EC COMPLIANCE REPORT

(October 2025- March 2026)

INTERNATIONAL SHIP REPAIR FACILITY (ISRF) PROJECT AT COCHIN PORT PREMISES BY M/s COCHIN SHIPYARD LIMITED

A Govt. of India Enterprise
(A Mini Ratna Company Under The Ministry of Ports, Shipping and Waterways)
Perumanoor PO,Kochi , Kerala, India-682015

ENCL: 1

GOVERNMENT OF INDIA

Ministry of Environment and Forests &Climate Change

(Regional Office, Southern Zone). Bangalore

MONITORING REPORT – PROFORMA – PART I

File No: Ref Letter No: Date:

1	Name of the project	Augmentation of Existing Ship Repair Facility at Cochin Port of District Ernakulam, Kerala by M/s Cochin Shipyard Ltd.
2	Clearance letter No. & date	Environmental Clearance (EC) letter no. F.No.11-65/2013-IA-III dated 22 June 2017.
3	Location : District & State / UT	Ernakulam, Kerala
4	Address for correspondence:	Shri. A Vettriselvan Occupier-Environment (Protection) Act 1986 Cochin Shipyard Limited, Perumanoor P O , Kochi-682015 Ph: +91 484 2501360 Fax: +91 484 2370897 Email: vettri.a@cochinshipyard.in
5	Contact No. of Office with name of responsible official	Shri. Sreekumar Raja C A General Manager (Technical) Cochin Shipyard Limited, Perumanoor P O ,Kochi-682015 Ph: +91 484 2501515 Fax: +91 484 2370897 Email: sreekumar.raja@cochinshipyard.in
6	Mobile No. of concerned officials associated with monitoring	Shri. Pattu Rajan S Senior Manager (Infra Projects-Mech) Infra Projects Department, Cochin Shipyard Limited, Perumanoor P O ,Kochi-682015 Mob: +91 8129270942 Email: patturajan.s@cochinshipyard.in
7	a) Project cost as originally planned and subsequent revised estimates and the years of price reference	Cost Estimate as per DPR- Rs. 970 Crs, year 2015
	b) Allocations made for environmental management plans, with item wise and year wise breakup	• Compensatory mangrove afforestation: Rs. 12 lakhs (approx.). • ETP & STP: Rs. 169 lakhs • Environmental monitoring during the construction stage of ISRF project: Rs. 38 Lakhs
8	a) Actual expenditure incurred on the project so far	Rs. 888.52 crores as on 31 March 2026
	b) Actual expenditure incurred on the environmental management plans so far	Actions are being taken to incur the expenditure earmarked for EMP, which will happen along with the construction works at the site. CSL had remitted an amount of Rs.12 Lakhs to Kerala Forest Dept. for carrying out mangrove afforestation at Chettuva in Thrissur District. An expenditure of Rs. 35.41 lakhs has been incurred to carry out Environmental monitoring up to 31 Dec 2025.

9	Date of commencement (actual and/or planned)	Actual: 03 March 2018
10	Date of completion (actual and/or planned)	Planned: 31 August 2026
11	Validity of CFO	Consent to Establish (CTE) renewed by Kerala State Pollution Control Board (KSPCB) (PCB/HO/EKM-I/ICE-R/02/2023 dated 14 Aug 2023) and its validity is up to 31 May 2028.
12	Reasons for the delay if the project is yet to start	NA
13	Present status of the project:	Environmental Clearance for the ISRF project was issued on 22 June 2017 subject to obtaining prior clearance from National Board for Wildlife (NBWL). Standing Committee of NBWL in its meeting held on 08 Dec 2017 had deliberated and recommended for the NBWL clearance of ISRF project. Subsequent to the release of minutes of meeting dated 09 Jan 2018, construction activities commenced at the project site on 03 March 2018. ISRF project (phase1 & 2) was inaugurated by the Hon'ble Prime Minister Shri. Narendra Modi on 17 Jan 2024. As on 31 March 2026, physical progress reported for the project is 97 %.
14	E-mail ID of the contact person to whom communications to be sent	vettri.a@cochinshipyard.in with copy to: 1) sreekumar.raja@cochinshipyard.in 2) patturajan.s@cochinshipyard.in
15	FAX Number	+91 484 2370897

Signature of authorized signatory with company seal

एल्दो जॉण /ELDHO JOHN
कार्यकारी निदेशक (तकनीकी)
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कोचीन शिपयार्ड लि. /Cochin Shipyard Ltd.
कोच्ची/ Kochi-15

ENCL: 2

EC COMPLIANCE STATUS		
Sl No.	**CONDITION**	**COMPLIANCE STATUS**
A. SPECIFIC CONDITIONS:		
i	Construction activity shall be carried out strictly according to the provisions of CRZ Notification, 2011. No construction work other than those permitted in Coastal Regulation Zone Notification shall be carried out in Costal Regulation Zone area.	Cochin Shipyard Limited (CSL) ensures that no construction work other than those mentioned in approved layout will be carried out.
ii	All the conditions stipulated by MoEF&CC, Regional Office (Southern Zone) vide letter No. 4-KLB1112/2017-BAN/197 dated 7th June, 2017 shall be complied with.	Being complied with. Compliance Report submitted online in MoEFCC portal on 31 Oct 2017.
iii	The environmental clearance is subject to obtaining prior clearance for Wildlife from the Standing Committee of the National Board for Wildlife.	**Complied.** Standing Committee of the National Board of Wildlife in its 46th meeting held on 08 Dec 2017 had recommended for the NBWL clearance of ISRF project. Minutes of the meeting is published in MoEFCC website on 09 Jan 2018.
iv	All the recommendations and conditions specified by Kerala Coastal Zone Management Authority shall be complied with.	Clause wise compliance of the recommendations and conditions specified by Kerala Coastal Zone Management Authority (KCZMA) is mentioned separately at page no. 9.
v	As proposed, PP shall carry out mangroves plantation in 2 ha. land and maintain.	CSL in association with Kerala Forest Dept had identified 'Chettuva' region in Thrissur Dist, Kerala to carry out compensatory mangrove afforestation. CSL is in receipt of detailed project report prepared by Kerala Forest Dept. Accordingly, CSL had remitted an amount of Rs.12 Lakhs for carrying out mangrove afforestation at Chettuva. Meanwhile, Kerala Forest Dept is also exploring the possibility of carrying out mangrove afforestation in Kannur Dist in lieu of Chettuva (Thrissur).
vi	The Project proponent shall ensure that no creeks or rivers are blocked due to any activities at the project site and free flow of water is maintained.	**Complied.** M/s DHI, Denmark was entrusted to carry out the hydrodynamic modeling study in connection with the ISRF project. The results of the study reveal that the proposed ISRF project does not indicate considerable influence on water levels and water availability outside of the shipyard area. No

