Approved NMIA Master Plan includes principal land use allocation for airport related activities as given below:

Sr. No.	Land Use Zones	Area (Ha)	% of Total Area
1	Airside Pavements	404.095	34.83 %
2	Airside Buildings & Structures	118.11	10.12 %
3	Landside Commercial Facilities	67.45	5.81 %
4	Utilities	19.94	1.71 %
5	Green / Open Spaces (including water bodies)	390.13	33.63 %
6	Transportation (Roads, Parking & Metro)	160.26	13.81 %
	Total	1160.00	100.00 %

NMIA Utility Demand

Sr. No.	Utilities	Total/Demand generation requirement
1	Total Water Demand	61.08 MLD
2	Potable Water Demand	30.45 MLD
3	Non-Potable Water Demand	30.63 MLD
4	Total Sewage Generation	45.18 MLD
5	Total Capacity of STPs	50.00 MLD
6	Solid Waste Generation	185.60 MT/Day
7	Electrical Demand	338.50 MVA
8	Solar Power Capacity	39.64 MW
9	PNG	10,975.00 kg/day

- PP has obtained earlier EC for NMIA project was received by NMIAL from MoEF&CC on 28.11.2021, which is valid up to 27.11.2031. Proposal has been considered by SEIAA in its 318th (Day-1) meeting held on 19th January, 2026 and decided to accord Environment Clearance to

the said project under the provisions of Environment Impact Assessment Notification, 2006 subject to implantation of following terms and conditions-

Specific Conditions:

SEAC Conditions-

- i. Implementation of the EIA and EMP for all construction and operational activities across Phases I to V.
- ii. Compliance with prescribed norms for air quality, noise levels, and water pollution, along with effective mitigation measures during construction and operation phases.
- iii. Adequate provision and proper management of sewage treatment, solid waste management, and disposal systems, as per applicable rules.
- iv. Development and maintenance of green belt as committed, in accordance with MoEF&CC /CPCB / MIDC guidelines.
- v. Implementation of CSR / CER activities as proposed.
- vi. Adherence to all applicable environmental laws, notifications, rules, and regulations issued by MoEF&CC and other statutory authorities from time to time

SEIAA Conditions-

MCZMA Conditions-

- i. Project activities for the capacity enhancement of the Navi Mumbai Airport shall be carried out as per the provisions of the CRZ Notification, 2019 (as amended from time to time) and guidelines/ clarifications given by MoEF from time to time.
- ii. The enhancement of the capacity of the Navi Mumbai Airport shall be strictly within the existing 1160-hectare of airport area only, for this area, the MoEF&CC, New Delhi has granted the CRZ & EC in in the year 2010.
- iii. Site preparation and site restoration in CRZ area should be undertaken without damaging the coastal-geomorphological features.
- iv. NMIA during the construction phase shall not disturb the coastal ecology present along the Panvel creek, present outside the northern boundary of the project site
- v. Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent Authority.
- vi. Hon. High Court has granted the approval for mangrove cutting. If any extra mangrove is required to be cut for the proposed enhancement, then Mangrove NoC and prior High Court permission as per order dated 17th Sep., 2018 in PIL 87/2006, shall be obtained by the PP.
- vii. NMIA shall set up full-fledged in house Environment Management Cell comprising concern experts for effective implementation of Environment Management Plan.
- viii. NMIA shall engage expert agency like BNHS for protection / conservation of biodiversity around the project site.
- ix. NMIA in consultation in expert agency shall carry out the study of impact of the project on local fishing and livelihood and take efforts to maintain the livelihood of traditional fisher folks
- x. Green belt around the project site shall be development to provide protection against the particulate matter and noise
- xi. All the safety measures and Disaster Management Plan should be implemented during construction and operation phase of the project.
- xii. Project proponent should implement Mitigation measures and Environment Management plan & Disaster Management Plan as suggested in the EIA report, effectively and efficiently

during construction and operational phase of the project to ensure that coastal environment is protected.

xiii. All other required permissions from different statutory authorities should be obtained prior to commencement of work.