		creeks or rivers are blocked due to this project.
vii	Shoreline should not be disturbed due to dumping. Periodical study on shore line changes shall be conducted and mitigation carried out, if necessary. The details shall be submitted along with the six monthly monitoring report.	International Ship Repair Facility (ISRF) project does not have any reclamation. In addition, shore is already protected with retaining walls. During the course of construction, retaining walls will not be disturbed. Hence shoreline change is not envisaged. Dredged material will be disposed off at the two offshore dumping sites maintained by Cochin Port Trust, which are North (10° 00"N, 76° 05"E) and South (9° 55"N, 76° 06"E) Dumping Grounds. The dumping sites are located at a distance of about 21 km away from the project site. Dredging activities in connection with the ISRF project had commenced and approximately 10 lakhs cum. dredged material is disposed as on 31 March 2026.
viii	The ground water shall not be tapped within the CRZ areas by the PP to meet with the water requirement in any case.	**Complied.** Water requirement for the construction activities is being arranged from outside agencies in tankers. Hence ground water extraction is not carried out.
ix	All excavation related dewatering shall be as duly authorized by the CGWA. A NOC from the CGWA shall be obtained for all dewatering and ground water abstraction.	**Complied.** Secretary, Water Resource Department, Kerala has issued No Objection Certificate for the ISRF project vide letter No.GW1/296/2017-WRD dated 18 July 2017.
x	A detailed marine diversity conservation management plan based on possible environmental impacts shall be drawn up and implemented as suggested by the National Institute of Oceanography (NIO) or any other institute on marine ecology. The plan should include the management of marine and intertidal biotopes, corals and coral communities, sea grasses and sea weeds, subtidal habitats, fishes, other marine flora and fauna (Micro, macro and mega) including turtles, birds and marine mammals as also productivity.	**Complied.** CSIR-NIO was entrusted for the preparation of "Detailed marine diversity conservation management plan" in connection with the ISRF project on 16 Feb 2017. The recommendations of Marine Biodiversity management plan prepared by CSIR-NIO are strictly followed.
xi	Shrouding shall be carried out in the work site enclosing the dock/proposed facility area. This will act as dust	Temporary shrouding by the way of moving sheds will be provided during the operation stage to contain the dust, if any generated from the

	curtain as well achieving zero dust discharge from the site. These curtain or shroud will be immensely effective in restricting disturbance from wind in affecting the dry dock operations, preventing waste dispersion, improving working conditions through provision of shade for the workers.	work stations.
xii	Dust collectors shall be deployed in all areas where blasting (surface cleaning) and painting operations are to be carried out, supplemented by stacks for effective dispersion.	Will be complied during operation phase of the ISRF project.
xiii	The work space shall be maintained as per international standards for occupational health and safety with provision of fresh air respirators, blowers, and fans to prevent any accumulation and inhalation of undesirable levels of pollutants including VOCs.	Will be complied during operation phase of the ISRF project.
xiv	The diesel generators shall be used as back-up power supply and shall be run only during power cuts. Low sulphur content fuel will be used for the generators and will be subjected to periodical maintenance and servicing. This will cut down on emission volume to a considerable extent. Also, the DG sets will be provided with mufflers for pollutant emission control.	**Complied.** ISRF project facility is equipped with 2 nos. of 500 KVA DG sets, which are used as a backup source of power supply. Low sulphur content fuel is being used in these DG sets. Maintenance and servicing are also carried out at regular intervals. DG sets are provided with mufflers and also comply with latest emission norms.
xv	Necessary arrangements for the treatment of the effluents and solid wastes must be made and it must be ensured that they conform to the standards laid down by the competent authorities including the Central or State Pollution Control Board and under the Environment (Protection) Act, 1986.	The oily wastewater generated from workstations due to ship washing will be collected through covered drains and treated in ETP before discharge. The treated water will be used for gardening / horticulture. In rainy season, the treated water will be let out to channel along with storm water. The wastewater from toilets, bathrooms and areas in the operational building will be treated in STP.
xvi	All measures shall be taken during the excavation activity as deemed necessary from the geotechnical investigation of the soil and ground	**Complied.** Geotechnical investigation was carried out at the land side and marine side before the commencement of construction activities.

	water profile.	Excavation activity at the project site is mainly the boring operation carried out in connection with the casting of piles. Results of the Geotechnical investigation are duly taken care while carrying out the boring operation.
xvii	Construction activity related wastes (C & D waste) shall be disposed off as per Solid Waste Management Rule, 2016.	**Complied.** C&D waste generated from the project site is being disposed as per the Solid Waste Management Rule, 2016.
xviii	All such solid and hazardous wastes including onboard wastes (while ships dock at the site) will be handled as per the Hazardous and other Waste (Management & Trans-boundary Movement) Rule, 2016.	Will be complied during operation phase.
xix	Silt curtains shall be used to contain the spreading of suspended sediment during dredging within the dredging area.	**Complied.** Dredging activities at ISRF project marine area were commenced in the month of July 2018. Silt curtains were used to contain the spreading suspended sediments during dredging.
xx	The dredging schedule shall be so planned that the turbidity developed is dispersed soon enough to prevent any stress on the fish population.	**Complied.** Dredging activities at ISRF project marine area were commenced in the month of July 2018. Dredging is done in line with "Detailed marine diversity conservation management plan" prepared by CSIR-NIO for the project.
xxi	Earth protection work shall be carried out to avoid erosion of soil from the shoreline/boundary line from the land area into the marine water body.	Shore is already protected with retaining walls. During the course of construction, retaining walls will not be disturbed. New construction will be resting on piles.
xxii	No ships docking at the proposed project site will discharge its on-board waste water untreated in to the estuary/channel. All such wastewater load will be diverted to the proposed Effluent Treatment Plant of the project site.	On-board waste water, if any from the docked ships will not be discharged directly on land or to water body without appropriate treatment. The same will be treated in ETP before discharge.
xxiii	All effluent generated in the existing and proposed ship repairing centre shall be drained in to the ETP having capacity 300 KLD and equipped to treat the effluent into dischargeable standards. The oil-water operator of the ETP shall remove any unwanted oil & grease content from the effluent.	Will be ensured by the installation of the proposed ETP.

	The ETP shall be equipped to treat such effluent including the bilge water and other ship discharges to meet the general standards for discharge of effluent in marine coastal areas before disposal in to the channel. Ballast water from ships shall be stored at the facility and will be used in refilling of same before release of ships back into water.	
xxiv	Workers shall be strictly enforced to wear personal protective equipment's like dust mask, ear muffs or ear plugs, whenever necessary/required. Special visco-elastic gloves will be used by labour exposed to hazards from vibration.	PPE's like safety helmets, safety harness, safety shoes, goggles, dust mask, ear muffs or ear plugs, as applicable are strictly enforced for the workers during construction. Special visco-elastic gloves are also used by laborers exposed to hazards from vibration.
xxv	In case of repair of any old vessels, excessive care shall be taken while handling Asbestos & Freon gas. Besides, fully enclosed covering should be provided for the temporary storage of asbestos material at site before disposal to CTSDF.	Will be complied during operation phase. In addition, CSL has an MoU in force with M/s Kerala Enviro Infrastructure Ltd. (KEIL), the only designated hazardous waste disposal center in Kerala for the disposal of C&D and asbestos sheet waste, which will be generated at the project site during demolition of existing buildings.
xxvi	Safety training shall be given to all workers specific to their work area and every worker and employee will be engaged in fire hazard awareness training and mock drills which will be conducted regularly. All standard safety and occupational hazard measures shall be implemented and monitored by the concerned officials to prevent the occurrence of untoward incidents/accidents.	Safety induction training covering fire hazard awareness is imparted to all workforce of the contractor. In addition, job specific safety training is also given. All standard safety and occupational hazard measures are implemented at the project site. In addition, audits / site inspections are regularly carried out to ensure compliance of the safety standards to prevent the occurrence of untoward incidents/accidents.
xxvii	The commitments made during the Public Hearing and recorded in the Minutes shall be complied with letter and spirit. A hard copy of the action taken shall be submitted to the Ministry.	Public Hearing meeting was held on 24 March 2015.All participants, who had spoken during the meeting, had appreciated the project. No issues were raised from any of the members present during the public hearing and hence no specific commitments were given from the side of CSL.

B. **GENERAL CONDITIONS**:		
i	Appropriate measures must be taken while undertaking digging activities to avoid any likely degradation of water quality.	Noted and being complied with.
(i)	Full support shall be extended to the officers of this Ministry / Regional Office at ~~Bhubaneswar~~Bangalore by the project proponent during inspection of the project for monitoring purposes by furnishing full details and action plan including action taken reports in respect of mitigation measures and other environmental protection activities.	Noted. CSL confirms full support to the officers of MoEFCC in connection with the ISRF project.
(ii)	A six-Monthly monitoring report shall need to be submitted by the project proponents to the Regional Office of this Ministry at ~~Bhubaneswar~~ Bangalore regarding the implementation of the stipulated conditions.	Noted and being complied with.
(iii)	Ministry of Environment, Forest and Climate Change or any other competent authority may stipulate any additional conditions or modify the existing ones, if necessary in the interest of environment and the same shall be complied with.	Noted.
(iv)	The Ministry reserves the right to revoke this clearance if any of the conditions stipulated are not complied with the satisfaction of the Ministry.	Noted.
(v)	In the event of a change in project profile or change in the implementation agency, a fresh reference shall be made to the Ministry of Environment, Forest and Climate Change.	Noted.
(vi)	The project proponents 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 and the date of start of land development work.	➢ Subsequent to the deliberation in Public Investment Board meeting held on 09 March 2016, approval for the ISRF project was accorded on 19 May 2016. ➢ Construction work commenced on 03 March 2018.
(vii)	A copy of the clearance letter shall be marked to concerned Panchayat / local NGO, if any, from whom any suggestion / representation has been made	**Complied.** Copy of the EC letter handed over to Secretary, Kochi Corporation on 27 June 2017.

	received while processing the proposal.	
(viii)	A copy of this clearance letter shall also be displayed on the website of the concerned State Pollution control Board. The Clearance letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.	**Complied.** ➢ Copy of EC letter send by speed post to Chairman, Kerala State Pollution Control Board (KSPCB) on 27 June 2017. ➢ Copies of EC letter also handed over to District Industries Centre, District Collector's Office and Regional office of KSPCB on 27 June 2017.
C. <u>OTHER CONDITIONS IN ENVIRONMENTAL CLEARANCE COMPLIANCE LETTER:</u>		
1.	All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.	Noted for applicable compliances.
2.	The project proponent shall 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 Environmental and 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, Forest and Climate Change at http://www.envfor.nic.in. The advertisement should be made within seven 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 Bangalore.	**Complied.** ➢ CSL had advertised in two leading dailies in vernacular language viz. Malayala Manorama and Mathrubhumi on 02 July 2017. ➢ Copy of the advertisement was forwarded to MoEFCC, Regional Office, Bangalore vide our letter dated INFRA/ISRF/64/2017 dated 05 July 2017.
3.	This 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 as may be applicable to this project.	Noted.
4.	Any appeal against this clearance shall	Noted.

	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.	
5.	Status of compliance to the various stipulated environmental conditions and environmental safeguards will be uploaded by the project proponent in its website.	Noted.
6.	A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, ZillaParisad/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.** ➢ Copy of EC letter forwarded to Secretary, Kochi Corporation on 23 June 2017. ➢ EC letter is also published in CSL website.
7.	The proponent shall upload the status of compliance of the stipulated clearance 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&CC, the respective Zonal Office of CPCB and the SPCB.	Noted. Environmental monitoring is being carried out by M/s Chennai Testing Laboratory Pvt Ltd, Chennai at ISRF project site. Report showing data of monitoring results has been prepared and submitted by monitoring agency, M/s Chennai Testing Laboratory Pvt Ltd and the same is attached herewith as **Annexure:1** of **encl:2**. Monitoring results are also published in CSL website.
8.	The project proponent shall also submit six monthly reports on the status of compliance of the stipulated clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the respective Regional Office of MoEF&CC, the respective Zonal Office of CPCB and the SPCB.	Noted.
9.	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,	The environmental statement for financial year ending 31st March in Form-V placed at **Annexure-2** of **encl: 2.**

	as amended subsequently, shall also be put on the website of the company along with the status of compliance of clearance conditions and shall also be sent to the respective Regional Office of MoEF&CC by e-mail.	
10	The above 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 EIA Notification 1994, including the amendments and rules made thereafter.	Noted.

D. KCZMA Recommendations

S. No.	KCZMA Recommendation	Compliance Status
1.	The debris and waste generated from dredging and during the phase of demolition and construction should not be dumped into the CRZ area and wetlands.	• The dredged material from the project site is being disposed off at the two identified dumping ground locations of Cochin Port Authority (CoPA) in the outer sea about 21km away from the project site. • Dumping of construction and demolition (C&D) waste into CRZ area and wetlands is strictly prohibited and is being disposed in line with the C&D waste management rules 2016.
2.	Species wise mangrove identification may be done and bio-diversity register shall be maintained. The compensatory species wise mangrove afforestation in patch areas used for developmental works should be given top priority and the progress report shall be submitted to KCZMA before initiating developmental works.	• There is no mangrove forest except two small isolated mangrove patches in the project area having spread area 92.8 sq. M & 93.8 sq. M. These mangroves (15 nos. plants in total) may have grown due to the sediment deposit near to the slipway area where quay wall is not present. These mangroves belonging to Acanthus ilicifolius and Rhizophora Species are felled for the project. • As a compensatory measure insisted by MoEFCC, CSL is in the process of carrying out 2 ha mangrove afforestation at Chettuva, Thrissur in association with Kerala Forest Dept., Govt. of Kerala. CSL has remitted Rs.12 Lakhs

		in connection with the mangrove afforestation planned at Chettuva. The matter was already informed to Kerala Coastal Zone Management Authority (KCZMA).
3.	Storing of hazardous materials during the construction and operation phase, if any, need to be done as per relevant rules and regulations.	Being complied with. Hazardous materials are not allowed to be disposed to marine water, wetland or CRZ area. In addition, CSL is having tie-up with CTSDF viz. M/s Kerala Enviro Infrastructure Ltd. (KEIL), Cochin for the disposal of Hazardous waste.
4.	All the provisions of CRZ notifications of 1991/2011, local town and country plan regulations for construction should be strictly followed during the implementation of the project.	Being complied with.
5.	Necessary environmental regulations and port/shipping regulations also shall be followed.	The project is being implemented as per the necessary environmental regulations and port/shipping regulations. CSL is working in compliance with International Ship and Port Facility Security (ISPS) code.
6.	Proper monitoring plan may be put in place to safeguard the environment.	Monitoring plan during the construction phase has been formulated and M/s SV Envirolabs & Consultants, Visakhapatnam was earlier entrusted with the job of carrying out environmental monitoring on 07 May 2018. On completion of their contract, M/s Nitya Laboratories, J&K entrusted with the job for carrying out environmental monitoring. On completion of M/s Nitya Laboratories contract, currently M/s Chennai Testing Laboratory Pvt Ltd is entrusted with the job for carrying out environmental monitoring.