SEIAA Conditions-

1. PP had obtained approval from CIDCO dated 06.10.2025 and as per the plan their total plot area of the project is 1160 Hectare and they have proposed green belt of 356.268 Ha i.e. 33.632 % of total plot area. ADTP to ensure the compliance of the same.
2. PP to undertake Miyawaki plantation of native and indigenous trees such as Banyan, Peepal, Neem, Jamun and other suitable trees as per the Forest Department, Govt. of Maharashtra circular no SaVaVi-2019/C.R.3/F-11, dated 25th June, 2019. The said plantation to be completed in the first year of operation of Environmental Clearance under expert guidance of Miyawaki experts / arborist.
3. PP to strictly observe the Solid Waste Management Rules, 2016 as amended time to time.
4. Air Quality Index monitoring to be ensured. Dust suppression measures shall be implemented also considering height of the building. Additional measures to be ensured.
- 5.
6. PP to strictly observe the Hazardous and Other Wastes (Management & Trans boundary Movement) Rules, 2016 as amended time to time.
7. PP to identify all sources of fugitive air pollution on site and provide pollution control measures to mitigate pollution and meet the standard parameters stipulated in the Environment (Protection) Rules, 1986 amended time to time & Air (Prevention and Control of Pollution) Act, 1981 amended time to time.
8. PP to ensure storage of chemicals as per the Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 amended time to time to ensure no release of any chemical to the atmosphere and leakage to the soil.
9. PP to ensure transport, storage, handling and use of the flammable/toxic chemicals as per conditions stipulated in license/approval of the Petroleum & Explosive Safety Organization (PESO).
10. PP to obtain approval and License from the Directorate of Industrial Health & Safety (DIHS) for proposed project and implement all condition stipulated therein. PP to carry out Safety Audit as stipulated in the Maharashtra Factories Rules, 1963 and ensure compliance of recommendation of the Audit.
11. PP to provide solar energy for illumination of Administrative Building, Street Lights and parking Area.
12. PP to ensure use of briquette /bio coal/ pellets/ or any such suitable product derived from scientific processing of appropriate stream of dry waste/agricultural waste, not less than 50 % of the total fuel requirement to the boiler.
13. PP to provide roof top Rain Water Harvesting facility.
14. PP to ensure that Project is a ZLD for unit.

General Conditions:

a) Construction Phase: -

- I. The solid waste generated should be properly collected and segregated. Dry/inert solid

waste should be disposed of to the approved sites for land filling after recovering recyclable material.

- II. Disposal of muck, Construction spoils, including bituminous material during construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in the approved sites with the approval of competent authority.
- III. Any hazardous waste generated during construction phase should be disposed of as per applicable rules and norms with necessary approvals of the Maharashtra Pollution Control Board.
- IV. Adequate drinking water and sanitary facilities should be provided for construction workers at the site. Provision should be made for mobile toilets. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.
- V. Arrangement shall be made that waste water and storm water do not get mixed.
- VI. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices.
- VII. The ground water level and its quality should be monitored regularly in consultation with Ground Water Authority.
- VIII. Permission to draw ground water for construction of basement if any shall be obtained from the competent Authority prior to construction/operation of the project.
- IX. Fixtures for showers, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices or sensor based control.
- X. The Energy Conservation Building code shall be strictly adhered to.
- XI. All the topsoil excavated during construction activities should be stored for use in horticulture / landscape development within the project site.
- XII. Additional soil for levelling of the proposed site shall be generated within the sites (to the extent possible) so that natural drainage system of the area is protected and improved.
- XIII. 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.
- XIV. PP to strictly adhere to all the conditions mentioned in Maharashtra (Urban Areas) Protection and Preservation of Trees Act, 1975 as amended during the validity of Environment Clearance.
- XV. The diesel generator sets to be used during construction phase should be low sulphur diesel type and should conform to Environments (Protection) Rules prescribed for air and noise emission standards.
- XVI. Vehicles hired for transportation of Raw material shall strictly comply the emission norms prescribed by Ministry of Road Transport & Highways Department. The vehicle shall be adequately covered to avoid spillage/leakages.
- XVII. 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.
- XVIII. Diesel power generating sets proposed as source of backup power for elevators and

common area illumination during construction phase 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 low sulphur diesel is preferred. The location of the DG sets may be decided with in consultation with Maharashtra Pollution Control Board.

- XIX. 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 by a separate environment cell /designated person.