Cochin Shipyard Limited

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CONCISE ENVIRONMENTAL MONITORING REPORT

(October 2025 - March 2026)

For

INTERNATIONAL SHIP REPAIR FACILITY PROJECT

of Cochin Shipyard Limited, Cochin.

Prepared by

M/s. Chennai Testing Laboratory Pvt. Ltd.

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(NABL Accredited and MoEF&CC Recognized Laboratory)

REPORT OF ENVIRONMENTAL MONITORING DURING THE CONSTRUCTION STAGE OF ISRF PROJECT

October 2025 - March 2026

1. Introduction

International Ship Repair Facility (ISRF) is a prestigious project of Cochin Shipyard Limited (CSL) which is being developed at the leased-out land of Cochin Port Trust at Willingdon Island, Cochin.

The monitoring of the environmental parameters such as air quality, noise levels, water quality, soil quality, marine water quality, sediment quality and biological parameters during the execution of the project International Ship Repair Facility (ISRF) as stipulated in the Environmental / CRZ Clearance issued by the MoEF&CC.

Cochin Shipyard Limited has engaged **M/s. Chennai Testing Laboratory Private Limited Chennai-32**, a Laboratory approved/accredited by MoEF and NABL for environmental monitoring in and around the International Ship Repair facility.

Accordingly, the sample for various environmental parameters ware collected during the period of October 2025 – March 2026 analyzed and included in this report

2. Location of the project

The Project site is located in the eastern side of Mattancherry channel, Willingdon Island in Thoppumpady Village, Kochi Tehsil of Ernakulum District in the state of Kerala.
The geographic location of the ISRF is (Google earth):

Geographic longitude (East) 76°16'3.22" E
Geographic latitude (North) 9°56'37.64" N

3. Environmental Monitoring Report

Environmental data for the period October 2025 – March 2026 has been compiled and furnished below.

DETAILS OF AMBIENT AIR QUALITY MONITORING LOCATIONS

Station code	Location	Geographical Location	Environmental Setting
A1	Project site	9°56'44.11"N 76°16'05.83"E	Industrial Area
A2	Fort Kochi	9°57'10.65"N 76°14'47.95"E	Commercial Area
A3	Willingdon Island	9°59'48.43"N 76°13'34.07"E	Residential Area

DETAILS OF NOISE LEVEL MONITORING STATIONS

Station code	Location Name	Location Code
N1	Near Security Gate	9°56'02.96" N 76°16'01.16" E
N2	Near Northwest Boundary of Project site	9°56'36.71" N 76°16'01.41" E
N3	Near Centre Project Site	9°56'36.71" N 76°16'01.41" E
N4	Near Southwest Boundary of Project site	9°56'18.86" N 76°16'33.65" E

DETAILS OF MARINE WATER LOCATIONS

Station Code	Location	Geographical Location
SW1	Up Stream	9°56.30' N 76°15.25' E
SW2	Project Site-1	9°56.52' N 76°16.86' E
SW3	Project Site-2	9°56.70' N 76°14.20' E
SW4	Down Stream	9°56.07' N 76°15.17' E

DETAILS OF SEDIMENTS SAMPLING QUALITY LOCATIONS

Station Code	Location	Geographical Location
SW1	Upstream	9°56.388' N 76°15.945' E
SW2	Project Site-1	9°56.526' N 76°15.861' E
SW3	Project Site-2	9°56.764' N 76°15.837' E
SW4	Downstream	9°56.957' N 76°15.897' E

DETAILS OF MARINE BIOLOGICAL SAMPLING LOCATIONS

Station Code	Location	Geographical
MB1	Upstream	9°56.388' N 76°15.945' E
MB2	Downstream	9°56.957' N 76°15.897' E

AMBIENT AIR QUALITY MONITORING

Summary of Analysis of Ambient Air Quality for the period of October 2025 - March 2026

	PM10 (µg/m³)				PM2.5 (µg/m³)				SO_2 (µg/m³)				NO_X (µg/m³)				CO (mg/m³)			
Monitoring Stations	**No. of samples**	**Minimum**	**Maximum**	**Mean**	**No. of samples**	**Minimum**	**Maximum**	**Mean**	**No. of samples**	**Minimum**	**Maximum**	**Mean**	**No. of samples**	**Minimum**	**Maximum**	**Mean**	**No. of samples**	**Minimum**	**Maximum**	**Mean**
A1	48	48.7	69.2	60.0	48	18.0	35.2	28.9	48	9.9	14.5	12.1	48	15.8	27.8	21.8	48	BDL (DL-0.15)	BDL (DL-0.15)	BDL (DL-0.15)
A2	48	42.0	70.7	57.3	48	19.3	34.9	27.9	48	7.1	15.8	11.7	48	13.9	28.4	22.2	48	BDL (DL-0.15)	BDL (DL-0.15)	BDL (DL-0.15)
A3	48	45.5	73.1	58.6	48	17.8	43.3	27.8	48	9.5	14.6	12.3	48	16.4	26.6	20.2	48	BDL (DL-0.15)	BDL (DL-0.15)	BDL (DL-0.15)
NAAQ Standards	**100**				**60**				**80**				**80**				**4**			

NOISE LEVEL DATA

Location		N1-Near Security Gate						
S.No	Sampling Date	Time Duration	Sound Parameters(dBA)					
			Leq	L10	L50	L90	Lmin	Lmax
1	14.10.2025	Day	58.3	61.1	57.8	55.2	53.1	62.4
2		Night	50.0	52.8	49.5	46.9	44.8	54.1
3	29.10.2025	Day	59.1	61.9	58.6	56.0	53.9	63.2
4		Night	51.5	54.3	51.0	48.4	46.3	55.6
5	14.11.2025	Day	60.4	63.2	59.9	57.3	55.2	64.5
6		Night	52.3	55.1	51.8	49.2	47.1	56.4
7	28.11.2025	Day	62.4	65.2	61.9	59.3	57.2	66.5
8		Night	53.9	56.7	53.4	50.8	48.7	58.0
9	15.12.2025	Day	62.8	65.6	62.3	59.7	57.6	66.9
10		Night	54.5	57.3	54.0	51.4	49.3	58.6
11	30.12.2025	Day	60.9	63.7	60.4	57.8	55.7	65.0
12		Night	53.3	56.1	52.8	50.2	48.1	57.4
13	15.01.2026	Day	63.3	66.1	62.8	60.2	58.1	67.4
14		Night	55.2	58.0	54.7	52.1	50.0	59.3
15	31.01.2026	Day	64.9	67.7	64.4	61.8	59.7	69.0
16		Night	54.0	56.8	53.5	50.9	48.8	58.1
17	14.02.2026	Day	61.3	63.6	61.0	59.1	57.0	64.9
18		Night	52.6	54.9	52.3	50.4	48.3	56.2
19	27.02.2026	Day	63.5	65.8	63.2	61.3	59.2	67.1
20		Night	52.0	54.3	51.7	49.8	47.7	55.6
21	14.03.2026	Day	65.2	67.5	64.9	63.0	60.9	68.8
22		Night	53.6	55.9	53.3	51.4	49.3	57.2
23	28.03.2026	Day	64.7	67.0	64.4	62.5	60.4	68.3
24		Night	52.2	54.5	51.9	50.0	47.9	55.8

NOISE LEVEL DATA

Location		N2-Near North West Boundary Project Site						
S.No	Sampling Date	Time Duration	Sound Parameters(dBA)					
			Leq	L10	L50	L90	Lmin	Lmax
1	14.10.2025	Day	68.0	70.8	67.5	64.9	62.8	72.1
2		Night	54.3	57.1	53.8	51.2	49.1	58.4
3	29.10.2025	Day	68.8	71.6	68.3	65.7	63.6	72.9
4		Night	53.2	56.0	52.7	50.1	48.0	57.3
5	14.11.2025	Day	69.1	71.9	68.6	66.0	63.9	73.2
6		Night	54.8	57.6	54.3	51.7	49.6	58.9
7	28.11.2025	Day	65.3	68.1	64.8	62.2	60.1	69.4
8		Night	54.8	57.6	54.3	51.7	49.6	58.9
9	15.12.2025	Day	69.1	71.9	68.6	66.0	63.9	73.2
10		Night	54.0	56.8	53.5	50.9	48.8	58.1
11	30.12.2025	Day	65.3	68.1	64.8	62.2	60.1	69.4
12		Night	53.2	56.0	52.7	50.1	48.0	57.3
13	15.01.2026	Day	70.8	73.6	70.3	67.7	65.6	74.9
14		Night	55.2	58.0	54.7	52.1	50.0	59.3
15	31.01.2026	Day	67.3	70.1	66.8	64.2	62.1	71.4
16		Night	52.7	55.5	52.2	49.6	47.5	56.8
17	14.02.2026	Day	70.8	73.1	70.5	68.6	66.5	74.4
18		Night	54.2	56.5	53.9	52.0	49.9	57.8
19	27.02.2026	Day	68.8	71.1	68.5	66.6	64.5	72.4
20		Night	52.5	54.8	52.2	50.3	48.2	56.1
21	14.03.2026	Day	72.5	74.8	72.2	70.3	68.2	76.1
22		Night	54.2	56.5	53.9	52.0	49.9	57.8
23	28.03.2026	Day	73.4	75.7	73.1	71.2	69.1	77.0
24		Night	55.2	57.5	54.9	53.0	50.9	58.8

NOISE LEVEL DATA

Location		N3-Center of The Project Site						
S.No	Sampling Date	Time Duration	Sound Parameters(dBA)					
			Leq	L10	L50	L90	Lmin	Lmax
1	14.10.2025	Day	70.8	73.6	70.3	67.7	65.6	74.9
2		Night	54.0	56.8	53.5	50.9	48.8	58.1
3	29.10.2025	Day	72.6	75.4	72.1	69.5	67.4	76.7
4		Night	56.7	59.5	56.2	53.6	51.5	60.8
5	14.11.2025	Day	67.9	70.7	67.4	64.8	62.7	72.0
6		Night	53.6	56.4	53.1	50.5	48.4	57.7
7	28.11.2025	Day	72.6	75.4	72.1	69.5	67.4	76.7
8		Night	55.1	57.9	54.6	52.0	49.9	59.2
9	15.12.2025	Day	70.2	73.0	69.7	67.1	65.0	74.3
10		Night	54.6	57.4	54.1	51.5	49.4	58.7
11	30.12.2025	Day	70.9	73.7	70.4	67.8	65.7	75.0
12		Night	56.7	59.5	56.2	53.6	51.5	60.8
13	15.01.2026	Day	69.4	72.2	68.9	66.3	64.2	73.5
14		Night	54.6	57.4	54.1	51.5	49.4	58.7
15	31.01.2026	Day	71.9	74.7	71.4	68.8	66.7	76.0
16		Night	55.1	57.9	54.6	52.0	49.9	59.2
17	14.02.2026	Day	73.5	75.8	73.2	71.3	69.2	77.1
18		Night	55.7	58.0	55.4	53.5	51.4	59.3
19	27.02.2026	Day	69.5	71.8	69.2	67.3	65.2	73.1
20		Night	54.3	56.6	54.0	52.1	50.0	57.9
21	14.03.2026	Day	68.9	71.2	68.6	66.7	64.6	72.5
22		Night	54.6	56.9	54.3	52.4	50.3	58.2
23	28.03.2026	Day	72.5	74.8	72.2	70.3	68.2	76.1
24		Night	56.8	59.1	56.5	54.6	52.5	60.4

NOISE LEVEL DATA

Location		N4-Near South West Boundary Project Site						
S.No	Sampling Date	Time Duration	Sound Parameters(dBA)					
			Leq	L10	L50	L90	Lmin	Lmax
1	14.10.2025	Day	67.7	70.5	67.2	64.6	62.5	71.8
2		Night	57.6	60.4	57.1	54.5	52.4	61.7
3	29.10.2025	Day	72.1	74.9	71.6	69.0	66.9	76.2
4		Night	55.5	58.3	55.0	52.4	50.3	59.6
5	14.11.2025	Day	69.4	72.2	68.9	66.3	64.2	73.5
6		Night	57.7	60.5	57.2	54.6	52.5	61.8
7	28.11.2025	Day	72.3	75.1	71.8	69.2	67.1	76.4
8		Night	55.5	58.3	55.0	52.4	50.3	59.6
9	15.12.2025	Day	73.4	76.2	72.9	70.3	68.2	77.5
10		Night	54.6	57.4	54.1	51.5	49.4	58.7
11	30.12.2025	Day	68.9	71.7	68.4	65.8	63.7	73.0
12		Night	54.1	56.9	53.6	51.0	48.9	58.2
13	15.01.2026	Day	70.7	73.5	70.2	67.6	65.5	74.8
14		Night	54.9	57.7	54.4	51.8	49.7	59.0
15	31.01.2026	Day	70.9	73.7	70.4	67.8	65.7	75.0
16		Night	54.0	56.8	53.5	50.9	48.8	58.1
17	14.02.2026	Day	68.7	71.5	68.2	65.6	63.5	72.8
18		Night	53.5	55.8	53.2	51.3	49.2	57.1
19	27.02.2026	Day	68.2	70.5	67.9	66.0	63.9	71.8
20		Night	51.3	53.6	51.0	49.1	47.0	54.9
21	14.03.2026	Day	72.3	74.6	72.0	70.1	68.0	75.9
22		Night	54.5	56.8	54.2	52.3	50.2	58.1
23	28.03.2026	Day	71.3	73.6	71.0	69.1	67.0	74.9
24		Night	56.1	58.4	55.8	53.9	51.8	59.7