B) Operation phase: -

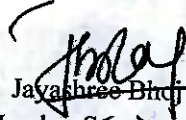
- I. a) The solid waste generated should be properly collected and segregated. b) Wet waste should be treated by Organic Waste Converter and treated waste (manure) should be utilized in the existing premises for gardening. And, no wet garbage will be disposed outside the premises. c) Dry/inert solid waste should be disposed of to the approved sites for land filling after recovering recyclable material.
- II. E-waste shall be disposed through Authorized vendor as per E-waste (Management and Handling) Rules, 2016.
- III. a) The installation of the Sewage Treatment Plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the MPCB and Environment department before the project is commissioned for operation. Treated effluent emanating from STP shall be recycled/ reused to the maximum extent possible. Treatment of 100% grey water by decentralized treatment should be done. Necessary measures should be made to mitigate the odour problem from STP. b) PP to give 100 % treatment to sewage /Liquid waste and explore the possibility to recycle at least 50 % of water, Local authority should ensure this.
- IV. Project proponent shall ensure completion of STP, MSW disposal facility, green belt development prior to occupation of the buildings. As agreed during the SEIAA meeting, PP to explore possibility of utilizing excess treated water in the adjacent area for gardening before discharging it into sewer line No physical occupation or allotment will be given unless all above said environmental infrastructure is installed and made functional including water requirement.
- V. The Occupancy Certificate shall be issued by the Local Planning Authority to the project only after ensuring sustained availability of drinking water, connectivity of sewer line to the project site and proper disposal of treated water as per environmental norms.
- VI. Traffic congestion near the entry and exit points from the roads adjoining the proposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.
- VII. PP to provide adequate electric charging points for electric vehicles (EVs).
- VIII. Green Belt Development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the local DFO/ Agriculture Dept.
- IX. A separate environment management cell with qualified staff shall be set up for implementation of the stipulated environmental safeguards.
- X. Separate funds shall be allocated for implementation of environmental protection measures/EMP along with item-wise breaks-up. These cost shall be included as part of the project cost. The funds earmarked for the environment protection measures shall not be diverted for other purposes.

- XI. The project management shall advertise at least in two local newspapers widely circulated in the region around the project, one of which shall be in the Marathi language of the local concerned within seven days of issue of this letter, informing that the project has been accorded environmental clearance and copies of clearance letter are available with the Maharashtra Pollution Control Board and may also be seen at Website at parivesh.nic.in
- XII. A copy of the clearance letter shall be sent by proponent to the concerned Municipal Corporation and the local NGO, if any, from whom suggestions/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the Company by the proponent.
- XIII. 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, SO₂, NO_x (ambient levels as well as stack emissions) or critical sector 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.

C) General EC Conditions: -

- I. PP has to strictly abide by the conditions stipulated by SEAC & SEIAA.
- II. If applicable "Consent for Establishment" shall be obtained from Maharashtra Pollution Control Board under Air and Water Act and a copy shall be submitted to the Environment department before start of any construction work at the site.
- III. Under the provisions of Environment (Protection) Act, 1986, legal action shall be initiated against the project proponent if it was found that construction of the project has been started without obtaining environmental clearance.
- IV. 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.
- V. 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 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.
- VI. No further Expansion or modifications, other than mentioned in the EIA Notification, 2006 and its amendments, shall be carried out without prior approval of the SEIAA. In case of deviations or alterations in the project proposal from those submitted to SEIAA for clearance, a fresh reference shall be made to the SEIAA as applicable to assess the adequacy of conditions imposed and to add additional environmental protection measures required, if any.
- VII. This environmental clearance is issued subject to obtaining NOC from Forestry & Wild life angle including clearance from the standing committee of the National Board for Wild life as if applicable & this environment clearance does not necessarily implies that Forestry & Wild life clearance granted to the project which will be considered separately on merit.

4. The environmental clearance is being issued without prejudice to the action initiated under EP Act or any court case pending in the court of law and it does not mean that project proponent has not violated any environmental laws in the past and whatever decision under EP Act or of the Hon'ble court will be binding on the project proponent. Hence this clearance does not give immunity to the project proponent in the case filed against him, if any or action initiated under EP Act.
5. This Environment Clearance is issued purely from an environment point of view without prejudice to any court cases and all other applicable permissions/ NOCs shall be obtained before starting proposed work at site.
6. In case of submission of false document and non-compliance of stipulated conditions, Authority/ Environment Department will revoke or suspend the Environment clearance without any intimation and initiate appropriate legal action under Environmental Protection Act, 1986.
7. Validity of Environment Clearance: The environmental clearance accorded shall be valid as per EIA Notification, 2006, amended from time to time.
8. The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes (Management and Handling) Rules, 1989 and its amendments, the public Liability Insurance Act, 1991 and its amendments.
9. Any appeal against this Environment clearance shall lie with the National Green Tribunal (Western Zone Bench, Pune), New Administrative Building, 1st Floor, D-Wing, Opposite Council Hall, Pune, if preferred, within 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.


Jayashree Bhat (IAS)
(Member Secretary, SEIAA)

Copy to:

1. Chairman, SEIAA, Mumbai.
2. Secretary, MoEF & CC, IA- Division MOEF & CC
3. Member Secretary, Maharashtra Pollution Control Board, Mumbai.
4. Regional Office MoEF & CC, Nagpur
5. District Collector, Raigad.
6. Commissioner, Navi Mumbai Municipal Corporation (NMMC).
7. Regional Officer, Maharashtra Pollution Control Board, Navi Mumbai.