Marine water Quality data

Sampling Date: 28.11.2025

SL.NO	PARAMETERS	UNIT	High Tide Project Site- I	High Tide Project Site- II	Low Tide Project Site- I	Low Tide Project Site- II	Primary Water Quality Criteria for Class SW-IV Waters (For Harbour Waters)
1	pH @ 25°C	-	6.4	6.4	6.4	6.3	**6.8-9.0**
2	Total Dissolved Solids	mg/l	24750	21260	21360	21330	-
3	Total Suspended Solids	mg/l	32	27	36	23	-
4	Dissolved Oxygen	mg/l	6.5	6.6	6.5	6.7	**Min.3.0**
5	Total Hardness as CaCO3	mg/l	4100	3400	3500	3600	-
6	Total Alkalinity as CaCO3	mg/l	76	74	70	72	-
7	Turbidity	NTU	11	9	12	8	-
8	Conductivity @ 25°C	µS/cm	38000	33000	33010	32990	-
9	Chloride as Cl^-	mg/l	12824	10938	10656	11033	-
10	Oil & Grease	mg/l	< 2	< 2	< 2	< 2	**10**
11	Aluminium as Al	mg/l	BDL(DL:0.02)	1.38	0.92	0.87	-
12	Lead as Pb	mg/l	BDL(DL:0.005)	BDL(DL:0.005)	0.01	0.007	-
13	Manganese as Mn	mg/l	0.02	0.02	0.02	0.02	-
14	Zinc as Zn	mg/l	0.008	0.01	0.006	0.01	-
15	Copper as Cu	mg/l	BDL(DL:0.02)	0.006	0.006	0.006	-
16	Mercury as Hg	mg/l	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	-
17	Temperature	°C	29.0	28.5	28.6	29.1	-
18	Salinity	ppt	24.75	21.26	21.36	21.33	-
19	Biochemical Oxygen Demand (BOD) 3 days at 27°C	mg/l	3	4	4	5	**5**

Marine water Quality data

Sampling Date: 28.11.2025

SL.NO	PARAMETERS	UNIT	High Tide Upstream	High Tide Downstream	Low Tide Upstream	Low Tide Downstream	Primary Water Quality Criteria for Class SW-IV Waters (For Harbour Waters)
1	pH @ 25°C	-	6.8	6.2	6.5	6.5	**6.8-9.0**
2	Total Dissolved Solids	mg/l	19510	21380	20240	20780	-
3	Total Suspended Solids	mg/l	19	30	32	29	-
4	Dissolved Oxygen	mg/l	6.8	6.6	6.4	6.6	**Min.3.0**
5	Total Hardness as CaCO3	mg/l	3200	3700	3300	3400	-
6	Total Alkalinity as CaCO3	mg/l	70	76	74	70	-
7	Turbidity	NTU	7	13	9	10	-
8	Conductivity @ 25°C	µS/cm	30000	33000	31000	32000	-
9	Chloride as Cl^-	mg/l	10561	11221	10844	10750	-
10	Oil & Grease	mg/l	< 2	< 2	< 2	< 2	**10**
11	Aluminium as Al	mg/l	0.5	0.94	1.36	1.88	-
12	Lead as Pb	mg/l	0.01	BDL(DL:0.005)	0.01	BDL(DL:0.005)	-
13	Manganese as Mn	mg/l	0.02	0.02	0.09	0.02	-
14	Zinc as Zn	mg/l	0.009	0.01	0.06	0.01	-
15	Copper as Cu	mg/l	0.007	0.007	0.01	0.006	-
16	Mercury as Hg	mg/l	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	-
17	Temperature	°C	28.6	28.4	28.7	28.9	-
18	Salinity	ppt	19.51	21.38	20.24	20.78	-
19	Biochemical Oxygen Demand (BOD) 3 days at 27°C	mg/l	5	5	4	5	**5**

Marine water Quality data

Sampling Date: 27.02.2026

SL.NO	PARAMETERS	UNIT	High Tide Project Site- I	High Tide Project Site- II	Low Tide Project Site- I	Low Tide Project Site- II	Primary Water Quality Criteria for Class SW-IV Waters (For Harbour Waters)
1	pH @ 25°C	-	7.7	7.6	6.9	7.0	**6.8-9.0**
2	Total Dissolved Solids	mg/l	25350	25980	21870	22670	-
3	Total Suspended Solids	mg/l	33	35	38	39	-
4	Dissolved Oxygen	mg/l	6.7	6.7	6.4	6.5	**Min.3.0**
5	Total Hardness as CaCO3	mg/l	4250	4160	3850	3780	-
6	Total Alkalinity as CaCO3	mg/l	74	77	65	66	-
7	Turbidity	NTU	12	11	9	10	-
8	Conductivity @ 25°C	µS/cm	39000	39970	33650	34880	-
9	Chloride as Cl^-	mg/l	13150	14250	11340	12580	-
10	Oil & Grease	mg/l	< 2	< 2	< 2	< 2	**10**
11	Aluminium as Al	mg/l	1.25	1.35	0.86	0.94	-
12	Lead as Pb	mg/l	BDL(DL:0.005)	BDL(DL:0.005)	0.02	0.005	-
13	Manganese as Mn	mg/l	0.02	0.02	0.02	0.02	-
14	Zinc as Zn	mg/l	0.008	0.01	0.006	0.01	-
15	Copper as Cu	mg/l	BDL(DL:0.02)	0.006	0.006	0.006	-
16	Mercury as Hg	mg/l	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	-
17	Temperature	°C	29.5	29.3	28.5	28.5	-
18	Salinity	ppt	25.35	25.98	21.87	22.67	-
19	Biochemical Oxygen Demand (BOD) 3 days at 27°C	mg/l	3	2	4	4	**5**

Marine water Quality data

Sampling Date: 27.02.2026

SL.NO	PARAMETERS	UNIT	High Tide Upstream	High Tide Downstream	Low Tide Upstream	Low Tide Downstream	Primary Water Quality Criteria for Class SW-IV Waters (For Harbour Waters)
1	pH @ 25°C	-	7.3	7.4	6.7	6.8	**6.8-9.0**
2	Total Dissolved Solids	mg/l	25980	27050	24550	26560	-
3	Total Suspended Solids	mg/l	32	36	27	30	-
4	Dissolved Oxygen	mg/l	6.8	6.6	6.7	6.7	**Min.3.0**
5	Total Hardness as CaCO3	mg/l	4360	4870	3680	3970	-
6	Total Alkalinity as CaCO3	mg/l	76	74	72	70	-
7	Turbidity	NTU	10	9	9	9	-
8	Conductivity @ 25°C	µS/cm	39960	41610	37770	40860	-
9	Chloride as Cl^-	mg/l	12990	14550	12250	13970	-
10	Oil & Grease	mg/l	< 2	< 2	< 2	< 2	**10**
11	Aluminium as Al	mg/l	0.63	0.88	1.27	1.78	-
12	Lead as Pb	mg/l	0.02	0.01	0.01	0.02	-
13	Manganese as Mn	mg/l	0.03	0.04	0.05	0.02	-
14	Zinc as Zn	mg/l	0.05	0.04	0.02	0.01	-
15	Copper as Cu	mg/l	0.007	0.007	0.05	0.006	-
16	Mercury as Hg	mg/l	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	BDL(DL:0.001)	-
17	Temperature	°C	29.5	29.5	29.0	29.0	-
18	Salinity	ppt	25.98	27.05	24.55	26.56	-
19	Biochemical Oxygen Demand (BOD) 3 days at 27°C	mg/l	4	3	3	2	**5**

Soil Quality Data

Sampling Date: 28.11.2025
Location: Project Site - I

S.No.	Parameters	Unit	Range of Concentration
1	**Texture:**		
	Sand	%	69.55
	Silt	%	18.28
	Clay	%	12.17
2	pH	-	9.3
3	Conductivity	µs/cm	134
4	Organic Matter	%	0.43
5	Phosphorus as P	mg/kg	18
6	Total Nitrogen as N	mg/kg	298
7	Potassium as K	mg/kg	82
8	Sodium as Na	mg/kg	852
9	Organic Carbon	%	0.29
10	Lead as Pb	mg/kg	BDL(DL:5.0)

Sampling Date: 28.11.2025
Location: Project Site - II

S.No.	Parameters	Unit	Range of Concentration
1	**Texture:**		
	Sand	%	69.46
	Silt	%	17.99
	Clay	%	12.55
2	pH	-	9.1
3	Conductivity	µs/cm	142
4	Organic Matter	%	0.52
5	Phosphorus as P	mg/kg	17
6	Total Nitrogen as N	mg/kg	269
7	Potassium as K	mg/kg	79
8	Sodium as Na	mg/kg	779
9	Organic Carbon	%	0.25
10	Lead as Pb	mg/kg	BDL(DL:5.0)

TOTAL ORGANIC CARBON & ORGANIC NITROGEN – SEDIMENT

Sample Collected at: Project Site Cochin Shipyard

Sample Collected on: 28.11.2025

S. No.	Station Code	Total Organic Nitrogen (%)	Total Organic Carbon (%)
1.	Upstream (SW1)	0.28	3.99
2.	Project site 1 (SW2)	0.25	3.44
3.	Project site 2 (SW3)	0.26	3.86
4.	Downstream (SW4)	0.29	4.36

HEAVY METALS – SEDIMENT

Sample Collected at: Project Site Cochin Shipyard

Sl. No.	Station Code	Sample Collected on: 28.11.2025									
		Fe (%)	Al (%)	Mn mg/kg	Cd mg/kg	Ni mg/kg	Cr mg/kg	Hg mg/kg	As mg/kg	Pb mg/kg	Cu mg/kg
1.	Upstream (SW1)	0.80	0.29	43.00	BDL(<0.5)	BDL(<0.5)	BDL(<0.5)	BDL(<0.2)	BDL(<0.5)	BDL(<5.0)	56.0
2.	Project site 1 (SW2)	0.85	0.32	40.00	BDL(<0.5)	BDL(<0.5)	BDL(<0.5)	BDL(<0.2)	BDL(<0.5)	BDL(<5.0)	66.0
3.	Project site 2 (SW3)	0.91	0.30	33.00	BDL(<0.5)	BDL(<0.5)	BDL(<0.5)	BDL(<0.2)	BDL(<0.5)	BDL(<5.0)	67.0
4.	Downstream (SW4)	0.85	0.20	33.00	BDL(<0.5)	BDL(<0.5)	BDL(<0.5)	BDL(<0.2)	BDL(<0.5)	BDL(<5.0)	45.0

MACRO BENTHOS DISTRIBUTION IN THE SEDIMENT

Sample Collected at: Project Site Cochin Shipyard

Sample Collected on: 28.11.2025

Sl. No	Species (No/m²)	Location ID			
		Upstream	Project site 1	Project site 2	Downstream
	Polychaetes				
1	*Armandia ongicaudata*	325	131	165	240
2	*Capitella capitata*	375	500	*	225
3	*Cirriformia sp*	345	491	237	235
4	*Goniada emerita*	124	190	197	188
5	*Nephtys dibranchis*	325	131	165	140
6	*Nereis sp.*	375	300	*	325
7	*Notomastus aberans*	345	91	237	135
8	*Donax veligers*	124	190	197	488
9	*Meretrix veligers*	325	131	165	340
	Gastropods				
10	*Littorina veligers*	130	91	166	228
11	*Natica veligers*	125	175	*	204
12	*Nassarius variegatus*	225	153	131	287
13	*Turris veligers*	324	299	134	124
	Crustaceans				
14	*Ampithoe romondi*	224	190	197	188
15	*Angeliera phreaticola*	325	131	165	140
16	*Gynodiastylis sp.*	375	100	*	125
17	*Paragnathia formica*	845	91	237	135
Total		**5236**	**3385**	**2393**	**3747**

*** - Organisms not present**

MEIO BENTHOS DISTRIBUTION IN THE SEDIMENT

Sample Collected at: Project Site Cochin Shipyard

Sample Collected on: 28.11.2025

Sl. No	Species (No/10cm^2)	Location ID			
		Upstream	Project site 1	Project site 2	Downstream
	Foraminiferans				
1	*Ammonia beccarii*	85	113	56	68
2	*Bolivina sp.*	107	121	95	89
3	*Cibicides refulgens*	83	103	106	77
4	*Globorotalia hiruste*	92	119	103	87
5	*Loxostomum sp.*	104	92	79	89
6	*Miliammina sp.*	123	118	124	121
7	*Milionella sp.*	112	105	93	93
8	*Nonion sp*	58	68	91	56
	Nematodes				
9	*Daptonema conicum*	54	65	71	96
10	*Draconema sp.*	83	55	99	78
11	*Greeffiella sp.*	97	117	93	102
12	*Microlaimus sp.*	113	122	108	48
13	*Neochromodora sp.*	67	56	*	84
14	*Spirinia sp.*	91	54	64	95
15	*Synonchus sp.*	116	114	87	112
16	*Theristus sp.*	71	62	65	88
17	*Viscosia sp.*	102	73	51	56
	Ostrocodes	54	65	71	96
18	*Cypridies* sp.	123	76	110	56
19	*Cytheromorpha* sp.	108	121	86	104
20	*Neocytheideis* sp.	117	84	97	80
21	*Tanella indica*	236	101	109	67
22	*Tanella kingmaii*	103	311	237	261
Total		**2299**	**2315**	**2095**	**2103**

* - Organisms not present

PHYTOPLANKTON

Sample Collected at: Project Site Cochin Shipyard

Sample Collected on: 28.11.2025

Sl. No	Species (Nos/ml)	Location ID	
		Upstream (MB1)	Downstream (MB2)
	Bacillariophyceae		
1	*Chaetoceros indicus*	490	730
2	*Coscinodiscus centralis*	550	560
3	*Coscinodiscus ecentricus*	350	125
4	*Coscinodiscus granii*	140	150
5	*Coscinodiscus gigas*	135	140
6	*Lithodesmium undulatum*	120	145
7	*Thalassiothrix frauenfeldii*	165	110
8	*Triceratium favus*	160	120
9	*Triceratium reticulatum*	130	150
10	*Navicula*	150	160
11	*Nitzschia*	135	130
12	*Rhizosolenia*	140	115
13	*Leptocylindrus*	160	163
	Cyanophyceae		
14	*Tricodesmium erythraeum*	140	130
15	*Oscillatoria*	130	140
16	*Anabaena.*	140	130
17	*Phormidium.*	134	118
	Chlorophyceae		
18	*Ankistrodesmus sp.*	450	150
19	*Closterium sp.*	670	160
20	*Clostridium sp.*	265	155
21	*Cosmarium sp.*	460	140
	Dinoflagellates		
22	*Ceratium furca*	330	250
23	*Ceratium tripos*	160	1170
Total		**5704**	**5341**

*** - Organisms not present**

ZOOPLANKTON

Sample Collected at: Project Site Cochin Shipyard

Sample Collected on: 28.11.2025

Sl. No	Species (Organisms/m^3)	Location ID	
		Upstream (MB1)	Downstream (MB2)
	Copepoda		
1	*Acartia spinicauda*	1850	2050
2	*Acartia erythrea*	750	95
4	*Nannocalanus minor*	1750	2280
5	*Paracalanus parvus*	1680	1980
6	*Pontella danae*	1600	1580
7	*Copilia mirabilis*	3955	1030
8	*Cyclops sp.*	990	890
9	*Diaptomus sp.*	4920	1650
	Rotifera		
10	*Brachionus sp.*	1350	1530
11	*Keratella sp.*	2020	1630
	Foraminifera		
12	*Rotalia sp.*	1950	1310
	Cladocera		
13	*Daphnia sp.*	1280	1400
14	*Moina sp.*	4360	400
Total		**28455**	**17825**

*** - Organisms not present**

कोचीन शिपयार्ड लिमिटेड
(भारत सरकार की श्रेणी-1 मिनिरत्न कंपनी, पत्तन, पोत परिवहन और जलमार्ग मंत्रालय)

COCHIN SHIPYARD LIMITED
(A Government of India Category-1 Miniratna Company, Ministry of Ports, Shipping and Waterways)

INFRA/ISRF/64/2017

20 May 2026

The Member Secretary,
Kerala State Pollution Control Board,
Pattom P O, Thiruvananthapuram - 695 004.

Sub: SUBMISSION OF ANNUAL ENVIRONMENTAL STATEMENT (FORM-V)

Ref: Environmental Clearance issued vide letter no. F.No.11-65/2013-IA-III dated 22 June 2017 for the project 'Augmentation of Existing Ship Repair Facility at Cochin Port of District Ernakulam, Kerala by M/s Cochin Shipyard Ltd'.

Dear Sir,

Please be informed that while awarding Environmental Clearance for the project viz., 'Augmentation of Existing Ship Repair Facility at Cochin Port of District Ernakulam, Kerala by M/s Cochin Shipyard Ltd', MoEFCC had asked to submit Environmental Statement for each financial year ending on 31st March in Form – V to the concerned State Pollution Control Board.

Accordingly, Form-V statement of the project referred above pertaining to FY 25-26 is submitted herewith.

Yours faithfully,

For Cochin Shipyard Limited

General Manager (Materials)
Occupier - Environment (Protection) Act 1986

A VETTRISELVAN
दखलकार-पर्यावरण (संरक्षण) अधिनियम 1986
Occupier-Environment (Protection) Act 1986
कोचीन शिपयार्ड लिमिटेड
Cochin Shipyard Ltd.
कोच्ची/Kochi-682 015

195/A

ANNEXURE

ENVIRONMENTAL STATEMENT FORM -V

(SEE RULE 14)

Environmental Statement for the financial year ending with 31st March 2026

PART A

1 Name and address of the owner Occupier of the industry : *Sri SRI A Vettriselvan*
GM(MATERIALS) & Occupier
(Environment-Protection)

Operation or process : *Repair Facility (ISRF)*

2 Industry category Primary – (STC Code) : *Ship Building and Ship Repair*

3 Production category – units : *Ships*

4 Year of establishment-units : *April-1972*

5 Date of the last environmental statement submitted :

PART B

Water and Raw material Consumption

! Water consumption in m3/d

Process : ***10.50m3/d***

Cooling : *Not Applicable*

Domestic: ***1.18m3/d***

Name of Products	Total Process water consumption	
	During previous financial Year (2024-2025)	During current financial year (2025-2026)
International Ship Repair Facility (ISRF)	**399.036 M3**	**251.7102 M3**

Raw material consumption

Name of Raw Material	Name of Products	Consumption of Raw Material	
		During previous year financial year (2024-2025)	During current financial year (2025-2026)
M. Sand	Concrete	**6759.65MT**	**1000.976 MT**
12.5mm Aggregate		**2796.733 MT**	**7078.74 MT**
20mm Aggregate		**2377.945 MT**	**8537.05 MT**
Cement		**1717.78 MT**	**4220.05 MT**
Reinforcement		**421.53 MT**	**102.965 MT**

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Industry may use codes if disclosing details of raw material would violate contractual obligations, otherwise have to name the raw materials used

PART C

Pollution discharged to environmental/unit of output

(parameter as specified in the consent issued)

Pollutants	Quantity of pollutants discharged(mass/day)	Concentration of pollutants discharged	Percentage of variation from prescribed standards with reasons
(a) Water	Not Applicable	Not Applicable	Not Applicable
(b) Air	Not Applicable	Not Applicable	Not Applicable

PART D

HAZARDOUS WASTES

(As specified under Hazards Wastes (Management& Handling Rule,1989)

Hazardous Wastes	Total Quantity in (KL,L, Tonnes,kg,Items)	
	During previous year financial year(2024-2025)	During current financial year (2025-2026)
(a) From Process Used Oil	**450 L**	**200 L**
(b) From pollution facilities	Not Applicable	Not Applicable

PART E

SOLID WASTES

Solid Wastes	Total Quantity(kg)	
	During previous year financial year	During current financial year
(a) From process 1. Plastic Waste 2. Metal Scrap	**800 g/day** **152 MT**	**684g/day** **9 MT**
(b) Food Waste	**360 KG**	**50 KG**
(c) From Pollution control facilities	NIL	NIL
(d) Quantity recycled or reutilized within the unit	**90 M3**	**24 M3**

PART F

Please specify the characteristics (in terms of concentration and quantum) of hazards as well as solid

wastes and indicateDisposal practice adopted for both these categories of wastes

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Hazardous Waste

As per Hazardous waste (management Handling&Transboundary Movement) Rules 2008 and subsequent amendment; following hazardous waste could be generated from new Dry Dock project cochin.

Category No 5.1 Used/waste oil (from heavy equipment/vehicles during maintenance and Repair

Method of Handling and Disposal: **200 L** of waste /used oil is generated in the site.
it is stored in scale drum (capacity-**100 L**each) for disposal at respective storage yard.
It will be disposed to state pollution Board authorization vendors

PART G

Impact of the pollution control measures taken on conservation of natural resources and consequently, on the cost of production

Not Applicable

PART H

Additional measures/investment proposal for environmental protection including abatement of pollution

Not Applicable

PART I

Any other particular in respect of environmental protection and abatement of pollution

1.**Plantation Drive**

During World Environment Day Plantation drive organized at ISRF site

2 **Installation of Dust barrier**

Adequate grid blasting sheds were installed at ISRF site for dust protection

3. **Water sprinkling for dust protection**

Water sprinkling was done during summer season to avoid dust

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